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International Conference On Educational Research and Innovation

ETHICS IN HIGH-QUALITY RESEARCH

CONFERENCE PROCEEDINGS

Institute of Research and Community Services Yogyakarta State University
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MESSAGE FROM THE RECTOR OF YOGYAKARTA STATE UNIVERSITY

Welcome to Yogyakarta, Indonesia!

It is a great honor and pleasure for me to welcome you all to the 3rd International Conference on Educational Research and Innovation held in Yogyakarta, Indonesia. On behalf of Yogyakarta State University and the committee, let me extend my warmest greetings and appreciation to all speakers and participants who have travelled hundreds or even thousands of miles by various transportation means to come to Yogyakarta to attend this conference. It is my strong belief that your safe journey has been due to the blessings granted by God the Almighty and the Most Merciful to Whom we without any further due have to express our gratitude and praise.

It is indeed a privilege for Yogyakarta State University to have the opportunity to organise this very important conference in which educational researchers and practitioners get together to share ideas, experiences, expectations, and research findings. This conference is held as one of the agendas of Yogyakarta State University to celebrate its 51st anniversary. The theme of this year's conference is "Ethics in High-Quality Research".

Research is one of the activities among the academic members of a university. It is a systematic effort to solve the problems or answer the questions by collecting data, formulating the generalities based on the data, then finding and developing organized knowledge by scientific method. It is expected that from research activities valuable empirical facts can be obtained to improve and develop the theory and practice to bring a better quality of education.

Unfortunately, currently issues on ethics are regaining their popularity in various practices of research, such as inaccurate data analyses, data manipulations, and plagiarsm. In response to this, in this year to support the roles of the Institute of Research and Community Services of Yogyakarta State University in encouraging researchers to conduct high-quality researches, an International Conference on Educational Research and Innovation (ICERI) is held under the umbrella theme of Ethics in High-Quality Research. It provides teachers/lecturers, education practitioners, college students, and policy makers the opportunity to share their knowledge, experiences, and research findings which are innovative and relevant to develop the educational practices focusing on the process and product.

This third conference is aimed at discussing the papers on the research findings related to research ethics, and researches on character education, teaching innovations, as well as educational policies. It is expected that this conference will reach its declared objectives succeesfully as a strategic forum to yield recommendations on the importance of ethics in the research to produce high-quality research for the benefits of the human's welfare.

To conclude, let me wish you a fruitful discussion during the conference and an enjoyable stay in Yogyakarta. And finally, hopefully all materials in this conference compiled into a proceeding are useful for us to improve the quality of education and educational research.

Thank you very much for your attention.

Wassalamu'alaikum warrahmatullah wabarakatuh.
May peace and God's blessings be upon you all

Yogyakarta, 6 May 2015
Rector,

Prof. Dr. Rochmat Wahab, M.Pd., M.A.

MESSAGE FROM THE ORGANIZING COMMITTEE

His Excellency Minister of Research and Technology and Higher Education,
Vice Rectors and Deans of all faculties,
Honourable Heads of Institutes of Research of the surrounding universities,
Distinguished all invited speakers and all other speakers,
Distinguished guests,
All participants,
Ladies and gentlemen,

Assalamu' alaikum warrahmatullah wabarakatuh
May peace and God' s blessings be upon you all
Good morning

First of all allow me to extend my warmest greetings and welcome to you all to the 3rd International Conference on Educational Research and Innovation, held by Yogyakarta State to celebrate its 51st anniversary.

Raising the theme – Ethics in High-Quality Research - this conference is designed to discuss the papers on the research findings related to research ethics, and researches on character education, teaching innovations, as well as educational policies. Hopefully, all discussions in this conference can be inspiring and useful for us to improve the quality of education and educational research.

Ladies and gentlemen

For your information, we will proudly present one keynote speech, four plenary presentation sessions and four parallel presentation sessions. Four outstanding speakers in the field of character education and educational research have been invited. They are Christopher Drake from Association for Living Values Education, Hong Kong, Dr. Elizabeth Hartnell-Young from Australian Council of Educational Research, Dr. Mohamed Bahaaeldin from Faculty of Education, Technische Universitat Dresden, Germany, and Dr. Nurul Taufiqurahman, Head of Innovation Center of the Indonesian Institute of Sciences (LIPI), Indonesia.

Ladies and gentlemen

We have done our best to prepare for this conference. So, my highest appreciation and heartfelt thanks to all committee members. As to err is human, shortcomings may

occur here and there. On behalf of the committee, I would therefore like you all to accept our apologies.

At the end of my speech,I would like to kindly request the Rector of Yogyakarta State University to officially open the conference.

To conclude, let me wish you a productive discussion and a fruitful conference. Thank you very much for your attention.

Wassalamu' alaikum warrahmatullah wabarakatuh.
May peace and God' s blessings be upon you all

Yogyakarta, 6 May, 2015
Head of Research Institute and Community
Service of Yogyakarta State University

Prof. Dr. Anik Ghufron, M.Pd.

FOREWORDS FROM THE HEAD OF COMMITTEE

Assalamu'alaikum wa Rahmatullohi wa Barokatuh
May peace and God's blessings be upon us all

Your Excellency The President of Yogyakarta State University Prof. Dr. Rochmat Wahab, M.Pd, M.A, ladies and gentlemen, good morning and welcome to Yogyakarta State University.

The seminar entitle International Conference on Educational Research and Innovation (ICERI) is held under the umbrella theme of Ethics in High-Quality Research. The seminar is organized by Institute of Research and Community Services, Yogyakarta State University, working together with ACER, LIPI, and University of Dresden. This seminar also dedicated to celebrate the 51st Commemoration of Yogyakarta state university.

Ladies and gentlemen, on behalf of the commitee of this conference, I would like to express highest appreciation and gratitude to the keynote speakers **Frof. Drs. Muhammad Nasir, Akt, M.Si, Ph.D** (Minister of Research, Technology and Higher Education) and four inveted speaker :

- **Christopher Drake**
  (Association for Living Values Education, Hong Kong)
- **Dr. Elizabeth Hatnell-Young**
  (Australian Council for Educational Research, Australia)
- **Dr. Bahaaeldin Mohamed**
  (Faculty of Education, Technische Universitat Dresden, Germany)
- **Dr. Nurul Taufiqu Rahman, M.Eng.**
  (Head of Innovation Center, Indonesian Institute Sciences (LIPI), Indonesia)

The conference is around 200 participant with 121 orally presented article from lecture, researcher, teacher, and student from about 45 universities. The conference is aimed at discussing the papers on the research findings related to research ethics, and researches on character education, teaching innovations, as well as educational policies. It is expected that this conference yields recommendations on the importance of ethics in the research to produce high-quality research for the benefits of the human's welfare.

This conference will be far from succes and we could not accomplish what we do without the support from various parties. So let me extend my deepest gratitude and highest appreciaticn to all committee members. I would also like to thank each of participants for attending our conference and bringing your expertise to our gathering. Should you find any inconveniences and shortcomings, please accept my sincere apologies. In conclusion, I hope that your discussions produce something useful and very pleasant stay in Yogyakarta.

Wassalamu' alaikum wa Rahmatullohi wa Barokatuh
Thank you

Por. Dr. Sri Atun

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DEVELOPING AN UNDERSTANDING OF ETHICS AND EDUCATIONAL RESEARCH
ICERI 2015

Elizabeth Hartnell-Young, PhD

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Australian Council for Educational Research
Honorary Fellow, Melbourne Graduate School of Education, The University of Melbourne

Abstract

Ethics and ethical principles provide a framework to guide decisions and behaviour. In this paper the focus is on conducting research in the field (generally schools) in the discipline of education, beyond the normal activities of improving teaching practice. This paper introduces the main ethical principles that guide research, such as doing no harm, being honest, protecting participants' privacy and treating people fairly. It also refers to some of the relevant categories of legislation, and gives examples of guidelines to assist researchers through each stage of planning, conducting and writing about research to make it public.

1. Introduction

Whether the purpose is to discover solutions to problems in teaching, to contribute to a better society or to complete the requirements of a course, ethical considerations are relevant throughout educational research. They arise from the moment of the original identification of a research question or problem to study, to reporting findings to an audience. Much educational research is conducted with humans, making it important to consider the participants in research: to do no harm, report honestly, to protect their privacy and to make the potential benefits of the research clear. This paper outlines ethical principles, codes of conduct and practices relating mainly to research in the Australian context. Many of these will be helpful in many countries, while others may reflect a difference in culture.

While all activities in education are subject to ethical considerations, as soon as the word 'research' is used to describe an activity in education, we raise a set of concerns that go beyond the regular work of teaching and learning. Which of the following activities is teaching and learning, and which is really research?

- implementing a new approach to teaching English across a school
- asking parents to complete a survey about their children's attitudes to school
- collaborating in staff meetings with colleagues to plan science experiments
- interviewing teachers who have implemented an experimental approach in science.
- conducting an evaluation of a new approach to mathematics using a treatment group and a control group
- designing and making a computer game with students.

If the paradigm is research, what is the purpose? It may be to write a publication, or present at a conference, with the intention of building new knowledge about education. It may be to discover a solution to an important problem and thus contribute to a better society, or it may be quite pragmatic: to complete a course at university.

Whatever the purpose, ethical values and principles must be taken into account. For those who are still students, now is a good time to become more aware of ethics, and behave ethically in all your studies, as a good grounding for future work. Intellectually there is debate and discussion, as well as a growing body of

literature, around the philosophical underpinning for ethical decisions, but at a practical level, every student and academic engaging in research must be aware of ethics. Among the research community there is a range of views on matters such as the role of the researcher in relation to participants, and the ethics of particular research methods, views which this paper does not address. However it is important for beginning and early career researchers, as well as those further into a research career, to discuss underpinning theories that provide a rationale for the technical approaches when engaging in the important work of educational research. Understanding and adhering to ethical principles and practice means that the audience can trust the findings of the research, giving it value.

Ethical principles are sometimes encompassed in statements of research integrity by professional bodies and academic institutions (see AARE, 2003; AERA, 2011; Melbourne Research, n.d.). In Australia, these principles are contained in the Australian Code for the Responsible Conduct of Research (Australian Government, 2007), a national statement issued by the National Health and Medical Research Council (NHMRC), the Australian Research Council (ARC) and Universities Australia, a peak body. The major principles can be broadly summarised as:

- do no harm
- respect the participants
- protect privacy
- offer benefits, manage risks
- treat people fairly (Hammersley and Traianou, 2012).

Departments of Education in the states of Australia normally have to approve research undertaken in their schools, although university students may not be required to submit small-scale projects for approval. The sorts of criteria the Departments consider are potential benefit to the department, the researchers and the wider community; the quality of the methods; the burden on participants in terms of time or intrusion; and whether the participants are likely to be treated with respect and their data protected. For four years I was responsible for approving research to be undertaken in schools for the Department of Education and Training in Victoria, Australia. The Department's intention is to encourage research students, universities and research companies to consider the ethical issues related to their research. As with many other governments, it provides guidelines and templates to guide researchers. Applications to interview or survey teachers and students were common, and although most applications were very well written in the form provided by the Department, several issues arose. Sometimes the methods appeared to be a burden on the school, sometimes the survey questions were poorly written, and sometimes the proposed analysis of the data was not clear. Some of the applications came from health researchers, eager to use the students as a readily-available population. For example, the Department had to consider whether to approve the collection of urine samples or DNA from students in schools, so ethical issues were constantly in mind.

To help students and academics to conduct their research in accordance with ethical principles, universities provide advice and support. For example, the University of Melbourne issues a Code of Conduct for Research (The University of Melbourne, 2010), which lists the standards for academic staff, students, technical and other support staff engaged in research. It describes how to deal with data, research supervision and authorship and misconduct. Universities also establish ethics committees that consider all proposals for research coming from within the institution.

Ethics in educational research sits within a social and legislative context, so there may be national and cultural differences in priorities. Relevant legislation includes child protection and privacy laws, data protection laws and copyright laws, which are not fixed in stone and are changing in many countries in response to developing technologies and societal attitudes.

2. Ethical issues in the research process

Ethical issues are important in all the processes involved in conducting research, and each of these steps is discussed further below: identifying the question/problem; planning the methods; collecting the data; presenting and analysing data; making conclusions and writing up the project.

2.1 Identifying the question/problem

What is a valid question? You might have observed a teaching and learning in one school or a number of schools, or have read about an emerging issue. The problem might relate to a technique for student learning or for teacher professional development. At this conference last year, a group of researchers had identified a

problem among teachers, namely that not all teachers are capable of designing good lesson plans (Atmono, Kawuryan, Sugiyarti & Sukarni, 2014). Another identified a problem in that many university students were not motivated to learn English (Windiahsari, 2014). These problems became the focus of their research.

My research interests often relate to technologies. Several years ago I observed that smart phones included software that could be very useful for teaching and learning, and yet most schools banned the use of mobile phones. I wanted to explore whether attitudes could change and whether student learning could benefit from using the phones as a technology tool. In recent examples from Victoria, a group of researchers in Melbourne wanted to investigate their hypothesis that regular emails and text messages to selected school students would reduce suicide risk, while the Department itself wanted to evaluate a program in which students played computer games designed to support learning. (Source: Department of Education and Training Victoria, Research and Evaluation Register).

At ACER's Excellence in Professional Practice Conference in May 2015 (www.acer.edu.au/eppc), teachers will share problems of practice that they have identified, such as inconsistent improvement in student writing, decline in mathematics performance in one school, low reading levels among Indigenous students and teacher complacency with regard to professional development. They will describe their projects and analyse the outcomes to share with other teachers.

It is worth taking time to focus on a question that is worthwhile to improve educational policy and practice, and will not waste participants' time.

2.2 Planning the methods

It is important to think about ethical issues very early in the life of a project. If you need to deal with human participants, you must decide a method of sampling (including children and young people) that allows participants to be involved as volunteers, rather than being forced to participate. Volunteering implies consent rather than coercion, and this is an area much discussed in Education Departments. The principle of informed consent requires that participants are fully informed about the purpose, methods and consequences of the research project. Active consent means that participants sign a form agreeing to participate. Where students are quite young, parental consent is also required. As teachers are in a position of power over students, and have their respect, there is a possibility that students may agree to be involved without thinking deeply about the consequences. Education Departments in Australia suggest it is wise to gain active consent after providing clear information to potential participants, to inform them of how much of their time will be required, and how their confidentiality and anonymity will be protected. Another form of consent is passive consent, where, for example, participants are said to have consented to their involvement in the research by completing a survey: the act of doing the survey implies consent.

Requiring consent could impact on the number of participants. How many participants would you need to make sure your results will be valid? If you are doing a student research project, remember a small sample will provide practice in methods and writing, but may not allow grand claims for the results. How long do you have? Is this a semester project, or a longer term research study? Your methods will be determined by what is practical, efficient, and ethical within your time frame.

Your research may involve testing an intervention, where students are given a new tool or a new learning method, and you wish to measure the impact of this. Will you use control groups who do not receive the intervention? There are ethical dilemmas in this approach. How would you choose students to receive the intervention? Many teachers feel uncomfortable denying a potentially helpful intervention to students in a control group.

You may wish to use an action research approach, which normally involves the researcher as a participant exploring a problem of practice for the group (Madya, 2007). Action research is an approach rather than a method, and is a way to research local issues from an insider point of view (Anderson & Herr, 2005). What if some of the group do not wish to participate? Who has the power to decide?

2.3 Collecting the data

Data comes in many forms: numbers, words, images and can be collected in many ways. Once you are ready to collect the data, you must honour what you have previously told the participants with regard to the amount of time, methods and type of information required. You must make accurate records and store the data carefully. Please do not leave a DVD or a Flash drive where other people could access the information, and do take care not to lose it! Melbourne University regulations state the data must be retained intact for a period of five years

from the date of any publication and longer if the data has historical value. Data must also be available for other researchers to discuss.

You may have chosen to conduct descriptive, ethnographic or naturalistic research of some type. If you are observing a class, what is your role in relation to participants? Are they clear why you are observing them? Ethical principles are very firm about not deceiving participants: tell them your role and do not pretend to be something different. Interviewing is a common technique in this type of research, and also raises ethical issues. Is it important to ask all participants the same questions, or is a conversation allowable? Generally this depends upon the design of the research, and what participants have been told in advance. There should be a plan to deal with any participants who might become distressed by the interview, and to make it clear that participants may withdraw from the research, but what you will do if you find something illegal is occurring? The researcher has another ethical responsibility to the law.

Video recording and photographing are common data collection techniques in qualitative research. Privacy is an important ethical principle in this activity, and research ethics normally requires specific permission to collect or to reproduce the images of each person portrayed.

2.4 Presenting and analysing data

Honesty is very important at this stage. The data should be presented in ways that are clear to others, so that the analysis and conclusions can be tested. In qualitative research it is important not to skew the results by using selective quotes, or altering images. If there are missing data, such as when some questions on a survey have not been answered, the research must use a recognised process to deal with missing data (Peugh & Enders, 2004). Choosing a robust process for analysis at the outset can avoid later problems with missing data.

If you are creating graphs, choose the correct format to avoid misleading the reader. A line graph, a bar graph and a pie chart have different purposes and suit different sorts of data. Be wary of software that can turn numbers into graphs without knowing the type of data being used. Line graphs can be used to compare changes over the same period of time for more than one group. Pie charts are best to use when you are showing component parts of a whole, but they cannot show changes over time. Scatter plots show the relationship between pairs of quantitative measurements. By analysing the pattern and adding regression lines it is possible to identify causal relationships.

Dealing with missing data and choosing appropriate graphical representations are aspects of data literacy. Other terms to be aware of include 'growth rates' or 'rates of change', 'statistical significance', and even the choice of factors in structural equation modelling.

2.5 Making conclusions

All conclusions must be backed up by data. Researchers must be honest, so if the results are not what was expected, or are not sufficient to confidently answer the question, the research itself has not failed. It is very important to claim only those findings that can be justified. It is equally important to point out the limitations, which may result from a weakness in the original question, in the quality or amount of data collected or in the chosen methods of analysis. The length of time available would be a legitimate limitation to your study, and generally out of your control.

Critical analysis is an important skill for students in Australian universities. This means it is important to analyse the strengths and weaknesses of both their work and the work of others. Recently I invited an Indonesian post-graduate exchange student currently at the University of Melbourne to my house for dinner. While I prepared some of typical Australian food, such as fish and salad, I included a dish of gado-gado. During the evening the conversation turned to university studies. She revealed that she was coping quite well with the Masters level work in English, but that she had some difficulties with critical analysis. Other students around the table were quick to provide advice, as they were very familiar with the need for critical review and analysis in their own courses. Later, as we all got to know each other, I asked her what she thought of my gado-gado. 'Well', she said, 'did you make the peanut sauce yourself?' I had to confess I had used a bottle of sauce. Then she went on: 'The vegetables are fine, but you really need more sauce on them, and the sauce should have more chillies.' At this point I couldn't resist the 'teachable moment'. Around the table we analysed why she could confidently critique gado-gado, and how she could apply these skills to her Masters course. First, she understood the context and had in her mind an example of good practice (gado-gado in Indonesia). Second, she

knew the component parts and how they should interact, and she recognised that my gado-gado was below the standard. Third, she was able to express the shortcomings clearly.

Acknowledging limitations and being critical are also aspects of being fair and not misrepresenting participants and their views.

2.6 writing up

There are numerous ethical issues to consider when writing up your research. A most important aspect of writing is to identify your purpose and audience, which gives an indication of the structure and tone for your paper. In many cases you need to write up methods so another person could do similar research. If you are writing a journal article, that journal will have guidelines. What language will you use? Will your paper require translation? Be careful when using a software translation tool such as Google Translate! For publication in English, it is usually helpful to seek a native English speaker to assist.

Authorship is an important aspect when publishing findings. At the University of Melbourne, authorship must reflect the contribution made in three ways:

1. designing the research and analysing and interpreting the data
2. writing
3. giving final approval of the version to be published.

Other people who contributed should be named, where possible, in Acknowledgements.

Copyright is a field of law that is most important to researchers wishing to publish articles or produce educational tools and software, for example. In Indonesia, copyright is covered by Law No 19 of July 29 2002 and its amendments of 16 September 2014, which recognise various international conventions and now extends the length of copyright to 70 years after the year of death for individuals. As creators and authors, students have copyright over their work, and this may be shared with academics, so that they can publish or reproduce their work. Copyright is held in the expression of ideas, not in the ideas themselves. The journal Research and Evaluation in Education, published by UNY, provides guidelines for using copyright materials, and also hold s copyright in the published version of the paper. However the State holds the copyright for traditional folklore and commonly owned handicrafts, choreography and legends.

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For all publications, it is very important to be aware of scholarly conventions as well as copyright law to avoid plagiarism. For example, if you wish to use any of the data or materials again, or even quote your article, you must consider appropriate referencing and copyright law. This is an important point to keep in mind, even if you are not intending to publish immediately. It is not acceptable to publish more than one paper on the same set of data unless each subsequent paper references the earlier papers. If this is not done, it leaves the author open to an accusation of self plagiarism.

3. Conclusion

As can be seen, ethics applies at all stages of the research process, and requires researchers to consider carefully their behaviour, how they deal with participants (especially children and young people), and how data are collected, stored and interpreted and written up. One way to ensure that these considerations are addressed from the outset is to stop and think: 'is this action ethical?'.

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A FRAMEWORK FOR CONDUCTING INNOVATIVE RESEARCH

Bahaaeldin Mohamed

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Abstract

The purpose of this paper is to define a practical framework for conducting innovative research for theoretical knowledge and practical experiences in learning and education. This framework can foster an understanding of research not only for students and scientists but also for managers, teachers and non-scientists. It can also extend and improve the use of data for conducting research among different disciplines and specializations. The proposed framework comprises four main components of innovative research: a) Concept: understand who you are by creating a project concept; b) Management: Being visible by defining a clear set of knowledge; c) Communication: communicate empathically with your surroundings by defining your needs and requests; and d) Technology: facilitate your research processes by adopting a proper technological solution.

Keywords: Conducting research, Digital Research, eResearch,eScience, communication, collaboration

1. Introduction

Researching and writing an academic paper differs from researcher to researcher; for some, it might be an interesting task while for others it can be daunting. In both cases, however, it is important to have the research published, and the quality of the text and data is the basic requirements for a researcher to achieve this goal. Nevertheless, while a paper may have been written to provide an interesting exploration of an idea or provide an innovative solution to a current problem, it can also pose a creative new understanding of the investigated social phenomena.

The purpose of this paper is to offer an experience-based framework to use while writing not only an academic but also an interesting research paper. This framework directs researchers towards a

new ideology for producing an academic paper. This framework underscores that producing research in social science therefore requires more than the traditional guidance of selecting a research methodology or having a well-designed research program and following an authored paper format style; it is actually a state of mind, a safety framework that, when it works, reflects the researchers' personality.

2. Research framework

The literature on writing an academic paper or conducting academic research is frequently discussed in a traditional way. In medicine, however, numerous studies have been written to pioneer structured papers for helping novice researchers not only in medicine but in other disciplines as well write promising and relevant research papers. These studies provide a guide for writing, designing, and completing a paper. Nevertheless, to my understanding such studies appear similar to a guide book to teach a beginner how to swim with the end goal that this swimmer would perform as well as a professional swimmer. Reading such papers, however, does not make the reader a good researcher. The information presented in them has nothing to do with gaining real experience that would help an individual understand and conduct interesting research.

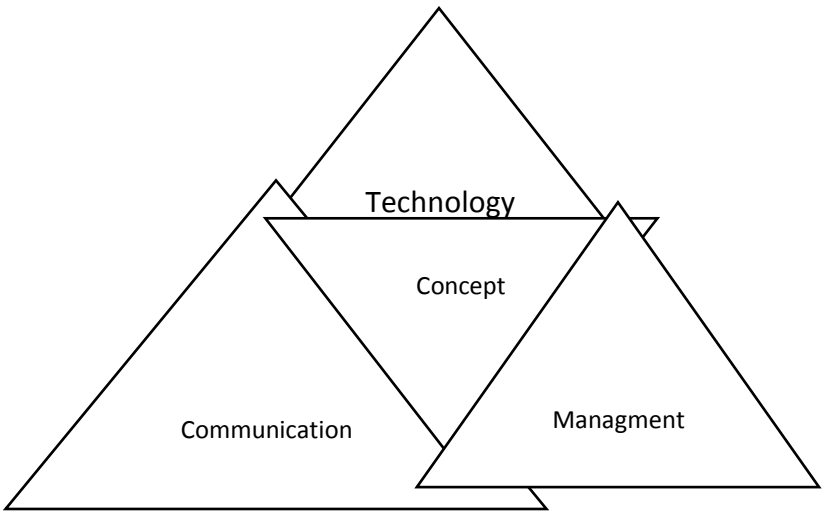
As a result, I asked myself what do researchers really need at an early stage or at a professional level to effectively and efficiently conduct interesting research? What is sources do they need to help them achieve such a goal? Do they need more instruction or guide books to read, or do they need more training courses to prepare them for research methodologies or an academic writing course to prepare them for the writing stage? Mohamed (2013) underscores that the researchers in German universities have such needs, and these needs should be taken into account so they can successfully complete their research. It was interesting to discover that the PhDs in the first and second year of their project (more than 80%) require certain guidelines and like to be supported by having their skills trained through various courses and workshops. More

than 70% of the researchers surveyed expressed that they would like to be an active part of some form of a community of practices while others expressed their desire for a guide to a financial support during and after the completion of their dissertation.

There are four aspects of a researcher's everyday life vis-á-vis everyday life research: finding a concept for their research and dealing with the state of the art, establishing an effective communicative system, developing an effective strategy to manage their research and transfer their knowledge, and finally using available technologies and information systems to facilitate the work being done. By having these four concepts on hand, students and novice researchers are able to plan and complete their project efficiently.

knowledge to the scientific community and consequently to society. The story is therefore about the researcher and the others.

To fulfill this aim, the basics of scientific research, research methodologies and the fundamental of writing an academic paper should be given consideration. What does research mean for you? How do you start your research? What do you need to start your research? Have you compiled a "state of the art"? Are you sure enough about the quality of the data that you have collected? Do you have an idea about the research ontologies and different research methodologies? Will you use deductive or conductive research? Can you imagine a planned processes for doing your research? It is only when a researcher can answer these questions



2.1 The Concept

The aim of this section is to explain how a researcher can tell his/her story in an interesting way. It is important to realize that a good research is about telling an interesting story for the reader; Simmons (2007) reported that whoever tells a good story wins, those who can use their own stories as a source of power are able not only to influence others but to market their ideas and change the world as well. Such stories should be created simply and professionally. It is not only about narrating some important part of a research problem and explaining how you approach this problem, but it is also important to connect the story to a wider body of literature by using scientific data and citing information from related research and studies. Therefore, a researcher should filter his/her personal experience through related studies and bring new

properly that he/she has the basics to begin an academic research.

How does one, however, find the answers to these questions? This is the second point that will be addressed here. This paper identifies ways to find these answers out of desire and interest rather than through the traditional, complex and static way of completing research. It identifies the four main bridges required to connect the static abstract knowledge explained in the traditional approach to writing to a researcher's prior knowledge and experiences.

Research in educational technology focuses on providing new understandings of learning processes, offering explanations for learning and understanding social phenomena, finding new answers to the old question of how does a student learn effectively using technology, solving learning or teaching problems in practice, and

predicting the forms learning and teaching will take in the future. It is important for researchers to define the primary and secondary research and resources. It is also vital for a researcher to understand research methodologies and the direction that he/she should follow, including choosing between a qualitative or quantitative one. In order to answer a research question and collect primary data for research, a researcher requires a clear understanding of the perspective that ought to be considered, which should be clear from the paradigm adopted to help solve the problem and carry out the decisions needed over the course of a research. A paradigm is a belief scheme that guides the way we make decisions. This paradigm according to Guba (1990) can be understood through 3 main features: ontology, epistemology and methodology. Ontology refers to the natural reality, whereby if you see reality as something that can be found, you are a realist, while if you see the truth as something that can be interpreted by individuals and is based on social culture, you are in this moment a relativist. Epistemology in concerned with how we understand the concept of justification when knowledge is a justified, true belief (Stanford Cyclopedia, 2015). It is your own way for creating and dissemination of knowledge. It is mostly about how the knowledge is sufficient, structured, and authentic-resourced in your view. In other words, our worldview will shape the knowledge we create and structure the way we conduct research. While epistemology is a cognitive issue, methodology refers to how we proceed in our epistemology in a way to start finding the knowledge and practically conduct your research. Methodology is widely characterized as either qualitative or quantitative (Guba, 1990).

Therefore, if you are positivist researcher, you will be interested in experiments, statistics and tests. While if you are going to be a constructivist, you will perform a role similar to Morpheus who played an influential role in the movie *The Matrix* when he asked, "what is real? How do you define real? If you are talking about what you can feel, what you can smell, what you can test and see, then real is simply electrical signals interpreted by your brain" (Wachowski et.al, 2000).

More generally, on one hand, the quantitative method is considered to be positivist, empirical, traditional, and experimental way of research. It is also related basically to research that tests the influences of any independent variables in a learning and educational experiment. It is also about discovering relations and correlations between two or more factors that can impact the learning processes. While the qualitative method is on the other hand, primarily considered to be a constructivist, naturalistic, interpretative, post-positivist research method. It is usually used for comparative, descriptive and historical studies and also suits evaluative research. In addition, it is promising to think about multi-methodology research that uses two or more different qualitative or quantitative research methodologies or a mixed methodology. How does a research select a proper research methodology? It is more related to his/her paradigm (ontology, epistemology and then research methodology). In most cases, a researcher should also analyze the related literature and studies that discuss the same educational phenomena as he/ she does and use that as an example. There is also, however, places for researchers to be creative and chose the best research methodology for their project.

2.2 Management

The second aspect for the proposed framework is the topic of project and knowledge management. The main question of interest here is whether conducting research could help you become a leader in your field, and if yes, how? To answer such a question, we need to discuss the factors of environment and the person to support understanding in this section. To enhance personal effectiveness and to discover the full human power that we have in a way to support us conducting very interesting research, it is necessary to highlight a user interface for personal effectiveness as Covey (2013) suggests in his book, T*he 7 habits of highly effective people*. Our habits are powerful factors in our life in terms of our knowledge, skills and desire. To learn a healthy habit is basically to make a paradigm shift in our existing habits in order to have a healthy understanding of the world in which we live, that is, to find a transformational moment for oneself.

Environment also plays an essential role in a person's development as a researcher. The influence an environment has on us was underscored in Bruce Lipton's work, T*he Biology of Belief* (Lipton, 2008), which claims that being smart or not, active or not, positive or not, etc., it is not only the matter of our genes as our cells are also controlled by the physical and energetic environment. This ontology leads us to think about the environment where we live, where we think, and where we conduct our research.

To put this in the practice, researchers should think about the change that should take place in their cognition and skills after conducting their research to be more likely as a manager, an expert, and also a leader. As such, the on the road of creation, the management of distribution of knowledge should expect to be changed: Develop a successful management strategy: complete one task by achieving an additional one.

2.3 Communication

Communication is the most powerful factor that enhances or blocks compassion. For a researcher in education and social science, it is important to learn more about connecting compassionately with others. Here in necessary to introduce Marshall Rosenberg's idea, *nonviolent communication* (Rosenberg, 2003). In order to enrich your daily life and to become successfully connected to your family, colleagues at work, and also with your sample to collect your data to conduct your research, it is important to establish an effective means of communication through physical meetings, via email, or social media. Rosenberg provides a widely successful technique for enhancing your professional communication by identifying four main steps to compassion: Observation, feeling, needs and requests. Once a research completes these four steps, his/her message will be empathically received and more effective.

To put this in the practice, researchers sit in their office and send and receive tons of daily emails while talking with colleagues and listening as well. The question remains, however, whether this communication is effective, or if it leads to more conflicts and problems. As such, there is a big calling once again to look at this problem and create yet another paradigm shift; Develop an effective style of communication: the science of empathy.

2.4 Technology

The use of technology and Web 2.0 are essential for conducting research today. The Author investigated the research process and the use of actual media to accomplish research goals for approximately nine years. He first attempted to develop an online content and platform for learning about conducting research at the Master and PhD level for Egyptian students (Mohamed, 2011). During his postdoc, he worked intensively on third-party projects at Dresden University of Technology that related to eScience, E-learning and digital research. In both phases, he investigated the needs of students and novice researchers in terms of training courses and on line social platform to foster and train their research skills as well as the different tools and media that researchers use for the purpose of research. Interestingly, he found that most researchers, particular in their early careers rarely use social media for research (Mohamed, 2013). As such, it seems that researchers require not only knowledge about the awareness of how to use such media but also ways to use it as well.

He developed particular techniques to encourage researchers to use media effective over the course of their research. The PhD Lab (http://phd-lab.com), a portal for learning how to complete research and studies using digital research methodologies, and the flipped conference techniques for improving academic presentations and discussions will be discussed below.

2.5 Conducting and Evaluating an Online Questionnaire: Putting it in the practice

This paper focuses on implementing an online questionnaire by using the above mentioned Framework, answering the question of how to develop a questionnaire in social science, how to prove the issue of validity and reliability, how to develop and publish it online, and finally how to analyze the data and get the final results. This study will answer these questions by analyzing 30 papers, workshops, and presentations conducted by the author between 2007 and 2015.

3. Method

This paper uses a quantitative research methodology, meta-analysis/content analysis, in order to collect data from related literature.

The criteria of inclusion were determined based on the author's previous work that covered the following criteria:

- Digital research (DR): research papers that describe the process of research and the needs of researchers that are necessary for conducting research.
- Scholarly communication (SC): papers that investigate web-based communication and collaboration processes among PhDs and researchers.
- Project management (PM): this section reports researchers' tasks and

knowledge management experience that enabled them to complete their research.

- E-learning (EL): this part includes the papers produced to describe the teaching and learning methods for research methodology as well as the learning materials and online portal developed to serve this objective.

This study includes a literature review conducted by the author that surveyed papers written between 2007 and 2015 and presented at internationals conferences in and outside of Germany: GeNeMe[1], EduLearn[2], Sunbelt[3], GOR[4], HDS[5]. Some of the papers included were presented at the of edu-tech[6] project' international summer school.

These selected papers serve 2 main objectives: The first aim is to investigate the research processes, communication and collaboration among PhDs and researchers, while the second is to develop learning concepts, materials and online portals to deliver training courses for research methodology and digital research. As such, the 30 articles, talks and presentations included provide a strong image of this field.

4. Results & Discussion

4.1 Concept

The most common ontology used to conduct quantitative research in learning and education is the positivist paradigm. In most cases, researchers decided to use this perspective after consulting prior studies and literature, while sometimes it was the researchers' epistemology and the influence of the researcher's environment that led him to the choice. I remember that the research environment (research school) in Cairo University in Egypt where I started my master thesis was mostly focused on quantitative research methodology to investigate the effectiveness of new technology on students' performance and attitude and it remains the same today. In contrast, the Dresden University of Technology where I completed my PhD focused on quantitative as well as— and more so— qualitative research.

The important question is how to develop questionnaire items that serve your research question. There are two popular trends for this purpose, which I label so-called- *take or make.* While most researchers adopt one already made questionnaire/scale from the literature, other researchers are more likely to develop their own items that serve their theory or reflect their model of learning. In fact, using an already-made scale can save some steps for testing this scale on users in terms of reliability and validity.

The concept of statistical solution should be always in mind. After collecting the data, the researcher has to complete two kind of analysis, mainly descriptive and inferential analysis. It should be clear when designing the items that the main factors of the study are defined.

This study recommends the technique of "answer your research question before collecting the data," which can help researchers achieve the goals of defining the major factors of their studies.

4.2 Management

It is necessary for a researcher to organize and effectively manage the different steps and phases of developing, reviewing, testing, programming, distributing of the questionnaire and then evaluating, analyzing and interpretation the data. Time schedule, quality and the cost management can directly affect these phases, and organizing the time efficiently can make these steps easier and encourage effective management. It is a real time for a researcher to test their own skills of reading, writing, finding a good quality data, searching, statistic, ICT skills as well as communicative skills. Mohamed, Pscheida & Koehler (2013) identify that researchers (n=1413) are busy mostly (more than 10%) for output generation, development, coordination& information, investigation and data collection.

The management process here is more likely to be an interaction between personal skills, researcher character and the influence of environmental factors of an institute, work group, and research target groups. Our concept is much more profound—it is about building a researcher's character rather than simply completing a research project. The research is a trip made by researchers that changes them into good managers and future leaders. Working under pressure, multiple daily tasks and getting

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[2] iated.org/**edulearn**/

[3] hamburg-**sunbelt2013**.org/

[4] www.**gor**.de/

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[6] http://edu-tech.eu/

work done is a constant challenge for researchers.

This study offers a technique, "complete a task by starting another additional task," as well as the technique, "if you would like to learn something then teach it to someone else." This is a form of learning and researching through teaching.

4.3 Communication

It is interesting for us to understand the questionnaire as a form of communication along with its all phases. Accord ingly, the ways to write the introduction, items and its structure should be given a great amount of consideration. Additionally, the way to ask people to review and test the questionnaire for you as well as the way a researcher approaches his/her target group when asking them to participate and fill out your scale should be planned and discussed. Additionally, programming your scale online (tips and tricks) should also be taken into consideration.

More generally, according to Rosenberg (2003), your thoughts and related feelings should be simply and clearly transformed into clear need, after which a researcher's needs could be redefined in a clear and compassionate request in terms of formulating the items and messages to the target group. If these processes are completed properly, the message to the target group will be successfully delivered. Accordingly, as Mohamed, Lorenz & Pscheida (2013) report, the number of drop-out participants can be reduced when the questionnaire's message is clearly, compassionately and interestingly expressed and when the usability and accessibility of the online questionnaire is included in its design.

As such, this study proposes that the principle of "nonviolent questionnaire" should be adopted.

4.4 Technology

In order to use today's' technology to increase the speed of research production, it is important to consider two main factors: first, awareness about the available technologies for the particular phase of research production, and second, knowledge about the way that people and researchers in particular are using such tools to achieve the same and other purposes as well. According to Mohamed (2013), novice researchers and PhDs are less likely to use social media and Web 2.0 solutions to foster their research production as they lack information about the functions of the technology, the experience, as a uncertain about data protection. While (32%, N=140) believe that using Web 2.0 technologies can enhance communication and cooperation to daily research life, most novice researchers fail to incorporate them in their research.

This study recommends a Weblog for regular (daily, weekly, monthly) research discussions. Having a social media profile for establishing global communication, being visible, and "selling" ideas are particularly important for novice researchers. In addition, using an online survey management system in order to program, publish, distribute and analyze the questionnaire is also of importance. In particular, the use of Lime survey as a free service as well as Unipark as pre-paid service will be practically discussed. It is useful to use collaborative writing tools as well to facilitate reviews and writing/ brainstorming project ideas with team members at a distance.

This study strongly recommended for researchers in educational technology and social science to register and sign up for our learning and social platform PhD Lab (http://phd-lab.com). This is a platform used for learning about research production, research methodologies, and to help PhDs and other researchers connect with those throughout our international network in Germany, Norway, Austria, Poland, Russia, France, Indonesia and Egypt. Registration is available and is free.

4.5 Evaluation

The final steps for conducting a quantitative questionnaire is about not only the way of analyzing and evaluating the data, but also the method of documenting and reporting these results in an academic paper. More generally, researchers should use two types of analysis for Likert-scale questionnaires. The first is so-called- *descriptive analysis* that can be done automatically throughout the online survey management system, or it can additionally be completed using special software such as IBM-SPSS Statistics. The second necessary analysis is so-called *inferential statistics* that is basically related to test the relation and correlation between questionnaire items and factors. These advanced statistics can be done by helping of IBM-SPSS Statistics. However, this study introduces a new technique, the PLS (Partial Least Square) technique.

5. Conclusion and practical example

The recommended model for conducting interesting research in E-learning, education and social science is to pay attention to the main four important factors: (a) formulating your own concept, (b) managing the processes, (c) establishing an effective means of communication, and (d) enhancing your work by using available technology.

The practical part of this study is about collecting data from conference attendees and analyzing data together with participants in a workshop format as a second half of the presentation (as it is available). Otherwise, the workshop will be done without collecting data from attendees.

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WHY PLAGIARIZE: THE THEORY OF PLANNED BEHAVIOR PERSPECTIVE

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Abstract

Plagiarism does not suddenly occur, but rather it is planned. Therefore, authors in this research used Azjen's Theory of Planned Behavior (TPB) as research model. Theory of Planned Behavior emphasizes that behavior is not only influenced by attitude, but also by social pressures, and sense of social control. The goal of this research is to know whether TPB correlates with the intention to plagiarize. This research involves 97 participants which are gathered through accidental sampling. The research shows that the attitude correlates negatively with intention towards plagiarism $r=-.221$, $p<0.05$. Subjective norm did not correlate with intention to plagiarize $r=.141$, $p>0.05$ as well as perceived behavioral control which did not correlate with intention to plagiarize, $r=.169$, $p>0.05$.

Keywords: plagiarism, Theory of Planned Behavior, intention

1. Introduction

Plagiarism is an act of claiming writings, ideas, and inventions done by other people as their own without acknowledging the source (Jones, 2011). Generally, plagiarism occurs in many field, such as culture, law, politics, even in education. In education field, plagiarism is often done by intentional or unintentional and actually they know that unethical. There are many traits of plagiarism, such as cheating, use paper or assignment from previous year, copy title with changes font and size, and copy writing or words without source (Jones, 2011).

Many reasons underlie students to do the plagiarism, such as they don't know rules of plagiarism, many task and short deadline, different tradition in academic institution, it is practical, and low negative attitude toward plagiarism (Greenwich, 2011). Students often assume that plagiarism is a common thing to do, because the more tasks are given the more information is needed to complete the tasks. Not to mention about the short deadline (Zalnur, 2012).

Basically plagiarism has been planned not accidently. Plagiarism can occur also because supporting environment, e.g. when students are cheating other students' exam and the exam supervisor doesn't care about that.

Therefore, plagiarism has strong relationship with intention, which uses theory of planned behavior (TPB). Authors use TPB, because TPB consists of attitude, subjective norm, and Perceived behavioral factor (PBC) are three factors which is determine behaviors can happened (Handayani & Baridwan, 2014)

TPB is about individual's intention to present specific behavior (Lin & Chen, 2011). TPB is also known as Theory of Reasoned Action (TRA), speaks about: (a) attitude, is the positive or negative assessment toward behavior that determine whether an act will be done or not (Baron & Branscombe, 2014); (b) subjective norm, which is the social pressure that determine whether an individual engage or not in behavior (Ajzen, 2006); (c) Perceived Behavioral Control (PBC), is perceived difficulty or ease to presenting behavior (Stone, Jawahar, Kisamore, 2010); and (d) intention, is people's readiness to perform behavior which is considered (Ajzen, 2006).

Based on finding from Simkin and McLeod (2009), attitude and subjective norm correlated significantly with intention of plagiarism within TRA model. Other finding from Stone, Jawahar, and Kisamore (2010), attitude, subjective norm, and PBC have positive correlation with intention of plagiarism in theory of planned behavior. Beside that, according to finding from Stone, Kisamore, Kluemper, and Jawahar (2012) that student's with low negative attitude toward plagiarism supported students to have intention to do plagiarism.

Based on finding from Stone, Kisamore, and Jawahar (2007) and Salleh, Ghazali, Awang, and Sapiai (2012) attitude, subjective norm, and Perceived Behavioral Control correlated with intention of plagiarism. Authors formulate the problem:

a. Does the attitude toward plagiarism correlate with intention of plagiarism?
b. Does the subjective norm toward plagiarism correlate with intention of plagiarism?
c. Does the perceived behavioral control toward plagiarism correlate with intention of plagiarism?

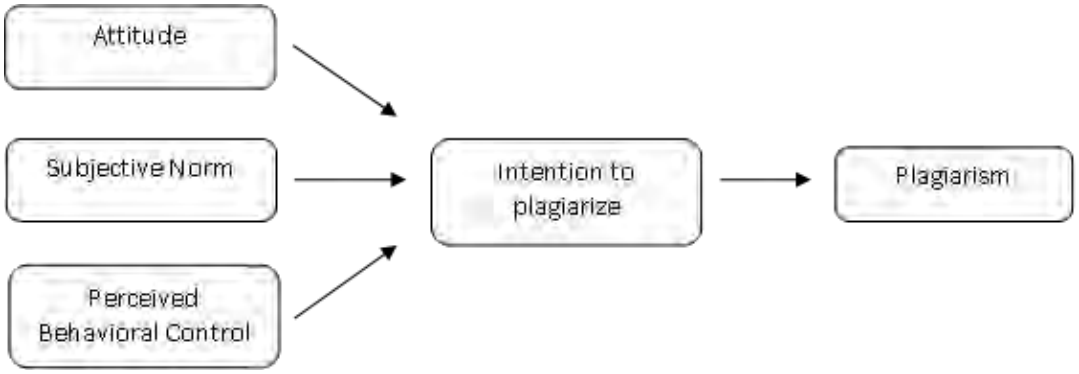

Figure 1. Schema Theory of Planned Behavior

Based on the phenomenon and findings, that's underlie authors hypothesizes to find out the correlation between plagiarism with TPB. In this research, authors found that low negative attitude as one of the important antecedents which can increase the intention which leads to plagiarism in academic field. Therefore, authors conclude if negative attitude toward plagiarism is high, individual's intention toward plagiarism will be low and vice versa. The function of this research is to know about reason individuals do the plagiarism and plagiarism from perspective theory of planned behavior.

2. Method

2.1 Participant

In this research participants are taken in accident method. The participants consisted of 13 male and 84 female students, young adult (age from 18-20). Generally, the participants knew about plagiarism in Faculty of Psychology at Tarumanagara University.

2.2 Procedure

First of all, authors find out measurement item for adjustment toward variable which is measured. Second, authors translate the language of item from English to Indonesian. The questionnaire consists of 7 items for attitude measurement, 7 items for subjective norm measurement, 3 items for PBC measurement, and 8 items for intention. Third, the questionnaire is presented using Microsoft Power Point in class and the participants were asked to complete the questionnaire according to certain criteria. Finally, the result from participants was analyzed using correlation analysis in Predictive Analytics Software (PASW) 18.

2.3 Measurement

Authors use PASW 18 for calculating and analyzing data. Besides that, authors use quantitative approach with bivariate correlation method and Likert scale which is consists of four possible answers: strongly disagree, disagree, agree, strongly agree.

Then, authors do the reliability test with Cronbach's Alpha technique use program of PASW 18. Item discrimination index which is <.2 will be deleted for obtain result ≥.2 (Yenita, 2008). Based on this research, from attitude measurement consists of 7 items with the Cronbach's Alpha of .796, subjective norm consists of 7 items with the Cronbach's Alpha of .6 6 lPBC consists of 3 items with the Cronbach's Alpha of .594. But, about intention which is 8 items in the beginning with Cronbach's Alpha, sustain changes and it becomes 7 items after done reliabilty test, because authors found item discrimination index which is <.2. So, intention measurement consists 7 items with Cronbach's Alpha of .690.

3. Result

Based on that research, there is correlation between attitude with intention toward plagiarism, that result supporting Simkin's et al. (2009) and Stone's et al. (2010) research which is done before. Beside that, the subjective norm did not correlate with intention toward plagiarism, and PBC did not correlate with intention toward plagiarism.

Authors found that attitude shows low correlation (r=-.221, p<0.05) and were significant toward intention of plagiarism, that result supports finding from Stone (2012). Subjective norm shows r=.141, p>0.05 so, it did not have significant correlation with intention toward plagiarism. PBC shows r=.169, p>0.05 so, it did not have significant correlation with intention toward plagiarism.

Table 1
Result of Correlation and Significance between Theory of Planned Behavior (TPB) toward Plagiarism

Variable	Intention	
	r	p
Attitude	-.212*	.030
Subjective norm	.141	.168
Perceived behavioral control	.169	.098

Note. *. Correlation is significant at the 0.05 level (2-tailed). *r*= correlation; *p*= significance.

4. Discussion

Authors found finding on Stone et al. (2007), Stone et al. (2010) and Salleh et al. (2012) that's attitude, subjective norm, and PBC have correlation toward intention of plagiarism. Finding on Simkin and McLeod (2009) perform that just attitude and subjective norm which have correlation with intention of plagiarism.

In this research there is negative correlation attitude toward intention of plagiarism. That's perform if individuals have very high negative attitude toward intention of plagiarism, so individuals will have low intention toward to do plagiarism and vice versa. For example, when students assume that plagiarism is unethical, so they are do not that act.

Based on this research authors found that subjective norm did not correlate toward intention of plagiarism, that incident can occur because their belief toward plagiarism it's not necessarily determine low or high individuals do the plagiarism. Beside that, authors found that PBC did not correlate toward intention of plagiarism, that is can occur because individuals able to do the plagiarism, but it doesn't mean individuals have intention to do the plagiarism.

So, authors found that just attitude which is correlate toward intention of plagiarism, and PBC even subjective norm did not correlate toward intention of plagiarism.

5. Conclusion

Based on this research which has been done authors confirm hypothesizes and conclude that there is correlate between plagiarism toward Theory of Planned Behavior. But, just one of three determinant factors which is influenced the intention to plagiarize. That's factor is attitude, which is there is negative correlate toward intention to do plagiarism on students. Whereas, between subjective norm and PBC did not correlate with intention toward plagiarism, therefore, authors conclude that plagiarism is act with intention which is negative correlate or affected by attitude toward plagiarism.

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MORAL DISENGAGEMENT AND PLAGIARISM AMONG UNDERGRADUATE STUDENTS

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Abstract

Plagiarism among undergraduate students is one of the problems that have been catching the attention of ethics researcher. Most of ethical perspective on plagiarism focused on Kohlberg's moral development stages, but it does not obviously explain this kind of unethical behaviour. In this study, we attempt to investigate whether students who plagiarize are morally disengaged based on Bandura's moral disengagement theory. Quantitative data were collected from 258 Indonesian undergraduate students by using adaption of Mechanism of Moral Disengagement Scale and Personal Experience with Plagiarism Scale. Descriptive statistic analysis shows that the level of plagiarism is low meanwhile moral disengagement is moderate. There is a significant and positive correlation between moral disengagement and plagiarism. It is also found that male students has higher tendency to be morally disengaged compared to female students. The results of this study partially support Bandura's theory of moral disengagement in explaining unethical deeds and also seem have theoretical implications on cultural perspective for further research beside practical recommendation for reducing plagiarism among students.

Keywords: plagiarism, moral disengagement, undergraduate students, moral development stages

1. Introduction

In today's era, technology has developed so and so that majority of the world has easy access to the internet. The internet is known for being able to provide any kind of information within a click of a button. However, this convenience has its side effects, a mean for plagiarism. One can browse the information they need and simply copy-paste online material as their own work without citing or referencing [1]. This

\copy-paste behavior may develop into a habit and its consequences would not be as simple as that of copying a friend's homework. This type of behavior could ultimately lead to detrimental outcomes. For example, a kid getting caught copying a friend's homework or cheating on a test could lead in a light scolding or punishment by the teachers. However, publishing a journal that contains plagiarized materials may result in a forced withdrawal or even apologizing publicly. This would taint the name of the researcher or the organization in question [2]. To minimize cases of plagiarism, researchers have made attempts to find the causes and solution for plagiarism.

Despite the consequences, many researchers still opt for plagiarism; this has been a major issue in academic settings. There are numerous cases of researchers doing self-plagiarism, i.e. presenting their past work as their recent work, for example by changing title of the paper or re-arranging the sentence structure. Not only experienced researchers, there are cases of old papers submitted under a new author's name without any change in the content. A more common form of plagiarism is copying a part of a paper and claiming it as an original idea [2].

Before going further, firstly we should understand what plagiarism actually is. Plagiarism is an act of taking another's ideas, statements or information without citing the sources. This includes copy and pasting any part of materials from any online or paper source without proper citations, claiming another's idea as one's own [3]. Any kind of plagiarism is an unethical, dishonest behavior and morally unacceptable. However, plagiarism is still a popular choice. Several researches in the United States in 2009 shows that about 40% undergraduates are involved in plagiarism [4].

Undergraduates are highly active in the internet, may it be for social media, homework, or just casual surf in the internet; the repeated use

of the internet could lead to plagiarism. In schools, teachers usually give students homework from the textbook only. However, in university level, students are demanded to be able to gather information from sources outside the main textbook. However, students may use these online materials without citing the sources properly or even tempted to plagiarize. These freely available online materials, instead of being a study material, have become a reason for crumbling of academic integrity [1]. This is indeed an alarming situation. Not only would this discredit academic integrity, but would also result in students grow up with plagiarizing mentality, which is definitely alarming.

According to Kolhberg's theory of Moral Development, adolescence supposedly reached post-conventional level [5]. In this level, adolescence should have understood what morally accepted behavior is and why it is accepted. However, many researches that correlate plagiarism with Kohlberg's moral development only show general reasons of why people with higher moral development level still engage in plagiarism. However, plagiarism is a complex behavior that require more than general explanation [6].

In response to this, researchers decide to correlate plagiarism with Bandura's Moral Disengagement theory. One is able to change their inner morality standard by accepting socially immoral behavior as personal moral behavior [7][8][9]. In this way, students adapt plagiarism as morally acceptable behavior and are able to engage in plagiarism without feeling guilty. According to Bandura, there are eight dimensions of moral disengagement [9].

Moral justification. People engage in immoral conduct by justifying the morality of their action. They portray this immoral conduct as socially acceptable action by justifying that it is for a *greater good*. For example, a reverend who condemns another religion as a "bad" religion, justify this act as to defend God [9].

Euphemistic language. One's action can be viewed with different perspective based on how they are referred as. By euphemizing the label of one's wrong doings make their action seems more acceptable. For instance, saying the person is being "let go" instead of "fired" is a way to euphemize [9].

Advantageous comparison. An action is judged by what it is compared to. People's wrong doings can seem righteous by comparing it to the more delinquent action. For example, stealing 5k seems less harmful than stealing 30k [9].

Displacement of responsibility. One's hesitation to engage in immoral conduct will be minimized when legitimate authority takes the responsibility. Under displaced responsibility, wrong doers view their actions as derive from the authority's mandate. For example, Nazi soldiers who prosecute and killed a lot of Jewish claimed that it is an order from their superior. The soldiers exempt themselves from the responsibility of killing Jewish [9].

Diffusion of responsibility. Guilt tends to decrease when the responsibility of wrong doings is diffused. For example, students who are involved in brawl could act brutally against the other party without feeling guilty. One may feels that he/she is not the only one involved or that he/she is just joining the others [9].

Distortion of consequences. Avoid facing the negative effects of one's immoral action will minimize the guilt. It is easier to justify one's wrong doing when the consequences of the actions are less visible. For instance, people who engage in cyber bullying could minimize their guilt by refusing to know the possible consequences of their action [9].

Attribution of blame. People blame external factors as a cause for their wrong doings. For example, those who engage in sexual abuse claim not guilty as the victims are wearing provoking clothing [9].

Dehumanization. One can treat another with cruelty by not considering them as a human. Treating another human cruelly could lead to personal distress and deep regret. By considering the one they treated cruelly as some animal or monster, it helps to ease the wrong doer's mind. This mechanism is applied in the Nazi camp. Nazi commander degrade the Jewish so and so they would no longer be considered as a human. This reduces the guilt and distress of soldiers in charge of gas chamber [9].

In this study, we would like to find out whether or not plagiarism is related to moral disengagement. If there is a relation, we would also like to further find out whether certain dimensions of moral disengagements are more dominant than the other in correlation to plagiarism.

2. Materials and Methods

2.1 Participants

Participants involved in this study were Indonesian undergraduate students from various universities. A total of 258 participants from age 16 to 28 (M=19.85; SD= 1.67), in which 58.5% are female, completed questionnaires regarding moral disengagement and plagiarism.

2.2 Procedure

Data were collected by non-probability sampling technique through paper-based and online questionnaire. A hundred copies of questionnaire was distributed to undergraduate students in various universities in Jakarta. All participants who agreed to participate received a brief explanation about the purpose of the study, signed the consent form and completed the questionnaire. The online questionnaire was uploaded to a web server with a brief explanation of the study and consent form included. All data were collected within five days duration.

2.3 Statistical Analysis

Data were analyzed using the SPSS version 15.0 for Windows. The reliability and validity of both scale and each item are measured by using Cronbach's Alpha and item-total correlation respectively. Through One Sample Kolmogorov-Smirnov test, we found out that only Moral Disengagement Scale data spreads around normal curve. Hence data were correlated by using Spearman's bivariate correlation. To measure genders differences regarding moral disengagement, we use Mann-Whitney's two independent sample.

2.4 Measure

In this study, researcher uses two different scales to assess moral disengagement and plagiarism. Personal Experience with Plagiarism Scale was used to assess plagiarism [10]. This 18-item scale assesses the frequency of plagiarism behavior in participant, particularly in academic settings. Participants rate the instrument on a 5-point-Likert scale from never to more than 9 times. The Cronbach Alpha of this scale is 0.879 with item correlation ranging from 0.214 to 0.715.

Bandura's Mechanism of Moral Disengagement Scale measures moral disengagement through 32 items assessing eight different dimensions [7]. These dimensions of moral disengagement mechanisms are moral justifications, euphemistic language, advantageous comparison, displacement of responsibility, diffusion of responsibility, distorting consequences, attribution of blame, and dehumanization. This instrument were rated on a 5-point Likert scale from strongly disagree to strongly agree. Through Cronbach Alpha, we calculated that the scale has reliability of 0.908 with item-total correlation ranging from 0.303 to 0.628.

3. Results and Discussion

3.1 Result

This research shows a significant and positive correlation between moral disengagement and plagiarism ($r=.207$; $p<.01$). Positive correlation implies that when moral disengagement increases, plagiarism also increases, and vice versa. The correlation between the two variables is two-tailed; this means that either variable could be a factor that influences the other.

Each dimensions of moral disengagement shows different correlation with plagiarism. Moral justification, euphemistic language and dehumanization show a highly significant and weak positive correlation. Advantageous comparison and attribution of blame shows a significant, very weak positive correlation. 3 other dimensions show insignificant, very weak positive correlation to plagiarism. The summary correlation between each dimension of moral disengagement and plagiarism are shown in the table below.

Table 1. Descriptive Statistic of Plagiarism and Moral Disengagement

No.	Name	Mean	SD	Min	Max
	Plagiarism	2.17	.478	1	5
	Moral Disengagement	2.18	.731	1	5

Table 2. Spearman's Correlation between Plagiarism and Dimensions of Moral Disengagement

Dimensions of Moral Disengagements	Correlation Coefficient with Plagiarism
Moral Justification	.219**
Euphemistic Language	.206**
Advantageous Comparison	.138*
Diffusion of Responsibility	.122
Displacement of Responsibility	.081
Distorting Consequences	.081
Dehumanization	.177**
Attribution of Blame	.124*

*Correlation is significant at 0.5 level (2-tailed)
** Correlation is significant at 0.1 level (2- tailed)

Table 3. Gender Differences in Moral Disengagement

Ranks			
Gender	N	Mean Ranks	Sum of Ranks
Female	151	121.09	18285.00
Male	107	141.36	15126.00

Test Statistic[a]	
Mann-Whitney U	6809.000
Wilcoxon W	18285.000
Z	-2.150
Asymp Sig.	.032

3.2 Discussion

Moral disengagements allow undergraduates to engage in plagiarism with less or no guilty feeling. In addition to that, recent advancements in technology provide easier access to online journals and publication supposedly used to enhance studying. However, this could be an easy means to plagiarism. Students could easily copy-paste online materials and claim it as their own [11]. There are a lot of online sources that provide strategies on how to plagiarize without getting caught [1]. Despite this convenience, strict lecturers who are very detail in checking papers and severe punishment could make students hesitate to engage in plagiarism [13]. Other factors such as strong ideologies, personal decision and self-regulation may reduce correlation between plagiarism and moral disengagement [9].

Kolhberg's theory explains that student reconsiders and rationalizes plagiarism into morally accepted behavior. However, this does not clearly explain what kind of consideration and rationalization is used [8]. Bandura's theory of moral disengagement could specify the consideration and rationalization process through 8 mechanism of moral disengagement. This study shows that 5 out of 8 mechanisms correlate significantly with plagiarism while 3 others are insignificant [9]. We will further discuss each mechanism that has significant correlation with plagiarism.

Moral justification is a mechanism in which students justify plagiarizing behavior by portraying it as socially acceptable action through reasoning. On the other hand, plagiarizing behavior could lead to moral justification. For example, students who repeatedly engage in plagiarism justify their action were meant for good cause, such as making their parent [9].

This study shows that moral justification and plagiarism are weakly correlated. A possible explanation for this is student's level of self-regulation. Highly self-regulated students are able to restrain themselves from temptation to engage in plagiarism [9].

Euphemistic language is a mechanism in which students euphemized the term "plagiarism" into a more socially acceptable term. Plagiarizing behavior can also lead to the use of euphemistic language. Undergraduate students could reason that they were only adapting someone's work without citing the source, not plagiarizing [9]. The use of euphemistic language is influenced by one's culture. In Asian countries, there are a lot of words that are not supposed to be said bluntly. Such words include homosexual, fat, handicap, and plagiarism should not be used openly as it is considered taboo [14].

In this study, it shows that correlation between plagiarism and euphemistic language is weak. This may be due to students has more liberty to express themselves in their own way without fear of being judged. In addition to that, several societies today have higher level of toleration toward plagiarism [11].

Dehumanization is a fascinating mechanism. This mechanism justifies immoral conduct toward another by dehumanizing the victim, treating them inhumanely. Student may consider out-group peers as non-human and that he/she should be better than them. Hence it is fair for them to plagiarize work of out-group peer [9].

Another explanation to this is that student who is a repeated offender considers themselves superior than the victim. Superiority is one of the characteristics of dehumanization mechanism. The superior considers others as inferior being and possibly deny their humanness. Hence, taking advantages of non-human by plagiarizing their work is no longer causing personal distress or guilt [13].

However, a weak correlation indicates that plagiarism does not always occur although there are chances, superiority or out-group peers among students. Dehumanizing inferior and out-group peer are widely considered unaccepted behavior, which may be why superiors do not always dehumanize the inferiors or out-group [11].

Another possible reason is student knows the *human* quality of the inferior and out-group peer and hence unable to dehumanize them. Also, plagiarism may not be the only reason of development of dehumanization mechanism among students [9].

Advantageous comparison is a mechanism in which undergraduate students justifies plagiarism by comparing it to worse behavior. Plagiarizing behavior can also lead to

advantageous comparison as one may reason that plagiarizing cause less harm than other wrong doing. A possible explanation of weak correlation of advantageous comparison with plagiarism is that student holds on to their ideology. What they consider as wrong, is wrong no matter what. Hence, students whose ideology considers plagiarism as wrong would refrain from plagiarizing otherwise they would feel guilty or distress [9].

Attribution of blame is a mechanism in which undergraduate students blame the external factor as a reason to plagiarize. Plagiarizing can also lead to attribution of blame as people who engage in plagiarism did not want to blame themselves. They tend to blame external factors instead. Not everyone who engages in plagiarism uses this mechanism; it depends on one's personal decision. If one's personal decision is to not blame others for own action, they would not use this mechanism. People who consider plagiarism as wrong behavior would be more hesitant to do so [9].

Another finding in this study is that male student has higher tendency to engage in unethical behavior compared to female students. This can be explained by a study conducted by Becker and Ulstad. The study shows that female has higher tendency to consider social standards before doing anything. Female would give more consideration about the consequences of their action before engaging in any unethical behavior. On the other hand, male are more aggressive and competitive. They are willing to take any risk and face any consequences to reach their goal. Therefore, male has higher tendency to engage in unethical behavior, and hence moral disengagement [15].

3.3 Limitations

This research has several notable limitations. First, we notice that moral is a difficult concept to understand for lay people. Participants may be confused during data collection. Second, this study uses non-probability sampling technique, so there is no equal chance for every Indonesian undergraduate to participate in this study. There are possibilities that the findings could not be generalized.

Third, the scale we use to measure plagiarism only measures personal experience. It is only a small variance in plagiarism. The fourth limitation of this research is that this study does not consider the possibilities of participants answering the questionnaire based on socially accepted answer; hence the data collected does not reflect participant's true thought and behavior. This kind of behavior is called social desirability bias.

4. Conclusion

The result of this study shows that correlation between moral disengagement and plagiarism is significant, but weak. Reasons for this weak correlation may be due to external factors such as harsh punishment and detailed lecturer and internal factors such as self-regulation and strong ideology. Result of this study shows differences in moral disengagement between male and female. This could be explained by male's fearlessness in doing any possible means and female's careful consideration in taking action. Kohlberg's moral development theory explains this finding in a more general way. Bandura's moral disengagement explains this correlation in a more specific way. Each of the 8 dimensions of moral disengagement has different correlation with plagiarism.

Only 5 out of 8 dimensions are significantly correlated with plagiarism, they are: (a) moral justification, this mechanism has highly significant, weak correlation with plagiarism; (b) euphemistic language, this mechanism has a highly significant, weak correlation with plagiarism probably due to modern societies today allow students to express their thoughts freely; (c) dehumanization, this mechanism has a highly significant, very weak correlation with plagiarism, this may be due to student know the quality of the other party hence could not dehumanize them; (d) advantageous comparison, this mechanism has a significant, very weak correlation with plagiarism, this weak correlation may be due to ideology that a mistake is a mistake no matter it is big or small; (e) attribution of blame, this mechanism has a significant, very weak correlation with plagiarism, in which personal decision decides whether unethical behavior done is own fault or blaming on other factors.

Due to limitations in this study, we propose several suggestions for future studies. First, a different method should be used to approach the participants. Also, it is suggestible to give short briefing about moral and moral disengagement to participants. Participants with better understanding about moral disengagement are expected to be able to reflect about themselves better.

Second, future studies could use different kind of sampling techniques so that data collected can better represent the general population. Third, plagiarism is a complex

behavior with more than one dimension. By using several dimensions of plagiarism, researcher could study plagiarism in depth.

Fourth, social desirability bias can be reduced by alternating randomly between positive and negative statements. Data could also be collected through other data collection method such as interview. Fifth, other moral variances such as Gilligan's woman moral development and Piaget's moral development may provide explanation on different perspective regarding plagiarism.

Other variables such as personality, parenting style, psychological development, and student workload could be used to provide better understanding of plagiarism from different perspectives. Future studies could use different subject criteria such as high school students or in industrial and organizational field where plagiarism is also a major issue

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THE IMPACT OF SUPERVISION ON UNDERGRADUATE STUDENTS' THESIS WRITING

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Abstract

Supervising is important and central in thesis writing since most of the undergraduate students are still novice authors. High quality of supervision produces high quality thesis writing. Having analyzed and observed the process of thesis supervising, a critical analysis was given based on the descriptive method of investigation. The data were gathered through interview, documents, and the unpublished thesis in the departments of accounting in a privat university in Cirebon. The finding implies that the thesis writing among undergraduate students sounds lack of supervision. Some issues of ethics in both plagiarism and ethics arise. The indicators of lack supervision which were found are (1) improper citation and references, (2) gap on theories and discussion, (3) insufficient data gathering technique, and (4) insufficient recent related studies. The results of the study also suggest if supervisor and the writers need to provide mutual relationships in terms of power according to time allowance.

Keywords: plagiarism, research ethics, supervising, thesis biting

1. Introduction

Writing is still regarded as a difficult activity for university students, even for English department (Emilia, 2005). This has been confirmed by the fact that the number of the students who complete their bachelor's degrees by writing a thesis is always far lower than that of those who take several courses as the substitutes for the thesis (p. 5).

But, in understanding the situation as Emilia suggests, the context is considered since academic writing, e.g. thesis writing, is done under supervision. This is a challenge (Alwasilah, 2010). Thus, the role of supervisors is central in developing students' critical thinking and critical writing. Moreover, there is a suggestion to publish the students' work in the academic journal (Dikti, 2012). Therefore, this paper provides a sensitive issue of thesis writing to discuss in terms of critical writing and critical supervision by addressing the basic aim to show some evidences of the developing critical academic writing and critical pedagogy in the perspective of critical pedagogy.

Since academic writing among the university students seems 'new' experiences, big effort should be made (Emilia, 2010) to promote critical literacy as the demand of the 21 century (Alwasilah, 2012), critical thinking and critical writing (Gebhard, 2009). Critical thinking is required to write academically (Gebhard, 2009). These academic social events are the basic steps in preparing the high literate citizens through critical pedagogy (Nainby, Warrent, & Bolinger, 2004; Mochinski, 2008) in which mutual and dialogical interaction is promoted.

Thesis is an interactive text which creates meaning and addresses academic purposes (Martin & Rose, 2004). The meaning is sent through the linguistic features which are the characteristics of the texts, e.g. accounting, English education, medical, or nurses. These characteristics, of course make it different from other texts, e.g. newspaper, report, or book. Thesis writing from a certain university is different from other university does because of the characteristics and the uniqueness (Emilia, 2010). However, the generic structure of the thesis writing remains the same (Gebhard, 2009). But, this is not only the issue of this investigation

but plagiarism which is indicated in citation and reference writing is also discussed.

The realities of the poor writing among Indonesian students, even they sit in the university atmosphere, are still the common issues (Gebhard, 2009; Emilia, 2010. And the main actors of these processes are students and the supervisors of the thesis. Thus, the aim of this research is to provide some evidences on how the academic paper writing is lack of supervision in the perspective of critical writing and critical supervision.

Academic paper: critical writing and critical supervision

Academic paper is usually written at the end of the courses as the indication of completion of the certain degree, e.g. bachelor in Accounting, or English education (Emilia, 2010). Emilia also clarifies that there some evidences why the writing is regarded as difficult since academic writing needs specific skills. It is such an anxious-provoking activity among Asian students, especially for Taiwanese graduate students, e.g. in entering both graduate and postgraduate program (Johanson, 2001). They argued that they were not encouraged adequately to prepare for academic writing which highly demands for self-driven motivation.

Gebhard (2009) has illustrated if self-driven which is stimulated in early stage of education influences the skills. Problem-based writing which demands critical thinking is the foundation. Students are asked to clarify every argument by providing sufficient evidences to indicate that their writing is critical. Gebhard, further says that critical reading is required to be critical in writing. It is critical reading, students will gradually be critical thinking who are able to make strong and valid arguments. And to do this, the role of supervisors is vital (Emilia, 2010).

Misdi, et.al. (2013) suggest that there are some indications if the supervising, or at least writing guidance is less provided to students in terms of the access of up-to-date reading resources. They also hardly found students who accessed journal article. At the same time, books are their main readings. It indicates that trends and up-to-date information are less considered (Swalles & Feak, 2008).

At the same time, in the context of critical pedagogy, supervisor-student consultation is seen as mutual interaction. A critical pedagogy serves students sphere to facilitate public space (Nainby, Warrent, & Bolinger, 2004) in which students are able to express their ideas critically. This, therefore demands process which sees the students' realities as existing way expression (Freire, 2001 in Nainby, Warrent, & Bolinger, 2004 p. 33). Through this process, power is reduced (Monchinski, 2008) as supervisors at the same time are learners. That is dialogic pedagogy.

The process of dialogic pedagogy is reflected in the paper. The paper which is an academic text contains specific structures and linguistic features (Gebhard, 2009). In terms of critical thinking, some evidences are directed as indicators such as the structure of the paragraphs. The coherences – a shift from an issue to another issue, from a paragraph to another paragraph are essential in providing information relating to the topic written (Chaffee, et al., 2002; Swales & Feak, 2008; Emilia, 2010; Misdi, 2013).

As conclusion, the process of supervision of academic paper is seen through a two-way critical perspective: critical reading and critical writing, and critical pedagogy at the same time. By using this perspective, academic papers are analyzed to reflect the process of supervision.

2. Methods

Adopting descriptive study, four thesis which were written by undergraduate students of Accounting Department of a private university were reviewed. The analysis was done under the umbrella of critical perspective of academic writing which are mainly suggested in critical writing (Gebhard, 2009; Chaffee, et al., 2002; Swales & Feak, 2008; Emilia, 2010 and critical pedagogy (Nainby, Warren & Bollinger, 2004; Monchinski, 2008). The papers were taken from the representation of the last two year writing (2013, 2014) by using simple random basis.

3. Findings and discussion

The analysis of the four academic papers (thesis) was done to detect the quality of the supervising process. From the perspectives of critical analysis, three findings are presented here.

3.1 Lack of supervision

This lack of supervision was drawn from the findings of improper citation and reference writing. Three out of four authors carelessly made cited many or a lot of copies without making proportional reference. All authors did cite some other works, however, there was rarely mentioned in the reference page.

In Lusy's unpublished thesis, there were more 4-5 pages using single reference or research or single theory as the only source, e.g. in page 13-16, 9-15 in Second author. In this case, the author had already committed on plagiarism. However, since these occurred for many times in her writing, it seems that the supervising was unable to provide sufficient guidance. The same occurrences were experienced by other three authors.

It seems that the undergraduate authors were still in initial stage to confirm or discuss their findings, or even made arguments relating to the theories they wished to use. However, the worst was when there was ab sence of the supervisor' role. It was proved by the findings by showing a lot of mistakes in the absence of stating the source in the texts.

Sometimes, the in the methods were not clarified, e.g. the technique of data collection, or even there was, insufficient sources were found. Again, there was an indicator of the absence of the supervision. The work of author 3.

When the generic structure of thesis writing was sophisticated, other matters came. There was lack of coherences in the texts, e.g. in presenting ideas of one expert comparing to other's idea, no conjunction was used. Consequently, for instance, there was missing link between paragraph one to second paragraph and so on (Emilia, 2010).

Most sentences (almost) were constructed in active form. This is less arguable and tends to be less meaningful (Emilia, 2010, Gebhard, 2009; Chaffee, et.al., 2002; Swaless & Feak, 2008; Misdi, 2013).

In presenting the results of the study, the undergraduate tends to use only one theory, and only once mention during the discussion, e.g. in chapter 4 page 45-84 (Author 2) and page 39-85 of author 3. These phenomena suggest that the undergraduate author hardly connected the findings and the theories. Again, this suggests the absence of the supervision.

In term of methods of the research, e.g. using a case study, library research was adopted as the main method in collecting the data. Whereas the fact, the data were taken from the institution. This irrelevant method was as indicators of the lack of supervision quality. Is this due to poor reading? The writers often neglected the essence of readings even it is agreed that reading is the power of being critical thinking (Gebhard, 2009; Chafee, 2000).

3.2 The ethics: Commit on plagiarism and absence of ethics

All unpublished thesis randomly taken here suggest that the authors committed to plagiarism. The interesting findings also show us that the research ethics was absence, e.g. no source cited/ mentioned. This implies if the department was unable to provide good guidance for the undergraduate authors.

Regarding to supervision role, it indicates if there was less critical supervision. In the sphere of dialogic interaction, writer and supervisor are equal since critical pedagogy suggest this (Nainby, Warren & Bollinger, 2004; Monchinski, 2008). This finding, as the result, show that the text is less accurate and validity due to the absence of up-to-date readers (Swalles & Feak, 2008; Misdi, et.al., 2013)

3.3 The need to provide mutual relationships in terms of power according to time allowance

The data of questionnaire and of the interviews clearly show if power was exercised. This findings were proved by, for example

> "*Silahkan dilkumpulkan (simpan), nanti ambil berikut revisiannya* (Kindly collect or save your paper draft, and you can take the revision and comments later)"

> "*sulit mengatur waktu untuk bertemu* (it's hard to manage the time to discuss) "*terlalu sibuk sehingga susah ditemui* (too busy that unable discuss) " was commonly expressed by the undergraduate authors to respond the supervisors' situation (behaviour). This expression implied that there was no time allowance due to the busy supervisors

In conducting supervision, students often considered as lower position so that dialogic pedagogy is rarely done. Thus, the finding suggests the importance of reducing the gab so that supervisor at the same time acts as a learner, too. Hence, the discussion such as question – answer goes smoothly (Nainby, Warren &

Bollinger, 2004; Monchinski, 2008). The results also indicate that the supervising or at least proof reading was rarely done thoroughly due to some reasons, e.g. time allocation.

4. Conclusion

From the overall discussion above, the dynamic sphere of critical pedagogy of the supervisors are hardly found to facilitate democratic space within the process of consultation. This means, the supervising and consultation run poorly. Even the writers are the university students who are independent and have their own strategies (Misdi, 2013), critical supervising is still needed. However, the findings also indicate that other evidences are absent, e.g. the supervisor experiences and time constraints.

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ROLE OF PROCRASTINATION FOR ACADEMIC DISHONESTY AMONG UNDERGRADUATE STUDENTS

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Abstract

Many researchers have shown that academic dishonesty is a very common issue among students. Academic dishonesty makes it difficult for lecturers to know the depth of their students' understanding and comprehension about certain subject and course. Most of the researches on this issue are focused on factors such as personality trait and social influence. However, it is commonly observed that many students procrastinate studying or completing their assignments. As a result, to keep up with academic standard, students tend to decide academic dishonesty as a pragmatic solution. It is reasonable to consider procrastination to be one of the factors that relates to academic dishonesty. Therefore, this study aims to find out whether there is any correlation between procrastination and academic dishonesty. This study applied non-experimental quantitative method design. Indonesian undergraduate students from various universities in Indonesia and overseas (N=174) completed Academic Dishonesty Scale and Aitken Procrastination Inventory. From statistical analysis, it was found that the level of academic dishonesty is low and of procrastination is moderate. There is a significant and positive correlation between procrastination and academic dishonesty; none of personal characteristics has significant role in that relation. The findings partially support the relevance of inappropriate habitual behaviour explanation in the academic setting, particularly among college students. Limitations of this research were discussed in terms of further research and practical implications.

Keywords: procrastination, academic dishonesty, undergraduate student

1. Introduction

Academic dishonesty is one of the most common issues in academic settings. There are societies that give harsh punishment yet there are others that tolerate dishonest behavior. Among students, academic dishonesty is no longer an ethical deed. Instead, it is considered as a way to show care toward other students [1][2]. One of the most common forms of academic dishonesty is sharing answers for individual homework or test through any means such as communicating devices. Moreover, it is not rare to find falsification of data or answers in research by participating students to help fellow students to obtain favorable results. Academic dishonesty also makes it difficult for lecturers to know the depth of understanding of each student [3].

Undergraduate students are in a stage of lack of self-authorization. Self-authorization refers to the ability of student to be in charge of themselves. Students with lack of self-authorization are more easily influenced by the general flow. For example, students who are unsure of the answer tend to finds it unnecessary to refuse help from their fellow students. A group of such students could easily influence other students to consider this behavior as an acceptable behavior due to their lack of self-authorization [4].

The Centre for Academic Integrity explains that academic dishonesty is "a dishonest behavior related to academic achievement including lying, cheating, plagiarism, deception and any other form of advantage unfairly obtained by one student over others."[1] Every year, cases of academic dishonesty worsen. Bernard Whitley study of 107 journals shows that the rate of academic dishonesty in 1970-1996 is 70.4%. A recent study shows that the percentage has risen up to approximately 86% since then [4].

Parental pressure for good grades is another reason why students opt for academic dishonesty. Parents demand good grades and expect their children to maintain it. In this technological era, most students spend hours of their time with their gadgets for browsing, communicating or simply playing games. With all these diversions, students tend to postpone studying and completing assignments till later date. This makes it difficult for students to maintain good grades to keep up with their parents' demand [5].

The habit of postponing academic tasks such as studying and completing assignments within the given time due to lack of motivation is referred as

academic procrastination. A survey shows that 52% of undergraduates were procrastinators [6][7]. Procrastinating behavior in the survey includes activities such as late submission of assignments, underestimating time needed to complete tasks, studying only one day before examination day, resulting in lower academic grade. On the other side, to maintain good grades academic dishonesty seems to be a good option [5].

Numerous researches have been done to find out possible reasons for procrastination among undergraduates. Firstly, students tend to delay completing tasks that they feel as boring or uninteresting. Secondly, a long deadline reduces the sense of urgency hence increases the likeliness to delay task completion. Third, students with low self-efficacy and self-esteem tend to feel incapable of completing the task. They're likely to feel not having the required knowledge to complete the task and hence delay the completion of task down to the last minute [8].

Based on the above discussion, we would like to investigate whether procrastination plays a role in academic dishonesty among Indonesian undergraduates. Thus the question proposed, does procrastination and academic dishonesty correlated?

From the question above, we form a hypothesis.

H1: Procrastination and academic dishonesty are positively correlated

We hope that this research would provide a more comprehensive understanding on academic dishonesty and factor that influence it.

2. Materials and Methods

2.1 Participants

The participants in this study were Indonesian undergraduate students from various universities and Indonesia and overseas. A total of 174 undergraduates between 16–25 years (age: *M*=19.72, *SD*=1.705; 40.8% men) completed questionnaires regarding procrastination and academic dishonesty. Participants volunteered and gave their consent for researches to use the data collected.

2.2 Measure

There are two scales used in this study, i.e. the Academic Dishonesty Scale and Aitken Procrastination Inventory. The reliability of each item for each scale was measured to ensure consistency. Both scales are uni-dimension.

Higgin's Academic Dishonesty Scale consists of 11 questions with item-total correlation ranging from .341-.666. The aim of this scale is to measure the intensity of dishonest deed done by participants. Dishonest deeds measured are related to academic settings such as falsification and plagiarism. The 11-item instrument is rated on a 5-point Likert scale from *never* (1) to *always* (5). Cronbach Alpha (α) of this scale is 0.849 [9].

The Aitken Procrastination Inventory by Aitken consists of 19 items in which only 14 are used in this study. Items are removed due to its low validity (<.20). The purpose of this scale is to measure procrastination level related to postponing academic task and habit of being late. The 19-item statements are rated on a 5-point Likert scale from *usually false* (1) to *usually true* (5). This scale has reliability with Cronbach Alpha (α) of 0.866 with item-total correlation of .370 -.649 [10].

2.3 Procedure

Participants are contacted either personally by researchers or through spread of words by means of social media. In social media, researchers broadcasted a short notice with brief explanation of the research and request for voluntary participants to answer the questionnaire prepared for this research. For participants overseas, researcher prepared online form of questionnaire by means of Google form.

2.4 Statistical Analysis

Collected data are processed by SPSS version 15.0 for Windows. First, we check the reliability of both scales used by using Cronbach's Alpha. The validity of each items are measured by item-total correlation. We removed 5 items with low validity (<.20). One Sample Kolmogorov-Smirnov Test is used to check whether the data collected in this study spreads around normal curve. It shows that data collected for Academic Dishonesty does not spreads around normal curve. Hence we use Spearman's bivariate correlation to calculate correlation and its significance between both scales. We also use Mann-Whitney U to measure the gender differences regarding procrastination.

3. Results and Discussion

3.1 Result

The result of this study indicates that procrastination is weakly correlated to academic dishonesty ($r=.164$; $p<.05$). The correlation of .164 implies that the higher procrastination in participants, the higher academic dishonesty they do. However, the level of increase in one variable does not ensure the same amount of increase in another. We also find that there is a difference between male and female in procrastination.

Table 1. Descriptive Statistic of Academic Dishonesty and Procrastination

No.	Name	Mean	SD	Min	Max
	Academic Dishonesty	1.50	.470	1	3
	Procrastination	2.75	.679	1	5

Table 2. Spearman's Correlation between Academic Dishonesty and Procrastination

		Procrastination
Academic Dishonesty	Correlation Coefficient	.164*
	Sig. (1-tailed)	.015

*Correlation is significant at 0.5 level (1-tailed)

Table 3. Gender Differences in Procrastination Behavior

Ranks			
Gender	N	Mean Ranks	Sum of Ranks
Female	103	78.43	8078.50
Male	71	100.65	7146.00

Test Statistic[a]	
Mann-Whitney U	2722.500
Wilcoxon W	8078.500
Z	-2.862
Asymp Sig.	.004

3.2 Discussion

Finding of this study indicates that students who procrastinate are likely to engage in academic dishonesty. This result is consistent with Jones study that shows 93% students who procrastinate engages in academic dishonesty [10]. By procrastinating, students have less time to complete their homework and studies. Students with lack of preparation could not achieve as good as those who prepare well. For this reason, students are more likely to develop anxiety of being called as a failure or considered stupid. To reduce this anxiety by keeping up good grades, students opt for academic dishonesty [12].

Student who does not understand the tasks given or those who perceive tasks as difficult tends to procrastinate on finishing the tasks. This may lead to high correlation between procrastination and academic dishonesty. This is due to lack of intrinsic motivation within student to complete the given task and choose academic dishonesty as their solution [13].

Procrastinating students who do not have a way to cheat would less likely to cheat. However, advancement in technology enables students to utilize it for dishonesty instead of improving education [4]. Procrastinating students who chose academic dishonesty as a solution are likely repeat the deed. Thus procrastinating and academic dishonesty becomes an everyday life habit. [14].

However, not every student who procrastinates doing their homework and studies engages in academic dishonesty. There are other probable factors that influence the correlation of the two variables such as (a) peer pressure, (b) classroom environment, (c) personal judgment, (d) punishment, and (e) teacher response toward academic dishonesty.

Peer influence. Recent studies show that peer influence is the most common reason for academic dishonesty among undergraduate students. One of the reason is students who procrastinate may have a principle of not involving in unethical behavior, which includes academic dishonesty. However, some may prioritize their peer group over their personal principle. Such students could be easily influence by their peers. Having peer who does bad or unethical deeds could influence its member to do the same. Student's principle is out grown by their need of acceptance. In this case, student engages in academic dishonesty not because of procrastinating but due to peer influence [14].

Peer can also be a model to undergraduate student in doing academic dishonesty. Undergraduate student who see their peer success in engaging academic dishonesty are more likely to model after them. Undergraduate student who do not cheat may think that they are at a disadvantage. This thought could lead students to consider peer as a normative support to engage in academic dishonesty. In addition to that, peers are those who spend most time with student. It is very likely that peer have high influence to individual in other factors other than academic dishonesty [14].

Classroom environment. This factor determines whether or not academic dishonesty can takes place. Gallant and Drinan explain that students are less likely to engage in academic dishonesty in risky classroom environment. If there are high risk of getting caught, student would be more hesitant to engage in academic dishonesty. Friends in the same classroom could promote academic dishonesty. This is because friends are less likely to report another friend and may even help one another [4].

Personal judgment. Students have their own personal judgment toward academic dishonesty. Student may procrastinate due to their perfectionism, i.e. they are anxious that the result of their work would not be as good as expected. Such students would end up delay doing their work until nearly deadline. However, not all procrastinator would engage in academic dishonesty. Procrastinators who strongly consider academic dishonesty as unethical deeds would refrain from doing so [4].

Punishment. Students would be more hesitant to do academic dishonesty if the punishment is severe. A research shows that there is a significant negative between the perceived severity of punishment and tendency of academic dishonesty

[15]. Students who perceive that dishonesty should be punished severely are less likely to cheat [4].

Teacher response toward academic dishonesty. Teacher's action on enforcing the importance of academic integrity influence student's decision to engage in academic dishonesty. Teacher who considers that it is unnecessary to punish student who engage in academic dishonesty would increase academic dishonesty among students. Such teacher does not punish dishonest students with consideration that the students would receive their own punishment as they would find difficulties in preparing their thesis. However, this increases external motivation for students to engage in academic dishonesty [16].

Finding of this study also implies that male students are more likely to procrastinate than female students. This result is consistent with a study that indicates a significant difference on procrastination between male participants and female participants ($p<0.01$) [17]. A study conducted by Brownlow & Reasinger found out that male student more likely procrastinate due to low intrinsic motivation [18]. Other study that indicates higher level of procrastination on male participants compare to female participants shows that male's risk taking behavior as a factor related to higher level of procrastination [6]. Another study also see female is more likely to think of consequences of their behavior before doing it [19]. These finding shows why male student can have a higher level of procrastination.

These findings on gender differences related to procrastination have a limited generalization due to the inconsistency of the results on many studies conducted by researchers for years. Some studies have reported that female is more likely to procrastinate [20][21] and other studies have reported no significant gender differences related to procrastination. [22][7]. A possible explanation for this inconsistency is different paternal parenting style across countries related to culture. A study conducted shows that children with authoritarian father who are overly critical, were more likely to procrastinate on their work [23]. They prefer to avoid task rather than risking failure [24]. It is known that in some countries fathers are more critical toward their son and in the other fathers are more critical toward their daughters. The effect of this parenting style also can be different to sons and daughters [23]. This may be the reason for inconsistencies of procrastination among different gender on several studies.

3.3 Limitations

There are several limitations in this study. Firstly, Aitken Procrastination Inventory is an old scale that may be unsuitable for today's society. Researcher use this scale in this study as it suit this study better than any other scale known to researcher. Second, the Academic Dishonesty Scale is a uni-dimension scale. It may not cover each and every aspects of academic dishonesty. Third, despite the anonymity, participants may responds based on social desirability, i.e. participants choose answer that is considered accepted behavior in the society. This could affect the accuracy of the result. Fourth, although online questionnaire indeed provide convenience in data collection since researcher need not be physically present during data collection it has its own setback. As the questionnaire is lengthy, one questionnaire may be answered by several participants under one name.

4. Conclusion

The finding of this study shows that there is a significant and weak positive correlation between procrastination and academic dishonesty. This implies that students who procrastinate are more likely to engage in academic dishonesty behavior. Chances are this behavior occurs due to keeping up with social standards that demands high grades and fulfilling the work's deadline.

There are a few probable factors that influence the correlation of procrastination and academic dishonesty. These factors are (a) peer influence, having peers who do unethical deed, such as academic dishonesty, can affect someone who easily influenced to do he unethical deed; (b) classroom environment, students in risky classroom environment are less likely to engage in academic dishonesty, hence afraid to get caught; (c) personal judgment, student who procrastinate but has a high pride are less likely to perform academic dishonesty as they want to get a good mark without cheating; (d) punishment, students would be hesitate to perform academic dishonesty as the punishment of this action is severe; and (e) teacher' response toward academic dishonesty, student are less likely to engage in academic dishonesty if their teacher is strict enough.

The findings of this study also indicate that male is more likely to procrastinate compared to female. This is due to male's lower level of intrinsic motivation.

Future studies can further extend this study by using several other independent variable(s) such as peer pressure, performance anxiety or by using different subjects. Another study could be done to find out why is there no correlation between procrastination and academic dishonesty. A newer or updated version of scale could be used to improve reliability and accuracy of both variables. A different approach could be taken to understand better about participant's thought and behavior on procrastination and academic dishonesty. If future studies involves online questionnaire, take measures to ensure that each questionnaire is answered only by one participant, once.

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PLAGIARISM EXPERIENCE AND MORAL EMOTIONS

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Abstract

Moral emotions have roles in behavioral decision making including decision to plagiarize. Basically moral emotions are described in two emotions: guilt and shame. People with guilt and shame proneness are typically susceptible to ethical decision making. From the public – private distinction views, guilt is associated with the violation of one's conscience while shame is more likely to occur if one's shortcomings are exposed publicly. The act of plagiarizing may lead students to emotionally feel guilty when refer to the misconduct acts or shame if the act is known to public.159 sophomores were chosen accidently in this study, 135 experienced plagiarism and 24 never plagiarized. The study found significant association between gender and three of four moral emotions, $p<0.05$ except with shame – negative self-evaluation. The association between students' plagiarism experience and moral emotions was not established because the Asymp. Sig > .05.

Keywords: plagiarism, moral emotions, guilt and shame

1. Introduction

The challenges of plagiarism and academic misconduct do not spread only in universities but also they happen in scientific communities as well as journalistic communities (Ercegovac & Richardson, 2004). The act of copying the work of others and admit it as his / her own seems very easy in the age of internet today. The technique of copy and paste is very easy so that the students more readily set up the mental of plagiarizing.

Consciously, anyone would agree that plagiarizing is unethical and considered crime. However, the social pressures like the observation of ignored and intensive plagiarizing practices will facilitate anyone to practice the same thing. This situation will get worse if intervention is never given.

Anyone would debate the following statement: Imitation is encouraged and ignored. However, such statement is not wrong if we consider that there is belief stating that knowledge of the human should be shared by everyone, not owned personally or in a particular group. Hansen (2003) argued that drawing from other writings was encouraged, the history recorded the work of ancient famous writers such as Aristotle as "a copy paste" of Democritus' work.

Hansen (2003) explained the chronology of the rise of copy right as the following: a) before 1600, writers were facilitated to draw from previous work of others until print technology was invented and authorship became a profession; b) 1700 to 1990, was the period when Copyright laws took serious issues of plagiarism within school, universities and other institutions; c) 1990 – now, the internet technology has been suspected as agent causing plagiarism easier. However several facts disapprove the idea as "conventional" copying still takes place in a great of number.

The display of plagiarism has facilitative effect in one's moral emotion. If plagiarism is considered accepted in public, the act of plagiarism will spread widely and easily. The mechanism of moral emotions i.e. guilt and shame, will never be an issue for those who plagiarize. On the opposite, if sanctions are provided and run effectively, the plagiarism will be diminishing.

The reaction of students after plagiarizing is interesting to study. Few studies report the implications of positioning plagiarism as a moral aspect of decision making to plagiarize and academic misconduct. The study by East (2010) concludes that emotion and reason is moral judgments for plagiarism. Through these emotion and reasons, students are faced with reactions to plagiarism.

Cohen and Wolf (2011) stated that moral emotions motivate ethical behavior by encouraging people to act accordingly on the bases of accepted standard of right or wrong. Scholars agree that moral emotions have function to deter unethical and antisocial behavior

(Eisenberg, 2000; Haidt, 2003; Tangney, Stuewig, & Mashek 2007). Moral emotions are commonly divided into guilt and shame. Tangney and Dearing (2002) stated that both of emotions are commonly as the result of responding to personal transgression.

Reviewing the two emotions, two schools of thought show the key discrepancies: the self-behavior distinction and the public-private distinction. Lewis (1971) stated that moral emotions can be differentiated in self- distinction perspective. Guilt is focused one's behavior ("I did wrong thing"), whereas shame focuses in one's self (I am not a good person). Guilt arises from attribution which is internal, unstable, and specific about one's self. This results in negative feeling about specific behavior that one has committed (Tracy & Robins, 2004). On the other hand, shame arises from negative feelings about the global self after one makes internal, stable, and global attribution about one self.

The second view proposes that guilt and shame can be differentiated via public-private distinction. According to this view, any transgression which has not been exposed to public will result in guilty. If the failure or transgression has been publicly known the feeling of shame is likely to occur (Combs, Campbell, Jackson, Smith, 2010). The conclusion of these views is that guilt is associated with a feeling of having done something wrong which violates one's conscience. On the other hand, shame is negative feeling which arises when one's failure, misconduct or transgression is known publicly. Supposedly, this study assumed that participants' moral emotions were associated with their plagiarism experience.

2. Methods

2.1 Participants and procedures

A total of 159 sophomores, 32 male and 127 females, of private university participated in the study. They completed GASP questionnaire measuring guilt and shame containing a description of personal transgression. The responses of GASP ranged from *1 = very unlikely, 2 =unlikely, 3 = about 50% likely, 4 = likely, 5=very likely*. The subscale of GASP scale: Guilt (Negative Behavior Evaluation) consisted 3 items with coefficient alpha .623; Guilt-repair sub scale consisted of 4 items with Cronbach's Alpha .878, sub scale Shame – negative self-evaluation has 4 items and the Cronbach's Alpha .653; and subscale Shame-Withdraw has got .794 for its Cronbach's Alpha.

Other instruments were designed related to students' perception of conditions and situations of the faculty's academic integrity. The faculty's academic integrity had 11 items, measuring the quality of academic misconduct behaviors in the faculty.

2.2 Result and discussion

Descriptively, the participants' moral emotions were reported in the following table.

Table 1. Frequency of participants' moral emotions

No.	Sub scale	Level	
		Low	High
1	Guilt (Negative Behavior Evaluation)	152	7
2	Guilt-repair	137	22
3	Shame – Negative self-evaluation	146	13
4	Shame-withdraw	93	66

95.6% of the participants had low guilt with negative behavior evaluation. This means that majorly participants are more likely to lie and to engage in antisocial behaviors (Cohen and Wolf, 2011). In terms of personality, people with low guilt –NBE are also more not emphatic, selfish, not altruistic and arrogant. In terms of what to do after they committed transgression, people with low guilt NBE are less likely to repair or change their behavior.

In shame sub scale, majority of the participants in the study show low shame – negative self-evaluation (NSE) (91.8%). People with this emotion trait are more likely to make any unethical behavior.

The observed chi-square statistic for the association between gender and Guilt-Negative Behavior Evaluation is 6.242, which is associated with a 1.2% of being wrong in rejecting the null hypothesis. This is not a great risk (not exceed the standard of 5% risk). We, therefore find support that gender differences are associated with Guilt-Negative Behavior Evaluation level. An overall summary, females are more likely than males to have Guilt-Negative Behavior Evaluation.

The association between gender and Guilt – Repair was also significant as indicated by

Asymp.sig. .041. An overall summary, females are more likely than males to have Guilt-Repair. There was also association between gender and Shame- Withdraw as shown by Asymp.Sig. .034. Exception has been made, gender and Shame – Negative Self Evaluation did not associate with gender as indicated by Asymp.Sig. .318. The summary of the result is presented below.

Table 2. The association between gender and moral emotions

	Value	df	Asymp. Sig. (2-sided)	Variable
Pearson Chi-Square	.998a	1	.318	Gender and Shame – Negative Self Evaluation
Pearson Chi-Square	6.242	1	.012	Gender and Guilt – Negative Behavior Evaluation
Pearson Chi-Square	4.188	1	.041	Gender and Guilt – Repair
Pearson Chi-Square	4.498	1	.034	Gender and Shame – Withdraw

The participants' moral emotions were correlated with their plagiarism experience. The result was that only guilt – negative behavior evaluation which correlated with students' plagiarism experience, $p<0.05$. This means that the more students participate in plagiarism, the bigger their guilt-negative behavior evaluation.

The plagiarism experience data was gathered by asking questions whether participants had engaged in plagiarism or not. The result revealed that 135 (84.9%) of total participants admitted that they once plagiarized and 24 participants reported that they never plagiarized. The association between students' plagiarism experience and moral emotions was not established because the Asymp. Sig > .05.

The faculty's academic integrity was measured by 11 items. Item no.4 which says "Many students that I know have downloaded a complete paper from the Internet and submitted the paper as their own assigned work" was majorly responded strongly agree by105 students (66%) . This suggested that the practice of plagiarizing via internet technology was a common phenomenon at the faculty. Other finding revealed that 87 students (54.7%) disagreed with statement no 8 i.e. "Using information on the Internet without acknowledgement (citing) is plagiarism. " This indicated that the students' attitude toward plagiarism using internet technology was positive. Other finding which should be put into attention was item no 11 which said "It is very easy to plagiarize a paper without my instructor knowing" indicated low concern of the instructors / lecturers on students' plagiarism. A total of 103 students strongly agree with the statement. Students' lack of knowledge in citing article was also experienced by majorly participants (40.9%).

3. Limitations

This is a pilot study which has a few limitations to study design. The theme of the study is normative so that it might trigger what we call social desirability. The participants had a chance to respond to what was desirable not to what actually happened to them. It was also assumed that the participants answered the questions honestly and their answers were their own and without influence. Only a few number of students participated in this study so that inference would be improper. The composition of the participants gender was imbalance i.e. females outnumbered males so that comparison study might not valid.

4. Conclusions

The rise of plagiarism and other forms of academic misdeed has variety of reasons (Genereux & McLeod, 1995). The social modeling of plagiarism displayed by students at the faculty may "justify" plagiarism at academic activities if no intervention executed. The spirit of "share" through internet has influenced students' thought of copy paste practices. They thought that information in the internet is public so that it must be free of copyright.

These findings reveal that there is a problem with students' moral emotion. The students will not experience shame or guilt even though their plagiarisms are known to public. Based on the situations, the faculty needs to establish faculty academic integrity statement in order to decrease the practices of any academic misconduct.

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IMPROVING STUDENTS' SELF-DIRECTED LEARNING THROUGH BLENDED LEARNING: CASE STUDY OF SMKN 7 YOGYAKARTA

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Abstract

This action research project aims to improve students' Self-Directed Learning in Accounting class. The subject of this research is the students of class X AK 1 at SMKN 7 Yogyakarta Academic Year of 2014/2015. The Classroom Action Research model from Margareth Riel is used to guide the research process. The Classroom Action Research is done in two cycles. Two data collection techniques, i.e. Questionnaire and Observation, are used to capture students' Self-Directed Learning. The data collected is analyzed in three steps using qualitative analysis, i.e. data reduction, data presentation and conclusion formulation. Based on the research result, the implementation of Blended Learning is able to improve students' Self-Directed Learning of the class X AK 1 SMK N 7 Yogyakarta academic year of 2014/2015. It is shown by the improvements of X AK 1's average score of Self-Directed Learning from 73,66% on the first cycle to 79,60% on the second cycle. This improvement indicates that Blended Learning is able to improve students' Self-Directed Learning in Accounting subject.

Keywords: Self-Directed Learning, Blended Learning, Accounting Class

1. Introduction

Educational process is directed to increase students' knowledge, ability, skills, attitude and values (Sukmadinata, 2004: 4). This educational process can be achieved through many levels i,e. primary, secondary and tertiary.

The success of learning occurs when there is positive interdependency between teachers and students. According to Suryabrata (2007: 233), in the learning process there are two factors that affect the success of learning namely internal and external factors. Internal factors include non social factors and social factors while exterrnal factors include the physiology factors and psychology factors.

The learning process contains a set of lesson apperception teachers process up to the learning evaluation. Suryabrata (2007: 33) states that learning evaluation is designed to measure the extent of student knowledge that can be obtained after getting knowledge presented by the teachers. Furthermore, he explains that evaluation of learning is intended to explore a variety of things including knowledge and students' self directed learning. After an evaluation, the teacher will know the students' learning sustainability. At this time, learning is directed to student-centered learning.

According to Knowles (1975), students' self directed learning can be known from the student has decision rights in setting of learning goals, students can manage their activities, and students can make outcome evaluations. Students' self directed learning can be improved by using learning strategies. Kemp (1995) explains that learning strategy is a learning activity that should be done by teachers and students in order to achieve learning goals effectively and efficiently. Inline with the opinion above, Dick and Carey also points out that the learning strategy is a set of learning materials and procedures that are used together to create students' self directed learning outcomes (Sanjaya, 2006: 126).

Students' self directed learning is needed to be posses by students, including in the accounting subject. Accounting subject is also applicable in the real life. Accounting is the science that deals with aspects of life. People doing things that relate to accounting. When shopping in a store or supermarket and save money in a bank must meet accounting. It can be concluded that the accounting relating to financial matters in everyday.

SMK N 7 Yogyakarta is one of favorite high school in Yogyakarta city. Students of SMK N 7 Yogyakarta have a good capability and adequate school facilities.

Researchers conducted observations in class X AK 1 at SMK N 7 Yogyakarta to get a picture of the students during the learning of accounting takes place. The method of accounting used by teachers in teaching is lecturing and training methods. Lecture method and this training method is the traditional method that is still used by the teacher.

Based on the pre-research questionnaire in accounting introduction class, at SMK N 7 Yogyakarta 64,68% students have self management, 75,00% students have desire for learning and 71,00% students have characteristics of self control. It can be concluded that self directed learning in this class is low.

In order to solve this problem, teacher needs a learning model that can improve students' self directed learning in accounting learning process. By a having self directed learning, students can have a good self management, desire for learning and characteristics of self control.

The learning model is used to direct the learning process so that students can understand the subject matter well. The learning model must be adapted to the characteristics of learners and the facilities available at the school. The learning model must be able to support learners to learn independently.

One of the learning model that can improve students' self directed learning is blended learning. According to Annisa Sari (2013: 42), blended learning can improve self directed learning. Furthermore, Annisa states that blended learning provides many ways of learning materials and the learning process through a combination of face to face with computer media. Face to face can be done with discussion, speech and games. While computer media can help to its internet system or normally we call learning through e-learning. E-learning can be delivered with various types there are documents, PDFs, images, and so on. By using the computer media, blended learning is a possible solution can improve students' self directed learning.

Therefore, the researcher believes that to resolve this problem could be by implementing blended learning. Thus, researchers are interested in doing research with the title "The Use of Blended Learning to Improve Students' Self Directed Learning in Accounting Class at SMK N 7 Yogyakarta Academic Year of 2014/2015".

2. Research Method

2.1 Research Type

This study is Classroom Action Research which done collaboratively with the teacher to carry out the research. According to Suparno (2007: 5), generally the act of research intended research take place by someone who currently practice in a job, to be used in the development of the work itself. Action research can be interpreted as an effort aimed at improving the learning process or problems solve encountered in learning, Mulyasa (2011: 34). Action research is research to gain truth and practical benefits by collaborative and participatory action way.

In this research, researcher used Margaret Riels action research model. In Margaret Riels model there are two cycles where each cycle consists of four steps there are learn and plan, action, collect and analysis data, and reflection. According to Margaret Riels model, to overcome problem is needed learn and plan. After problem can be identified, action research in classroom and collect analysis data. The last steps is reflection.

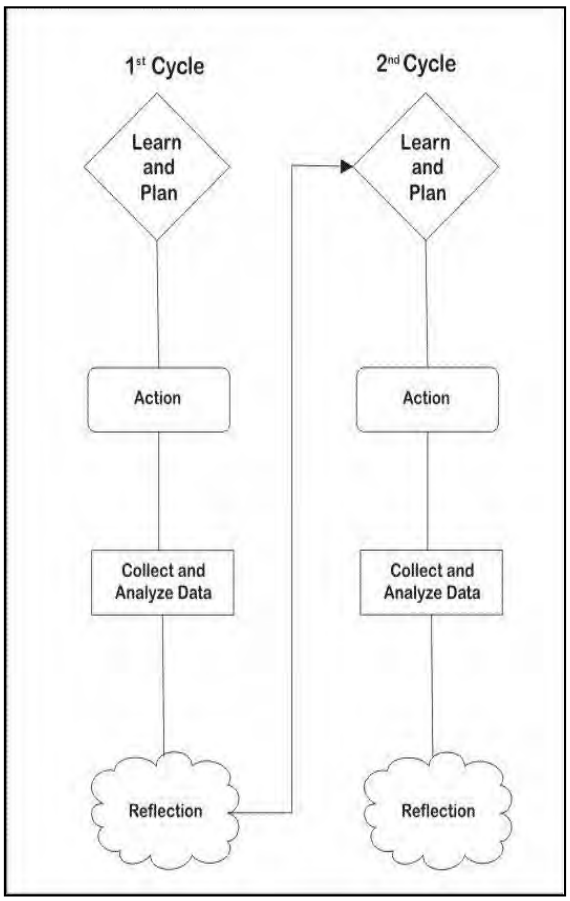

Figure 1. Figure of the action research cycle by Margaret Riels Model.

2.2 Research Subject and Object

The subject of this research is 32 students of Class X AK 1 at SMK N 7 Yogyakarta academic year of 2014/2015. While the object of this research is the use of Blended Learning to improve students' self directed learning in class X AK 1 at SMK N 7 Yogyakarta Academic Year of 2014/2015.

2.3 Research Instruments

Instruments which are used on this research are:

a. Field notes

Field notes is used to record learning process using blended learning. Specifically, the field notes will obtain data on students' self directed learning, situations, conditions, facilities and infrastructure during the learning process by using blended learning.

b. Questionnaire

The questionnaire is used to find data on students' self directed learning. The process of making the questionnaire relies on a framework that is primarily used in the statement. Researcher use questionnaire items in Murray Fisher, Jennifer King and Grace Tague's research with the title is Development of a Self-directed Learning Readiness Scale for Nursing Education. The framework is described as follows:

Table 1. Framework from Self Directed Learning Guidelines

No	Aspects	Items
1.	Self management	1,2,3,4,5,6,7,8,9,10,11,12,13 and 14*
2.	Desire for learning	15,16,17,18,19,20,21,22,23,24,25,26 and 27*
3.	Characteristics of self control	28,29,30,31,32,33,34,35,36,37,38,39,40,41,42 and 43*

*) Negative statement

This framework from self directed learning guidelines is adopted from self directed learning theory according to Knowles (in Fisher, King and Tague; 2001).

Component in self directed learning there are:

1. Self management.

   According to Thoresen and Mahoney (1974), self management happen when nothing control direct external. Self management is intentional someone behavior to reach life outcome. It can be concluded that self management is someone behavior from self internal to reach life outcome.
2. Desire for learning.

   Desire in *Kamus Besar Bahasa Indonesia* is definite as want, wish or feeling from self internal to want do something. According to Gagne, learning can be defined as a process where an organization to change their behavior as a result of experience (Dahar, 2011: 2). It can be concluded that desire for learning is feeling from self internal to learn as a result of experience.
3. Characteristics of self control. According to Freud (1911, 1959), the concept of self control is the desire for immediate gratification and the delay gratification. Self control concept refers to an individuals' decision or ability to delay immediate gratification of desires in order to reach larger alternative goals. Buker (2011). It can be concluded that characteristics of self control is characteristic of someone' decision to immediate or delay gratification in order to reach the goals.

For this research, we used Knowles' indicators of self directed learning. Those indicators are:

1. Self management
   a. I manage my time.
   b. I am self disciplined.
   c. I am organized.
   d. I set strict time frames.
   e. I have good management skills.
   f. I am methodical.
   g. I am systematic in my learning.
   h. I set specific times for my study.
   i. I solve problems using a plan.
   j. I prioritize my work.
   k. I can be trusted to pursue my own learning.
   l. I prefer to plan my own learning.
   m. I am confident in my ability to search out information.
   n. I feel short of time to study at home

2. Desire for learning
   a. I want to learn new information.
   b. I enjoy learning new information.
   c. I have a need to learn.
   d. I enjoy a challenge.
   e. I enjoy studying.
   f. I critically evaluate new ideas.
   g. I like to gather the facts before I make a decision.

h. I like to evaluate what I do.
i. I am open to new ideas.
j. I learn from my mistakes.
k. I need to know why.
l. When presented with a problem I cannot resolve, I will ask for assistance.
m. I feel lazy to learn

3. Characteristics of self control
   a. I prefer to set my own goals.
   b. I like to make decisions for myself.
   c. I am responsible for my own decisions/actions.
   d. I am in control of my life.
   e. I have high personal standards.
   f. I prefer to set my own learning goals
   g. I evaluate my own performance.
   h. I am logical.
   i. I am responsible.
   j. I have high personal expectations.
   k. I am able to focus on a problem.
   l. I am aware of my own limitations.
   m. I can find out information for myself.
   n. I have high beliefs in my abilities.
   o. I prefer to set my own criteria on which to evaluate my performance.
   p. I can not set myself

Table 2. Scores for alternative answers

Alternative Answers	Scores	
	Positive Statements	Negative Statements
Strongly Agree	4	1
Agree	3	2
Disagree	2	3
Strongly Disagree	1	4

3. Data Analysis Technique

a. Descriptive Data Analysis with Quantitative Percentage.

Data obtained from observation, called quantitative data that shows the change of students' self directed learning related with aspect is prepared. Data from the questionnaire presented in a quantitative form. The analysis involves three steps, they are:

1. Determine the procedures in giving score for each indicator of students' self directed learning.
2. Calculate the score for each indicator.
3. The following formulas for measuring students' self directed learning:

$$\% = \frac{\text{Score of Students' Self Directed Learning}}{\text{Maximum Score}} \times 100\%$$

b. Qualitative Data Analysis, there are: data reduction, data presentation and conclusion withdrawal.

4. Research Result and Discussion

There are two cycle in this research:
The first cycle are consist of four steps:

1. Learn and Plan

In this step, researcher with teacher arranging the lesson plan under Blended Learning strategy, preparing material uploaded on e-learning or group, arranging the questionnaire guidance and field notes as the instruments, uploaded the materials which have been consulted to the teacher.

2. Action

Action step, combination between face to face and online learning. Students had downloaded material from forum or group online. In class, students listened to teachers' explanation and case demonstration related to the subject material (entry journal, ledger and trial balance) as on the module they have been downloaded from e-learning or group. Class discussion about subject material (entry journal, ledger and trial balance). Students attempted to finish the case examples given by the teacher. The last steps is students doing tasks from the forum or group online.

3. Collect and Analyze Data The researcher used questionnaire and field notes to collect the data related to Students' Self Directed Learning during the implementation of first cycle.
   a. Self management owns 67,91% students.
   b. Desire for learning owns 77,88% students.
   c. Characteristics of self control owns 75,20% students.
4. Reflection

The score of Students' Self Directed Learning contributed by less than 75% students on the class.

Researcher and teacher formulated the strategy to solve the problems to

increase Students' Self Directed Learning in the next cycle, The problem solving formulations were:

a. Teachers remind students to actively seek independent subject matter.
b. Increasing students' activities on the Internet by the mean of facebook.
c. Trying to prepare the subject matter earlier.
d. Remind the students to download the material and increase activity in e-learning.

Provide motivation and encouragement to the students that the assignment of subjects is not a burden but as an exercise for students to learn.

The steps of second cycle consist of:

1. Learn and Plan, there are: preparing the lesson plan by determining the reflection on the first cycle, arranging the lesson plan under Blended Learning strategy, preparing material uploaded on e-learning or group, arranging the questionnaire guidance and field notes as the instruments, uploaded the materials which have been consulted to the teacher.
2. Action

   There are combination between face to face and online learning. Students had downloaded material from forum or group online. In class, students listened to teachers' explanation and case demonstration related subject material (adjusting journal) as on the module they have been downloaded from e-learning or group. Class discussion about subject material (adjusting journal). Students attempted to finish the case examples given by the teacher. The last steps is students doing tasks from the forum or group online.
3. Collect and Analyze Data

   The researcher used questionnaire and field notes to collect the data related to Students' Self Directed Learning during the implementation of second cycle. The result of the data collection is:

   a. Self management.

      The first indicator is self management owns 77,01% students
   b. Desire for learning.

      The second indicator is desire for learning owns 81,97% students
   c. Characteristics of self control.

      The third indicator is characteristics of self control owns 79,83% students

4.Reflection

On the second cycle students were having good preparations about self management, desire for learning and characteristics of self control from students. The problems in the first cycle can be completed in the second cycle. Teacher and researchers were able to convince the students to actively search for the material before class. Teacher and researchers were able to prepare the subject matter earlier. Group in facebook is the easily tool and effectively in the case of online learning. Teachers and researchers are able to encourage and motivate students to be active in e-learning, it is evidenced by the students actively participate in e-learning, download materials and doing the task. The use of the forums as e-learning is less effective because students feel difficult. However, researchers have to explain the ways to access the forum. The result of the implementation of Blended Learning on the second cycle shows that there is an improvement of X Ak 1 Students' Self Directed Learning score from 73,64% to 79,56%.

Below are the results of the use of Blended Learning based on the questionnaire.

Table 3. The Improvement Analysis

Indicators	Average Score (%)		Improvement (%)
	First Cycle	Second Cycle	
Self management	67,91	77,01	9,10
Desire for learning	77,88	81,97	4,09
Characteristics of self control	75,20	79,83	4,63
Average of Students' Self Directed Learning	73,64	79,56	5,92

The table above shows that the score of Students' Self Directed Learning increases from 73,64% to 79,56% after the implementation of the second cycle. Besides, the improvements of students who are able to reach the successful criteria also increase from 23 students to 25 students on last cycle.

Based on the relevant research entitled *"Strategi Blended Learning Untuk Peningkatkan Kemandirian Belajar Dan Kemampuan Critical Thinking Mahasiswa Di Era Digital"* by Annisa Ratna Sari, M.S.Ed, the improvement of international class's average score of Self Directed Learning from 14,3% on the first cycle and reaches to 83,7% on the implementation of third cycle. Thus, the score improvement is 69,4%. Compare with Annisa Ratna Sari M,S.Ed research can be concluded that the improvement of this research is not highly improvement, because the score of Students' Self Directed Learning increases from 73,64% to 79,56% after the implementation of the second cycle. This research improvement is not significantly because the difficulties in explaining the use of e-learning to the students, **e**-learning **less varied** and self management indicator covers the internal factor from students which is the most hard to improve under implementation of Blended Learning.

From the discussion on the third indicators of self directed learning in outline obtained an increase in the score at each indicators. Hence, it has been proven that by the implementation of Blended Learning is able to improve the students' self directed learning on the basic competence of entry journal and adjusting journal of the student of Class X AK 1 SMK N 7 Yogyakarta Academic Year of 2014/2015.

5. Conclusion

Based on the research result and discussion, the use of Blended Learning is able to improve Students' Self Directed Learning in SMK N 7 Yogyakarta. The judgment is proven by the increase of Students' Self Directed Learning score that is collected by questionnaire for three indicators from 70,22% on the pre research to 73,66% on the first cycle and reaches to 79,60% on the implementation of the second cycle. In addition, the increase of the number of students who are able to reach the successful criteria from 23 students on the first cycle and 25 out of 32 students on the last cycle ensure the result that under the Blended Learning, the Students' Self Directed Learning is increase classically.

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SHOULD I MAKE UP THEIR SCORE OR LET THEM FAIL? DIFFRACTION OF TEACHERS' ETHICAL DILEMMA IN INCREASING THEIR STUDENTS' GRADE

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Abstract

Teachers are figures, parents in their schools and heroes of education. They are expected to perform good conduct, be intellectual, while at the same time they should be wise. They should be deep thinkers but also should use their feeling. A dilemma frequently will arise when teachers' feeling is not becoming *'good friend'* of their cognition. They may in difficult dilemmatic situation when their thinking says *"it's not the right thing to do,"* but their feeling says *"no, it's not right, where is your humanity?"* or *"you can't do that."* One of teachers dilemmatic situation is when they have to increase or not to increase their students grade. This situation can be more delicate when they feel that 'this particular student' is basically good, potential student who deserves to get help. In this position, teachers are in binding forces between following their professional conduct as academics or fulfilling their role as parents in schools. As academics, they should defend their professional integrity, identity, commitment, and promise, but as parents in school, they should help their students since no parents can see their children cry and fail. However, by helping them, teachers may disrupt their professional integrity. Then, what they should do? In this study, we intent to reflect on our own teaching practice by revealing our moral reasoning when we are in dilemmatic situation between increasing or not increasing our students' mark. The finding shows that different teachers may have different considerations. Even though we (as teachers) are tied to same professional conduct, we have distinctive decisions. These judgments are weighed from various aspects, including fairness, agreement, and consequence. These assessments are becoming more difficult when we (as teachers) involve our (teachers') affection, students' feeling and considering teacher-student relationship. Teachers' moral reasoning is also closely related to social cognitive domain.

Keywords: ethical dilemma, moral reasoning, professional conduct, integrity, fairness

1. Introduction

Teachers are role models for their students. They are expected to be not only smart, but also behave the right thing. Teachers are not only expected to impart knowledge and facilitate their learning process, but also show good conduct. This is because students will not only learn what teachers say, but also unconsciously record and internalize our behavior and values. Thus, it is a moral obligation for teachers to do the right thing. Students may forget information what we give to them, but they may remember our behavior. A student may learn his/her teachers behavior by seeing his/her teachers interacting with other students or staff and by seeing and feeling how they interact with him/her. This indicates that teachers are also moral representative. As moral representative, they should provide moral teaching/education through direct experience. They should provide example of good conduct for their students. This means that they are implementing hidden curriculum in which teachers are not only care about their students' knowledge, but also their virtuous character. Thus, teachers should treat their students with good conduct since how teachers interact with students will be students' experience. Direct experience is effective way to learn since it provides real thing, actual context to deal with and to learn. From these experiences, they construct meanings and accumulate these meaning. These gathered meanings can be

something that they believed on and gradually shape their character.

In their teaching practice, teachers frequently have to face many difficult situations. This difficult circumstance can be perplexing or confusing. They may ask question to their own self, "is it right if I do this?" or "should I do that?" when teachers are confusing about what the right thing to do affected by their internal drives and situational forces, they can be in dilemmatic situation. Teachers may face many dilemmatic situation, including talking about their students' weakness or bad behavior to their colleagues, being too close to their students, having and showing fake care to their students, and punishing their students too hard. All of these situations stimulate teachers to reconsider their thinking, their feeling, and different roles.

A part of teaching practice which is experienced by all teachers is assessing their students' learning and reporting it. This usual situation can be dilemmatic when 'this particular student' is diligent or potential students, but he/she fails in his/her final examination. This failure may bring an impact on her final grade which may make him/her fail to pass the topic or may make his/her grade get worse. In this situation, teachers may weigh several aspects. They may consider multifaceted aspect of fairness, consequences for students even for him/herself, professional conduct, or values. It is expected that by taking into account those aspects they can do what they ought to do. This situation can be worse when what teachers *think is right* is not congruent with what teachers *feel is right* and teachers are in conflicting roles. Teachers have power and authority when they decide their students' final grade. Then, how should teachers use their authority by conducting the right thing? There is no final and clear-cut answer for ethical problems. This means that the rightness and wrongness can be different from teacher to teacher. Thus, the rightness lies in their personal moral considerations. This study focuses on understanding and exploring teachers moral reasoning when they are in dilemmatic situation between helping students by increasing their score or not; what elements (including cognition and affection) ground teachers' ethical judgments? In this study, we use reflection on our teaching experiences. Thus, teachers in this paper context refer to us (the researchers)

2. Research Problems

There are two main issues which we intend to explore and analyze. Those are:

1. Should teachers increase their students' score under particular situation?

2. How teachers weigh what they should or should not to do, what multifaceted aspects they consider or what are the foundation of their moral judgments, and what are their moral reasoning?

3. Theoretical Framework

In their works, teachers are susceptible to ethical dilemmas. Many researchers in the areas of ethics, moral education, teachers integrity and professional development spot and analyze cases and types of teachers ethical dilemmas. Some of them relate to students' confidential information [1], teacher-student relationship and disciplinary behavior [2]. Dempster and Berry (2003), as cited in reference [3] identify students' harassment, deviated behavior, contradictory school and home values as teachers' sources of ethical dilemmas. Those articles guide us to learn several keys conceptual areas which may assist us to understand, reflect and analyze our dilemmatic experiences. Those areas are: ethical dilemma and moral reasoning, social cognitive concept, approaches to ethical judgment and teachers' integrity.

3.1 Ethical Dilemma and Moral Reasoning

Teachers in school should fulfill different roles. These may lead them to be vulnerable to ethical dilemmas. Frequently, those different roles embodies constellation of values which can be potentially collide with values of other roles. As educators and moral agents, teachers may not aware that they are in ethical dilemma. An individual is in ethical dilemma when he/she has to select thing which they think is right under the pressures of conflicting principles, beliefs and standard [3]. Ethical tension also emerges when an individual are in a situation between listening to their critical thinking or their empathy (feeling) [4]. Teachers' ethical tension is created when teachers are weighing issues by considering their experiences, tacit knowledge, self values, senses, professional lives, and perceptions towards environment [2]. Fritzsche (1991), as cited in reference [5] mentions that teachers' internal states is central to ethical decision, but their inner states is linked to environment, other persons, and external forces including rules and policies. Singer (1993, 1994), as cited in reference [5: p. 4] mentions that since

teachers' ethical dilemma is also connected to external situation/environment, ethics can be interpreted as concerning with teachers' (individuals') relationship with others.

Since ethical dilemma and decision involves personal states in weighing what is right or should do, there can be no absolute right. This is also because when it involves personal states, individuals can construct their own meaning of being right and interpret their rightness by using their own lenses. The rightness of moral reasoning, as individuals' response to ethical dilemmas, tends to be grounded on relativism in which dependent on individuals' construction of knowledge [2: p. 163]. We cannot find just one particular right or incorrect mode of solving the ethical issues and the interplay between right and wrong will continue [6: p. 22]. There is no ended solution for ethical dilemmas [1: p. 195]. Making ethical decision can be confusing and the result can be different from teacher to teacher. This is because when teacher have to decide ethical problems, they are considering the affecting circumstances which can be various from situation to situation [7: p. 51]. Thus, people may have different stance on their ethical decision. Moreover, the concept of relativism rightness and human knowledge construction imply that it is possible that one individual may have different decisions. As individuals' knowledge change over time, they may change their principles/beliefs on the right things [2: p. 163]. This also indicates that besides using their virtues, teachers my use their cognition to analyze situation to produce their moral judgment [8: p. 64]. Since ethical dilemmas include conflicting values interacting with other people, teachers need to detach from their own self and analyze issues from different perspectives and roles [8: p. 64]. Thus, there is no one right answer in teachers' ethical dilemmas and teachers need to weigh different aspects from different roles.

3.2 Social Cognitive Perspective

The process of moral reasoning or judgment which considers multifaceted factors of situation and internal states is relevant to the social cognitive theory and cognitive interactionist perspective. Reference [7:46] mentions "within this conceptual framework, personal factors in the form of moral thought and affective self-reactions, moral conduct, and environmental factors all operate as interacting determinants that influence each other bidirectionaly." This bidirectional action which equals to reciprocal causation in social cognitive theory indicates that there are several affecting factors influencing each other, but they have different causational strength [9: p. 2]. This indicates that influencing factors which surround teachers do not have equal significance. The strength of these factors is determined by teachers' self. Teachers' thinking, way of sensing, belief and feeling determine position and strength of those factors [7: p. 3]. Social cognitive theory highlights individuals role in processing information (cognitive process) from external environment in which this information process produces individual willingness, intent and behaviour [10: p. 63]. Social environment becomes stimulant for individuals' cognitive and emotional response [7: p. 3]. In her interactionist model of ethical decision making in organization, reference [11: p. 603] identifies several affecting factors: cognitions (stage of cognitive moral development), individual moderators (ego strength, field dependence and locus of control), and situational moderators (immediate job context, including reinforcement and other pressures, organizational culture, including normative structure, referent others, obedience to authority, responsibility for consequences and characteristics of the work, including role taking, resolution of moral conflict). Thus, there are several factors which may operate around teachers' self, but it is teachers' self who determine which aspect should get more concern than other aspects.

3.3 Teachers' Integrity and Approaches to Produce Moral Reasoning

It is expected that teaching is not only a process for producing smart/intellectual students, but also virtuous. Buzzelli and Johnson (2001), as cited in reference [6: p. 21] state "teaching itself involves moral action…Teachers are moral agents, and education as a whole, and thus classroom interaction in particular, is fundamentally and inevitably moral in nature." This indicates that teachers should be able to be virtuous model. As moral figures, teachers should face many ethical tensions, for instance, students' behavior, minority group of students and teachers' own behavior when they have to break rules for particular reason. To release themselves from these tensions teachers should uphold values which they believe is right. Clark (1995), as cited in reference [5: p. 5] mentions that in their teaching, teachers frequently interact with their students. It is suggested that relationsip problems with students should be handled with care. Similarly, Oser (1991), as cited in reference [5: p. 5] highlights several central values which teachers should prioritize in their teacher-student relationship: justice, truthfulness and care.

Teachers' values are essential since they shape teachers' behaviour in teaching or relating with their students [5: p. 6]. They tend to have or acknowledge several values, but these values can be situationally conflicting. Kidder (1995), as cited in reference [5: p. 6] mentions that to come to ethical decision, teachers may weigh those conflicting values, but the result will always be in 'grey area.' Kakabadse, Korac-Kakabadse & Kouzmin (2003), as cited in reference [5: p. 6] clarify that this grey area means there is no right or wrong answer.

Teachers' no right and wrong answer' should be based on things that they ground on sound reasoning. Winston (1998), as cited in reference [8: p. 65] states that there are several ways teachers to practice or reflect their moral reasoning. Individuals can learn to have moral reasoning by adopting perspective and role taking in which individuals should consider virtuous behaviour in different situations and different roles. People also can imagine themselves have particular ethical issue and they should decide by taking up different positions (Johnson, 1993, cited in reference [8: p. 67]). In more detail, Thorne (1998), as cited in reference [13: p. 2] lists four processes required in ethical decision making: moral sensitivity (in which individuals sense the dilemmatic situation), moral judgment (in which individuals select how they should behave relating to the situation), moral motivation (represents individuals' intention to actualize their moral judgment), and moral character (individuals are consistent with their moral behavior across any situation). Furthermore, in his integrated model of ethical decision making, Thorne (1998), as cited in reference [12: p. 3] highlights two elements which are required to behave ethically: moral development and virtues. A guide to assist individuals to form basis of reasoning is provided by reference [4], by proposing four ways of thinking: principles, consequences, agreement and virtues. Teachers or other professions may have codes of conduct. However, these codes usually contains only general rules or directions which may be able to answer/solve complicated issues [5: p. 6]. Sumsion (2000), as cited in reference [5: p. 6] mentions that codes may not address specific perplexing situation in which several values are contradictory. Thus, besides acknowldeging their codes of conduct, teachers should be able to equip themselves to be virtous and possess ethical ground when they are in ethical dilemmas.

4. Method of the Study

Teachers should learn during their process of becoming teachers. One of several ways that they can do to self-learners is looking at their experiences and reflect those events [13: p. 175].

Teachers have an obligation to continually learn and develop themselves, including strengthening their moral character. Reflection helps individuals to be aware of what they think and feel [14: p. 9]. Personal experience is one of several sources of critical reflection [14: p. 45]. Through reflection, teachers can understand their own thinking and feeling [14: p. 45]. It makes teachers' thinking and feeling be more explicit. In this study, we select one or two case(s) in which we are in dilemmatic situation between increasing or nor increasing our students' grade. Cases in teaching practice may stimulate teachers to build and develop their situated knowledge. Merseth (1991), as cited in reference [15: p. 5] mentions "cases 'send a powerful message that teaching is complex, contextual and reflective.' They promote critical thinking, not just because of their complexity, and the typical absence of simple solutions, but because they involve dialogue which provides the means of constructing and critically examining knowledge."

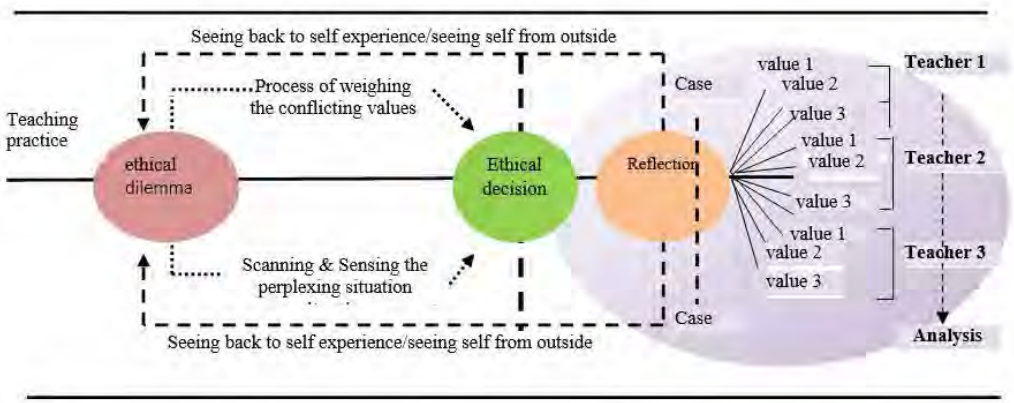

Figure 1. Process and Method of the Study

5. Discussion

The data show that teachers can be in different situations and face different challenges when they have to increase or not to help their students. They can be very confused or perplexed and anxious on what they should do, what they think *right* from *right* things. They feel inner tensions from different affecting aspects in which they should weigh and prioritize several particular values than other values. They put different emphasis on different values. The data also show that teachers are under tension between power and morality, rules/policy in insitution and their own authority/autonomy as teachers. There is no fixed right answer since it is very situational, depending on particular case, and each teacher may have their own ethical reasoning.

Teacher 1:

Teacher 1 has experienced a dilemmatic tension between power, morality and authority in class. He is in dilemmatic situation in which he actually does not want to increase his student grade, but he finally increase his student grade, against his inner/ own voice, because of several conflicting external factors which affect his ethical decision and behavior.

"...at that time, I was adjuct lecturer in a university. My position is not secure. One day, my head of department asks me to increase his son's grade even though I have my own standard of evaluation. This particular student's grade is very bad. This student is actually fail. This student's assignments and examination are very bad, but head of department asks me to help this student. I don't have any other choice. I am really disappointed that he does not respect my authority. Finally, yes, I help this student, but after that I resign. I follow him because he is my leader, I am just a guest in his institution. I expect that by resigning, similar case will not happen again."

(Teacher 1)

The above interview excerpt indicates that teacher 1 is under tension between power, humanity values, commitment and integrity as educator. As a teacher, he is aware taht the has an authority to manage his class and decide whether his student can pass or cannot pass his topic based on the agreed academic standard. However, his head of department exerts pressure that he must increase ' particular student's grade so that this student can pass the topic. Under this situation, he should weigh between '*yes, I should increase the score*,' or '*no, I shouldn't increase the grade*,' or *'yes, I will increase it, but.....'* His thinking and feeling processes are affected by several values which are conflicting.

The data show that he may weigh 'yes, I should increase this particular student's grade's because of several values. The first value is relating to social norm of social reciprocity. He should increase this particular student's grade because his head of department (leader) asks him to do and this leader has helped him by giving him a job. Thus, it is a social obligation for him to reply good behaviour with good conduct. Other people may judge him as a bad man, does not have feeling of gratitude when he does not fulfill that request. The second value is reating to the value of dedication, loyalty, obedience and dedication to leader. It is agood conduct to show our dedication by obeying the instruction/advice of our leader. The other value is value of respect. Respecting senior and older people is a good conduct. A child who does not follow his parent's word can be viewed as bad child. The other value is respecting the host institution. It is a good behavior, for instance, when we come to our friend's house, we should respect him/her. We should not make any conflict or start any dispute with them. The other value is it is a good conduct to make other people happy and has many friends can be more virtuous than have many enemies. It is a good conduct to create and maintain harmony in relationship.

He (teacher 1) also thinks to say no or reject the request of his previous head of department, since he upholds several values. The first value is fairness. When he increases this particular student grade, he treats his other students unfairly. The second value is by saying no, he follows his integrity by following what he thinks is right. The third value is he has strong principle in which he is being honest and does not lie to other people and his own self. The fourth values is by saying no, teacher 1 is being committed to his professional code of conduct and may have pride of becoming educator. He finally decides to say *"yes, I will increase, but…."* He increases this particular student's grade, but after that he resigns from his job and finds another job. He feels guilty and uncomfortable with his own decision in increasing student' grade. To avoid possibility that this case will happen again, he moves to other unversity. By doing this, he wants to restore his principles value, securing his integrity, commitment and professionalism.

Teacher 2:

Teacher 2 also ever feels in a situation when he confuses of increasing his student's score or not. He is in dilemmatic situation when he has to select between prioritizing assessment based on the process of learning or based on academic result/intellectual. Students may have strength in different areas. Some students are not really smart, but they compensate their weakness by being active, being 'nice' students, being discipline and diligent, while other students can be smart but they are not too 'nice' or diligent. Should teacher 2 sets different parameter to cover unique strength of all students?

"…I ever have a case. I always make standard of evaluation. I mean several factors which I evaluate. One of those are students' presence in my class. There is a student who is rarely come to my class. This student's presence level of frequency is very low, but this student's examinations, assignments, and his/her competency are good. Based on the institution regulation, he/she should get sanction. In one side, this student is smart, but in the other side, he/she is not diligent, he/she rarely comes to class. This is hard situation for me. If I see from the aspect of cognition, he/she is good and deserves to pass the topic, but from the affective side, he/she is not good and deserves to get punishment, not to pass the topic…So, this student fails. I take this decision because that's the rules in this institution"

(Teacher 2)

The interview excerpt above indicates that he is in dilemmatic situation between helping his particular student with his/her grade since he/she is actually smart/intellectual but he/she is not diligent or ignoring all of his smartness area/strength. He should weigh *'yes, I will increase or no, I will not increase.'*

Teacher 2 says 'yes, I should increase,' based on several aspects/values. The first aspect is by increasing his/her grade, teacher 2 considers potential visible consequences. If this student fails his topic, he will not be graduated on time. The second is by increasing, he will uphold value of not hurting other people. If this student fails, he/she will be sad and can feel embarrassed because of his failure, especially if his/her other friends/peers know about this. Hurting feeling of other people is not a good conduct. The third aspect is teacher should understand the potential unique area of students. By increasing this student's grade, he may admit and respect that everyone has different strength. This student has strength in the area of cognition.

Teacher 2 also weigh the '*no, I should not increase him/her'* option, based on several aspects/values. The first aspect is principles. Every teacher should treat their students fairly and objectively. Students who follow teacher's rules will get good grade/result and those who do not conform should be punished. The second aspect is the academic agreement. By not increasing, teacher 2 follows/obeys academic rules. He conforms to the professional code of conduct and maintains his integrity/professionalism. The third aspect is respecting value of being honest in reporting his students' achievement result. Finally, he decides to not increase his student's grade since teacher 2 believes that a good teacher should be objective.

Teacher 3:

Teacher 3 also ever in a dilemmatic situation when she should decide to increase her student's grade or not. She is under the tension of being a teacher who should be discipline and tied to rules and principles, but also at the same time should softly scaffold her students to do virtuous but academically accepted behavior.

"I ever have two great students, they are best friends. Every time they go together, learn together. They are very active students and very smart. They always sit at the front seat and listen to the lecture very attentively. Someday, I ask all of my students to submit their writing assignment. After all of them submit their works. I start evaluating their works one by one. I am very surprised at that time because I read two writings which are exactly same. I look at their name and I get more surprised that those two great nice students are cheating. One of them copies the work of other. Since I don't know who copies and who is being copied, I give them all zero. I punish them for their cheating behavior. After I return the assignment to my students, one of those 'nice students' come to see me. She asks me to not punish her best friend. She wants me to restore the grade of her best friend because it is her who copy her best friend's work by her permission. She is ready to accept all of the consequences and asks me to save her best friend. I give her another chance, I help her by increasing her grade by giving her other assignment… "

(Teacher 3)

This case puts teacher 3 in dilemmatic situation. She thinks that this student is wrong but she also right. She confuses to whether punishes this student (who cheats) by keeping on giving

her zero, which means that she will not pass the topic or pass the topic with minimum grade, or just forgives her and lets her go by increasing her grade.

She may think "*yes, I should forgive and help her by increasing his grade because of some reasons*.' The first reason is she should appreciate this student's honesty. Not all students will do same thing. It needs courage and responsibility to admit it. The second reason is teacher 3 should consider that this student has already learnt the essence of punishment, so teacher 3 should not punish her too hard. The third reason is teacher 3 should appreciate this student's behavior which shows that she care about her best friend. She does not want her best friend gets hurt because of her bad behavior. The fourth reason is teacher 3 should see the potential impact on this student. She may lose her motivation to learn which may impact on her next learning process.

Teacher 3 may also think *'no, I should not forgive her and withdraw my penalty on this student.'* This can be because of some reasons. The first reason is the aspect of principle, *wrong is wrong*. Thus, the wrongdoer should be punished. The second reason is she should maintain her own integrity and commitment as educator who should teach not to cheat in any conditions and for any reasons. Teacher 3 decides to forgive this student by giving her another chance, another assignment. She does not make this student's zero grade into other grade, since she feels that *cheating always means cheating*. She gives this student new assignment and chance to improve her grade and give opportunity for this student to practice what she already just learnt from experience, the value of honesty.

The cases indicate that teachers may be in different dilemmatic situations in increasing their students' grades. They also have different decisions. They tend to weigh several aspects/values and decide based on what their inner voice and what they believe is right. There is no clear white answer. The answer will be in grey zone.

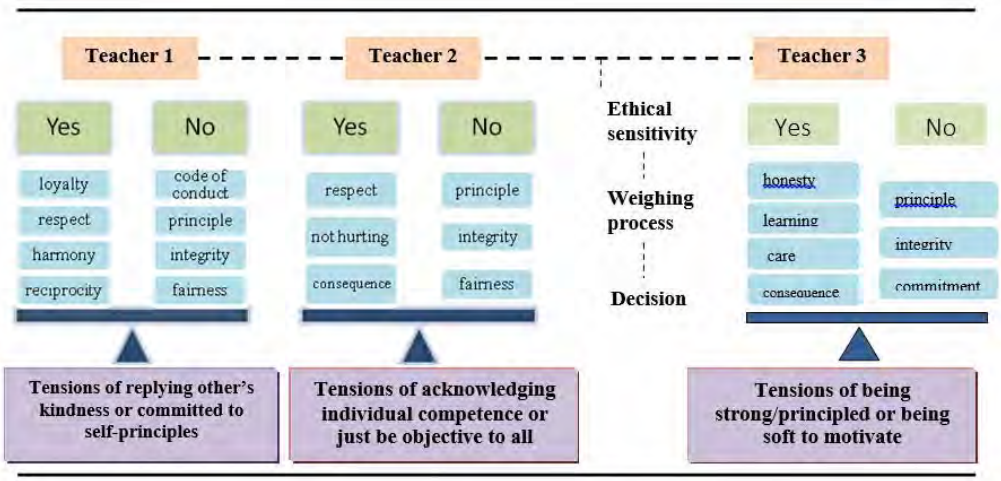

Figure 2. The weighing values/aspects responding to the teachers' ethical tensions

6. Conclusion

Teachers are frequently in dilemmatic situations. One of several their ethical tensions is dilemma between increasing student's grade or not. Each teacher (teacher 1, 2 and 3) is under different tensions. The first teacher is under tensions of power, morality and authority in class. Teacher 2 is under the tensions of a choice between focusing on each student's individual competence or just being fair and objective to all. Teacher 3 is under tension of being strong (principled) or being soft to motivate. Before coming to decision, each teacher is weighing by sensing their situation and values (internal dispositions). In this circumstance, it is related to social cognitive concept in education or teaching practices. Each teacher considers between right and not too right. They should prioritize values that they believe is more right than other values.

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THE CORRELATION BETWEEN AFFECTIVE CHARACTERS IN LEARNING PROCESS AND THE LEARNING ACHIEVEMENT OF SENIOR HIGH SCHOOL STUDENT

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Abstract

The research has aims to describe the correlation between student affective characters in learning process and student learning Achievement to the subject of physics on senior high student level. This research used descriptive-quantitative metode with 104 students whose act as samples. Data collecting was collected in six meetings at the physics subject in four class in different school. Each class used a different learning model. Affective characters is scientifics attitude scores were taken by two observer and Physics learning achievement based on sumative physics learning test.

Data of this research show postifive correlation of affective characters to the student learning Achievement with coefficient of correlation at 0,810 point. This Result show a high correlation between student who has a good affective characters value has a good score of learning test achievement in physics. This result support theory that self personality influence the self achievement. The measured student affective characters was activity of Asking, Dicussing, Listening to the Teacher, Working in Team and Communicating any Informations or showing arguments. This research also shown that student with high score learning Achievement have higher frequency activities in working in team and communicating any informations or showing arguments than student with low learning Achievement scores. In other side, activity of listening to the teacher gave a low contribution to the student Achievement score. It was highly shown in the direct instruction learning model and base the data, direct instruction model contributes the lowest average score from the four class.

Keyword: Affective Character, Learning Achievement

1. Introduction

Education is one of several effort to stabilize human resource nationally. This effort is focused on to improve human skill for solve a real problem which may find on individual problem nor social problem. It is the main reason why the quality of education must be improved, especially for student education.

Indonesian education is regulated by the rule of national constitution which is issued by Indonesian Educational Minister No. 20 Tahun 2003. It regulate the education system to develop student character to be more dignified. This is can be infered that character building has greatly effect to student attitudes but in fact, implementation of character building education still fall short of application.

The goals of education system and evaluation which is exist in curriculum 2006 or Kurikulum Tingkat Satuan Pendidikan (KTSP) tend to improve cognitive domain higher than other domain such as affective and psycomotoric. In contrast, Harvard reseacrh of STEM discovered student success domain is not only determined by soft skill but also hard skill, psycomotoric, character, and ability to communicate and interact in society.

In term of reducing inadequacy of character building education, Indonesian educational minister develops and applies a new curriculum to solve character building problem. Curriculum 2013 which contain and concentrate in character building program is applied to improve student ability not only in cognitive domain but also character domain. It is indicated by competence feature known as *Kompetensi Inti I* dan *Kompetensi Inti II*. Both of them generated student in spritual and character domain.

Along with the implementation of charachter building, there are several skill which is gained by student. Those gained skills are not

only on character and attitudes skill but also improve another domain such as cognitive domain and learning achievement after they pass character building education.

There are relationship between affective domain and cognitive domain [1]. These relationship are : (1) achieving of knowing level of cognitive domain preceded by receiving level of affective domain; (2) achieving understanding level of cognitive domain need significant result in responding level of afective domain; (3) before achieving applying level of cognitive domain, student must trough valuing level of affective domain; (4) analyzing level of cognitive domain is able to gained after conceptualization level of affective domain; (5) and student should be able to through characterization level of domain affective for gaining evaluating level of cognitive domain.

In the science learning process, science attitude is one of several factors that support student be active in learning process. Student who have good science attitude value expert more experience than student who have low science attitude value. Therefore, science attitudes is important to improve in learning process. There two ways to improve the quality of education program, one of them is fixing the learning process [2].

Scientific attitudes are attributes of an individual who not only behave outwardly in desirable way towards any scientific endeavor but also understand why they act as they do so [3]. Scientific attitude often relate to thinking process which is needed in daily live to solve a problem [4]. By those statements above can be infered that both of scientifics method and activities in learning process are needed by student to solve problem in real life. The process of solving any problems independently and continously gives a better learning experience. Hence, meanful learning process give more student achievement.

Atributes of scientific attitude are large. Scope of atributes consist of several complex indicators [5]. The indicators of scientific attitudes are: (1) curousity; (2) data respect; (3) critical reflection attitude; (4) persistence attitude; (5) discovering and creative attitude; (6) open-mind; (7) cooperative attitude; (8) uncertainty tolerance; and (9) enviromental attractive attitude.

The implementation of scientific attitudes in the physics learning process in this research are explained in five attitudes. Those attitudes are : (1) activity of asking; (2) discussing; (3) listening to the teacher; (4) working in team; and (5) communicating any information or showing arguments. These attitudes are measured by observation attitudes assessment instrument which was developed by Tawil, Indonesian University of Education .

Development of scientific attitude is one among the most important outcomes of science. Even it is important equally as cognitive aspect of science education [6]. Not only this, scientific attitude is one among the major determinants of student's achievement in science which has become a major quality parameter of student living in the present scientific society [7].

Several research in science education have investigated the relationship between student attitudes toward learning of science and their academic achievement science[8] [9]. Student's scientifics attitude was significant factor that had a direct impact on achievement and could explain abaout 1,1% ot the total variance in achievement [8]. Other research state that science learning is more effective if student have better science attitude because it has significant affect to student achievement in science [9].

The other reserach that has done by Ali and Awan [10] investigated the relationship between attitude of student and learning achievement of subject of physics, biology, chemistry, and mathematics. The research found a positive significant correlation between scientific attitude and science learning achievement. This research have been done in X degree student with 1.885 sample by using simple correlation and regression analyzing statistic technique.

2. Researh Method

This research is using survey research method with descriptive quantitative approach. Variables of research are scientific attitudes in physics learning process and physics learning achievement. Those attitude are limited by (1) activity of asking; (2) discussing; (3) listening to the teacher; (4) working in team; and (5) communicating any information or showing arguments.

The population of research is 175 XI grade student of natural science program in senior high school level. Sampling method was using simple random sampling. There are 104 student selected as a sample. These sample are devided into 4 class. Research instrument consist of observation paper and multiple choice test. Observation paper use affective instrument which developed by Tawil [11] and multiple choice test is developed by teacher based on basic competence which is listed on national physics lesson

standart for XI grade student of natural science program in senior high school level.

This research took data in two steps. Both of them are scienctifics attitude data and physics learning achievement data. Scientifics attitude data was taken by method of observation that was supported by two observers. Observers that head been train to take the data was prepraed by researcher. Scientifics attitudes data was taken on six meetings along the learning process. The table of scientifics attitude are given by the table below:

Tabel 1. Instrument of Scientifics Attitude

Frekuensi	Sikap Ilmiah
_____ 1	Bertanya kepada teman/Guru
_____ 2	Mendiskusikan tugas
_____3	Mendengarkan
_____ 4	ceramah/penjelasan Guru
_____ 5	Bekerja sama dalam melakukan pengamatan, percobaan
	Menyampaikan pendapat/ mengkomunikasikan informasi kepada teman atau guru

Physics learning achievemnt is physics skor that measured by physics learning outcomes test. Instrument was a multiple choice which was developed by teacher. Instrument was been tested of validity and reliability by researcher.

Data analyzing method in this research was Pearson correlation analyzing. This method was used to find coefficient correlation between scientifcs attituide scores and physics learning achievement. Quality of coefficient correlation was clasified in the table below [12]:

Tabel 2. Interpretation of Pearon Coefficient Correlation Criteria

Coefficinet Corelation		Interpretation
positive	Negative	
0.90 – 1.00	(-0.90 – -1.00)	Very High
0.70 – 0,90	(-0.70 – -0,90)	High
0.50 – 0.70	(-0.50 – -0.70)	Moderate
0.30 – 0.50	(-0.30 – -0.50)	Low
0.00 - 0.30	(0.00 --0.30)	Very Low

3. Result

Descriptive statistic data of Scientifics attitudes of 104 student base on observation result is given by the table below:

Tabel 3. Statistics descriptive of student scientifics attitudes

Scientific attitudes	Mean	Total
activity of asking	14.73	1531
Discussing	16.78	1746
listening to the teacher	35.94	3738
working in team	19.61	2040
communicating	13.13	1366

The table above shows scientifics attitude of communicating any information or showing argument has the lowest total score. It was 1366 times of frequence with daily frequence average about 13.13 times. In contrast with communicating any information or showing argument, Listening to the teacher activity is the highest activitiy with 3738 times or daily average frequence about 35.94 times.

Coefficient correlation of scientifics attitudes of student are given by table 2. Table 2 also shows coefficient correlation of each scientifics attitudes activities.

Table 4. Correlation between Scientific Attitude Scores And Physics Learning Achievement.

Scientific attitudes	Coefficient	Sig
activity of asking	0.571	< 0,001
Discussing	0.557	< 0.001
listening to the teacher	-0.210	0.016
working in team	0.617	< 0.001
communicating	0.404	< 0.001
Scientifics Attitude	0.810	< 0,001

Table 4 shows correlation between scientific attitude scores and physics learning achievement. Coefficient of correlation was Pearson correlation analyzed by using SPSS program. Base on the Table 4, each activity has coefficient correlation 0.571 for activity of asking; 0.557 for discussing; -0.210 for listening to the teacher; 0.617 for working in team; and 0.404 for communicating any information or showing argument. The table also shown overall coefficient correlation of scientifics attitudes about 0.810.

4. Discussion

This research was gained two variables from 4 classes. The classes was be a sample with 104 XI degrre student in senior high school of natural science program. Data analyzing was used for gain coefficient correlation between variables. Pearson analyzing show the correlation of "listening to teacher" has the high frequence. There are 3738 times of frequence

shown along the observation step. This score is the accumulation of 104 student in six meetings. By this score can be inferred that there are 35,94 times of student activity or each student did "listening to the teacher" activities about six times for each meeting.

The lowest frequence activities was communicating any information or showing argument with 1366 times. It can be inferred that there are 13.13 times activity for each student in six meeting or each student did this activity twice for a meeting. This result supports a pra-observation result. In pra-observation result, teacher explained student activity in class was passive. Student were more prefers listening explanation than doing some active activity such as showing argument. Teachers guess the main problem of their class was it.

Regression test analyzing shown the coefficient correlation of overall scientifics attitude activities about 0.810. It was Pearson correlation analyzes. Base Kumaidi's criteria interpretation in table 2, 0.810 has a very strong correlation between scientifics attitudes score and physics learning achievement.

This research also present correlation analyzing of each scientifics attitude activities. By the data in table 4, "working in team" activity has the highest correlation to the learning with 0.617 or moderate correlation. In contrast with it, listening to the teacher has the lowest correlation to the physics learning achievement with -0.210. This result also support teacher pre-observation result. Teacher has guess the learning process must be directed in to a learning method which is integrated with *learning by doing* and *constructivist* principle. This learning principle is good learning method in science learning. Constructivist mythology forms the basis of much of the advice that you will receive about what constitutes good practice and effective science teaching in the classroom [13].

Scientifics attitudes activity that has done by student daily become an affective value. Character in learning science is scientifics attitudes [1]. One of effort to develope affective character is applying scientifics approach in learning procces which is containt scientifics attitude value.

5. Conclussion

Based on research result and data analyze can be conclude:

1. Scientific attitudes activity of "Listening to the teacher" has the higest frequence and Activity of "Communicating any Information or showing argument" has the lowest frequence.
2. Correaltion between scienctifcs attitudes and pysics learning achievement is in very high correlation.
3. Scientific attitude of "communicating any Information or showing argument" has the highest constribution to the physics learning achievement and activity of listening to the teacher has the lowest correlation to the physics learning achievement.

6. Recomendation

Considering the result of research, researcher suggest the teacher:

1. To do not drive the learning process with lecturing base method.
2. To replace learning model with the model using learning by doing principle, Constructivist principle, or Scientifics approach.
3. To considere several factors of scientifics attitude that may include in learning process.

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AN ATTITUDE AND CHARACTER LEARNING DEVELOPMENT BASED ON CURRICULUM 2013 IN SCONDARAY SCHOOL

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Abstract

The purpose of this research is to (1) identify the weaknesses of the learning model of attitude and character in the 2013 curriculum in secondary schools (2) develope a conceptual model of attitude and character learning that is able to instill the values of attitudes and characters contained in the content of social studies subject of junior scondary school (JSS) as a refinement of the learning model of attitude of the characters achievement in the curriculum of 2013. The research was conducted by reviewing the curriculum, focus groups discussion with JSS social studies teachers, and test the application of the learning model of attitudes and characters inJSS. The results of this study showed that (1) scientific learning approach is only able to develope scientific attitudes of students, while sorts of other attitudes very less embedded into the self. (2) the application of the integrated scientific learning approach is able to instill the values of attitudes and characters contained in the content of social studies to the student intact.

Keywords: criticism, improvement, character learning model, 2013 curriculum, and integrated instructional approach

1. Background

One of the various aspects of the review that lies behind the development of the curriculum in 2013 is alarming socio-cultural change. The impact of this change, especially at this time, there was revolutionary in all aspects of life in the political, economic, social, cultural, behavioral and other dimensions of life [1]. Examples of socio-cultural changes are marked with Indonesian culture that was once known courteous, polite, gentle, caring for others, high social, and high cooperate shifted into a nation that less social sensitivity, and selfish. There was also rampant corruption, and student brawls occur everywhere. This change also occurs in both the developed and developing countries. Reportedly, the learners United Kingdom for instance, that the impact of science and technology as an increase in harmful behavior, anti-social behavior, indiscipline, underachievement [14], drunkenness, unsafe sex [13], and the increase in juvenile delinquency in the community. Even the most remote villages and big cities in Indonesia, the symptoms have come to a very disturbing extent, such a fight mass, parents kill her own child, husband kills his wife and vice versa, teen fights, fighting between learners and between schools, rampant corruption, social sensitivity barren and various other cases of moral decadence. These symptoms according to Ahmad Mustafa (criminologist Indonesia University) due to the declining value of social and community life [7]

In connection with this, today's society felt that the implementation of education about values, attitudes and character of the institutions of formal education is very important, and urged increased intensity and quality. Formal education institutions, especially primary education (including JSS) as an official container coaching children and young people is expected to increase its role in shaping the character of learners through increasing the intensity and quality of education on values, attitudes and character. Insistence was welcomed by the government by pouring the main target to be achieved in the curriculum in 2013, namely the formation of attitudes and character of the young generation [3]. The problem though in the 2013 curriculum has set the values of attitude and character become the main target of achieving the goals of education, have chosen learning model really be learning model, when it is applied, capable of achieving these objectives?

Educational experts generally agree on the importance of efforts to increase the intensity and quality of the attitude and character education in

formal education. However, there are differences of opinion among them about the approach and mode of education. Associated with the approach, some experts suggest the use of moral education approaches developed in western countries, such as: the approach of cognitive moral development, value analysis approach, and values clarification approach. Others suggest the use of traditional approaches, namely through the planting of certain social values in self-learners. Attitude and character education in the school curriculum in Indonesia, the curriculum in 2013, developed a model of learning with the scientific method approach. Is the scientific method approach is able to achieve the goal of education values, attitudes and character expected? Based on the study of various theories doubt that through the scientific method is able to achieve the goal of education values, attitudes and character expected. Step-by-step approach to learning that is applied to the scientific method, only able to familiarize learners scientific attitude in learning, namely the process of receiving, searching, collecting, formulate, and report information[4], has not been able to get used to the formation of attitudes as expected by the curriculum 2013, namely "respect and appreciate the teachings of their religion (fist core competence)" and the attitude expected by curriculum 2013, namely "respect and appreciate the honest behavior, discipline, responsibility, caring (tolerance, mutual aid), mannered, confident, in interacting effectively with the social and natural environment in the range interaction and existence "(scond core competence) [3]. The next question, what is the most appropriate approach is implemented in the implementation of the attitude and character education in Indonesia? Looking at the above mentioned problems the researchers tried to research the development of attitudes and character education approach and its implementation in the attitude and character education for students in the JSS.

2. Theoritical Review

Conceptually, attitude and character education is the direct and indirect intervention by various institutions such as the family, religious institutions, and schools that affect developments in values, attitudes and character of a person, including developments in behavior, the ability to think about whether the issues right or wrong, the actual opinion right or wrong that someone hold [9]. He also noted that the formal purpose of education values, attitudes and character should take into account (1) the actual act of someone that contain the situation it was right or wrong. (2) the person's ability to think critically to moral problems, and (3) the opinions of actual moral maintained by the individual [8]. To achieve the goal of values, attitudes and character, experts have proposed various theories about moral education. In this article approaches the value of education, attitude and character will be based on studies and typologies of educational approaches by Superka, et. al. (1976) in Huit (2004) He said there are five typologies that inculcation of values education, moral development, analysis, value clarification, and action learning approaches [6].

Inculcation Approach is an approach that gives emphasis on the cultivation of social values in self-learners. Approach to education about values and character attitudes aims: (1) instill certain values in self-learners; (2) changing social values unwanted learners toward the desired value. A lot of support in addition to criticism of this approach. Reference [6] says: most educators ... see values as socially or culturally accepted standards or rules of behavior[7]. Children actively incorporate these values into him naturally. While critics of this approach say (1) "believe that values originate in an omnipotent Creator. (2) This approach is seen indoctrination, not in accordance with the development of democratic life[7]. This approach neglecting the child's right to freely choose their own value. Human life is different because of differences in time and place. We can not predict the corresponding value for generations to come. According to the above opinion, every generation has the right to determine their own value. Therefore, the need to be taught to students instead of value, but rather the process, so they can find their own values, in accordance with the place and era.

Moral development approach. is an approach to moral development that gives emphasis on the cognitive aspects and development. This approach encourages students to think actively about moral issues and make moral decisions. The educators who adopt a development perspective of moral values and character attitudes believe that moral thinking individual develops in stages through a particular sequence in making a moral judgment of a lower level toward a higher level [5].

Historically cognitive development approach was first proposed by Dewey. He divided the children's moral development into three stages (levels) as follows: (1) Stage "premoral" or "preconventional". In this stage a person's behavior is driven by an urge that is physical or social; (2) Phase "conventional". In

this stage a person begins to accept with little critical value, based on criteria group. (3) Phase "autonomous". In this stage a person to act or behave in accordance with the mind and judgment to himself, not fully accept his group criteria. While Piaget made a conclusion that the development of cognitive abilities in children affects their moral considerations.

Value educational purposes according to the moral development of this approach are (1) to help students develop patterns are more complex moral thinking that is based on a series of higher moral values, (2) encourage learners to discuss the reasons why the choices and position their moral values, not only do share with others but also to obtain a change levels of moral values reasons learners.

This approach uses learning methods to provide moral dilemmas discussed in small groups to obtain answers argumentative and relatively structured and do not necessarily have to come to a right or wrong answer. Through the moral argument is what allows children internalize the values of information received. But something to keep in mind that for low-grade children of primary school age are still relatively heavy to be invited to think critically and argumenatif, and moral will is formed through habituation. Reference [13]) states that ... routines shape habits, the which in turn establish attitudes[14.]

Analysis approach places emphasis on the development of the learner's ability to think logically and scientific investigations, by analyzing the problems associated with social values. If the comparison between the value analysis approach to cognitive development approach, one important difference between the two that the analysis approach, more emphasis on the discussion of issues that includes social values. The cognitive developmental approach places emphasis on the moral dilemma they are individual. This means that the cognitive development approach and analysis approach have similar patterns of thought, both are just different targets. Therefore, both have advantages and disadvantages of similar applications. Advantages, this approach is able to develop critical thinking, while weakness, this approach is relatively difficult to be applied to the age of the children of low grade.

There are two main objectives of moral education according to this approach, namely (1) helps learners to use a scientific and logical thinking skills in analyzing social issues, which relate to certain moral values; (2) helps learners to use rational thinking and analytical processes, the connection between and formulate the concept of their values.

Values clarification approach is an approach to learning which gives emphasis on the business of helping learners to assess their own feelings and actions, to increase their awareness of their own values. The purpose of education according to the value of this approach, there are three, yitu help learners to be able to (1), be aware of and identify their own values and the values of others; (2) communicate openly and honestly with others, dealing with its own values; (3) using jointly the ability to think rationally and emotional awareness, to understand the feelings, values, and behavior of their own [8]. In accordance with its objectives, this approach will allow the child to analyze the truth values he had, to be honest with yourself and others, and able to think rationally and improving emotional awareness.

This approach contains two main objectives: (1) provide an opportunity for learners to perform moral actions, either individually or jointly, based on their own values; (2) encourage students to see themselves as individual beings and social beings in association with others, who do not have complete freedom, but as citizens of a society [8]. In addition to applying learning methods applied in the value analysis approach and values clarification, this approach also implement specific projects at school or in the community, and practice skills in the organization or in connection among [6].

This approach will be able to increase the awareness, willingness to participate in the social life of the community, but not all the values of social studies learning materials can be applied directly. As we know that each of these approaches has advantages and disadvantages of each. By thus be necessary to develop an approach that contains all the goodness or the integration of the principles of the six theory. Principles of instructional or educational value, attitude and character as follows: (a) does not ignore the rights of the child learners to choose their own value (not indoktrinatif); (b) emphasize the process can find the values of their own, according to the place and time; (c) encourage learners to think active, rational, analytical and argumentative in analyzing and making moral decisions; and (d) through moral argumentative, awareness of logical/rational, scientific and moral habituation acts (individual or group) students will internalize the values received.

On the basis of these principles can be rationally accepted that the value of learning approach, attitude and character of the applied

science by integrating a whole repertoire of these theories (character, attitude and values with an integrated learning approach sceintific values) would be the most appropriate approach in the implementation of education values, attitudes and characters in Indonesia. This approach will enable the fulfillment of the basic capital of the individual in the learning process both in attitude, knowledge and skills in addition to meet the growing efforts of the noble values of Indonesian culture and philosophy of Pancasila.

Based on the principles of values, attitudes and characterlearning, the team of researchers works to develop learning approaches of values, attitudes and character based social studies curriculum material content 2013 for JSS students. "

3. Research Methods

This study was designed to (1) identify the weaknesses of the learning model attitude and character in the 2013 curriculum at JSS (2) develop a conceptual model of learning attitude and character that is able to instill the values and attitudes of characters contained in the content junior high social studies as a refinement of the model of learning achievement and attitude of the characters in the curriculum of 2013. After (a) carried out research in the form of a forum group discussion (FGD) with teachers about the weaknesses of social science learning model attitude and character in the curriculum of 2013 and (b) found tentative models of learning attitude and character, then the model is tested by experts constructive theoretical and empirical values education in the field.

This research is a qualitative descriptive study. Therefore, this study did not use but population utilizing certain social situations (place, actors and activities) that interact synergistically [12]. This is due to the research of this kind is not to generalize the results to the population but to transfer the results of these studies to other places on the social situation which has similarities to the social situation in the cases studied [12]. The social situation is in the form of a JSS education institutions, people (teachers and students) and interactive activities. With respect to the type of research that is applied then the sample was drawn purposively, ie data sources retrieval techniques with consideration criteria are practitioners of curriculum in 2013, especially social studies teacher and the administrator of secondary school education. Data were collected through focus group discussions, observation and interviews. Data were analyzed by descriptive qualitative and argumentative.

4. Results and Discussion

Based on the results of research conducted through interviews and focus group discussions with teachers and social studies in junior secondary education adminsitator obtained seven (7) the following findings: (1) the process of implementation of learning social science subjects in class implemented according to the guidelines contained in the book of teachers; (2) it is expected that the teacher before making the learning process in the classroom seeing core competencies, basic competencies, learning objective social science subjects, studying the subject matter of social science, and learning approaches and measures of social science learning activities, which are in teacher book; (3) the competency includes four competencies are competencies associated with (a) the vertical relationship - spiritual, (b) horizontal relationship -sosial and nature, (c) the development of knowledge and (d) the development of skills. Competence (a) and (b) referred to the competence of attitude. The contents of the competence of social science subjects JSS level is expressed as follows: respect and appreciate the teachings of their religion (core competencies -1); respect and appreciate the honest behavior, discipline, tang-responsibility, caring (tolerance, mutual aid), polite, confident, in interacting effectively with the social and natural environment within reach of the association and its existence (core competencies-2); Understanding knowledge (factual, conceptual, and procedural) based on curiosity about science, technology, arts, culture and events related to the phenomenon of the visible (core competencies-3); and tried, processing, and menyaji in the realm of concrete (using, parse, compose, modify, and create) and the realm of the abstract (writing, reading, counting, drawing, and making up) in accordance with the learned in school and other similar sources in the corner view / theory (core competencies-4).

The results of further research obtained the following data (4) competency attitude is key competencies to be achieved in the study subjects. (5) Learning social science subjects should be presented using the scientific method approach, and using the model recommended in Curriculum 2013, the discovery-inquiry-based learning, problem-based learning, and project-based learning. Learning to use the scientific method is a learning approach that is designed so

that learners actively construct concepts, laws, or principles through the stages observe, ask, gather information, associate and communicate. (6) In general, learning to use a scientific approach carried out through the following steps. (a) Learners conduct observations of a phenomenon such as image / video, surrounding environment to identify the things that we want to know from observation. (b) Students formulate questions based on things they want to know the students at the time of observation. (c) Collect data or information with a variety of techniques, such as: reading books Learners, search the internet, interviews with speakers or making observations in the field. (d) Analyze the data or information obtained from various sources to answer the questions that have been formulated to obtain a conclusion on answers to questions that have been formulated. (e) Communicate conclusions by presenting it to the class, stick to a conclusion on the classroom wall or place that has been provided as a means of learners.

Broadly speaking, the steps in the learning of social science subjects included three major activities, namely: Introduction Activity, Core, and Closing. Here is an example of the learning activities pegetahan social science subjects that use the scientific method to the sub-theme: "The quality of Indonesian population and the national movement."

Preliminary activities: (a) Learners with the teachers greet and pray. (b) Learners with the teachers condition / prepare the class. (c) The teacher gives motivation: ask for material that has been studied in previous meetings. (d) Learners receive information topics and learning objectives of the teacher. (E) The students were divided into several groups, each group consisting of 4-5 people.

Core activities, consisting of activity: (a) *Observing*, namely: (i) Learners are asked to observe the image 26 dioramas Youth Pledge. (ii) Based on observations diorama image Youth Congress, students were asked to discuss in groups and write down the things you want to know from observation. Example: What is the Youth Pledge, why should there oath youth, how the meaning of the oath of youth, and so on. (iii) Learners are encouraged to select whether the things they want to know is in conformity with the purpose of learning, if not, learners are asked to fix. (iv) If the things they want to know not all include learning objectives, then the teacher can add things that are related to the learning objectives. (b) *ask*, namely (i) Learners are required to discuss in groups to formulate questions based on things they want to know from the observation map of the distribution of agricultural products in Indonesia. Questions directed to the substantive matters related to the learning objectives. Example: why emerging Indonesian national movement? What factors underlying the Indonesian national movement? How the Indonesian national movement? Why appear Youth Pledge? How is the significance of the oath of youth for Indonesian independence movement? (ii) One of the representative group of students were asked to write the formulation of questions on the board. (iii) Students are required to discuss with the group to answer the questions according to what is known.

(c) *Collecting Data/Information*: students were asked to collect information/data to answer questions that have been formulated from a variety of sources, such as: reading books Learners, search the internet or reading a book in the library. (d) associate/reasoning, namely (i) Learners are required to process and analyze the data or information that has been gathered from various sources to answer questions that have been formulated (complete provisional answers that have been formulated in the group). (ii) Students are asked to discuss in groups to draw conclusions from the answers to the questions that have been formulated.

(e) *Communicate*, namely: (i) Students in the group was asked to present the results of the conclusion of the answers to questions that have been formulated. (ii) The other group was asked to give a response to the presentation of the results of the group conclusions. (iii) Learners with the teachers take the conclusion in answer to the question.

Closing activities: (a) Learners are asked to reflect on the learning process associated with the mastery of materials, approaches and learning model used. (b) Learners are given the message about values and morals. (c) Learners are given the task to enhance the results of the report group discussion about the answers to questions that have been formulated to be collected to teachers. (d) Learners are given the task to memaca material in the next sub-themes.

(7) Based on the experience of implementing the curriculum in 2013, when the FGDs were conducted, the social studies teacher said that in learning activities in the book is directed to the teacher asks students move explore, discover and develop the concept of knowledge and practice skills to communicate the concept of knowledge is found. While the execution of assessment, teachers were asked to assess all aspects of learning outcomes, namely spiritual attitudes, social, knowledge and skills. Recognized that through the implementation of a scientific approach to grow the social attitude is

the attitude of responsibility and cooperation. But the attitude of responsibility and cooperation to grow in self-learners only responsibility and cooperation in exploring and preparing knowledge, not the attitude of responsibility and cooperation as a whole as a social being. Though the core competencies expected attitude is (a) respect and appreciate the teachings of their religion; (b) respect and appreciate the honest behavior, discipline, responsibility, caring (tolerance, mutual aid), polite, confident, to interact effectively with the social and natural environment within reach of the association and its existence. As a conclusion they state that the expected characteristics of the scientific approach applied in the learning process of social science subjects will only be able to nurture and inculcate values or scientific attitude, not able to inculcate in full as expected in the core competencies.

Based on the experience delivered by the teacher when the FGD, it was found that there is a discrepancy between the contents of the learning competencies that will be implemented to achieve the expected core competencies with competencies that would be achieved. In the core competencies, disclosed that ketecapaian attitude (both spiritual attitudes and social attitudes) became the main target would be achieved in the learning process, while learning activities with scientific approach only emphasizes the attainment of knowledge and skills. In the learning activity, students are not given the opportunity to explore, understand, and reason as well as how to apply the values contained in the subjects into everyday life. Because the learning process students are not given the opportunity to explore, understand, and make sense of the values contained in the subject matter being studied and sought how the application of values in everyday life, it can be understood that the scientific approach as a model of social studies learning approach is not much help instill the values of the contents of social studies into self-learners. Applying scientific approach will only help the planting of values into attitudes and character of students is limited to the planting of values / scientific attitude. The attitude of responsibility, honesty and cooperation grows well only be a responsible attitude, honesty and cooperation in scientific situation. While the values contained in the content of other subjects are less embedded into self-learners. Other values embedded into self-learners happened accidentally or just a side effect of the activity of the learning process that is not intentionally pursued by the teacher. This happens because in the process of implementation of the scientific approach to learning with only familiarize learners behave scientifically in acquiring knowledge and skills. While extracting, understanding, reasoning and application of the existing value in the content is not done. This is based on the premise that attitude or character and really only be embedded into one's self through the process of understanding, reasoning, and a sense of usefulness of the values learned. Sense of usefulness on these values make a person grow willingness to apply back repeatedly over the value he received. This repetitiveness then becomes a habit. This habit will grow the longer the energy in one's self in the situation becomes more and more there is something missing if they are not doing it. Conditions as it is called has become a character in a person. While the learning process with the existing scientific approach in teacher book, not seen giving instructions to the teacher to guide the learners to explore, understand, reason why it is said the values correctly, it should be done, maintained in everyday life.

In connection with these findings, then in the next FGD event, FGD participants tried to draft an integrated scientific approach in the implementation of learning social science subjects. Integrative scientific approach is meant learning activities that not only develop a scientific attitude of learners in exploring, analyzing, organizing and communicating concepts learned knowledge, but also to explore and analyze the values contained in the lesson is being learned and how the application of the values that in everyday life at school, family and society.

In general, learning steps with an integrated scientific approach is as follows.

Preliminary activities:

(1) Students and teachers say hello,

(2) The teacher recalls the concepts previously learned

(3) The teacher presents topics and learning objectives to be studied.

Core Activities:

a) Students make observations on a phenomenon that an image/video, neighborhoods to identify the things that we want to know from observation.
b) Students formulate questions based on things they want to know at the time of observation. These questions include questions related knowledge, skills, and values that want excavated from the contents of the subjects to be studied.
c) Learners collect data or information to construct the concept of knowledge, skills

and values and attitudes that can be learned from the content of the lesson material resources through a variety of techniques.

d) Learners to reason with activities (1) analyze and conclude the data or information collected to construct knowledge and develop skills; (2) explore and discuss the values contained in the subject matter rationally why the values that need to be understood, implemented, maintained, and used as a handle to behave as individuals, groups and in public life; (3) developing a joint activity is a manifestation of values is reasonably acceptable;
e) Communicate conclusions by presenting it to the class (good conclusions about the concept of knowledge, skills development as well as implementation and preservation of the values obtained in daily life.

Closing Activities

a) Students are required to improve the understanding of the material that has been studied through a variety of learning resources
b) Learners are given moral messages, encouragement to apply the design activities have been made.
c) Prayer together as gratitude for the grace of God the almighty one.

Follow-up activities

Recalled and monitored along with the learners to the application of the values that have been studied in daily life.

Furthermore FGD (social science teachers) applying learning approaches that have been agreed. The results showed that learners much faster growing spiritual attitudes, social attitudes (honest, discipline, tang-responsibility, caring, tolerance, cooperation), polite, confident, in interacting effectively with the social and natural environment in comparison with the application of scientific approach teacher in the book. This happens because the learning values and attitudes or character-based integrative scientific approach, learners are deliberately invited to explore, understand, make sense of the values contained in the subject matter being studied. Digging experience, understand and make sense of values that exist in the content of learning material makes learners become totally accept or logical reason why such values that need to be viewed, copied and applied in society. This awareness makes students feel happy and want to maintain those values. In other words, this awareness makes the values embedded into itself or into the attitude and character of students. This is in line with the opinion of the Dharma Kusuma, Cepi Triatna and Johar Permana, that the logic and rationality that is the important measure to produces a rich person's decisions[5]. Someone will do and do it steady when everything done rationally acceptable. Examples of behavior can be easily accepted if anything it has a sense of acceptance. Something which is accepted by the mind will develop in a person into something that is felt to be liked or disliked by her feelings. Something like will be a value that is a tendency attitude that encourages you to do and will even try to defend and fight for it. Reference [11] also said that the attitude contains cognition, feelings and behavior tendency to act on an object. Cognitive influence positive or negative feelings, and feelings affect the tendency to act[21]. Affective-cognitive consistency theory Suggests that the affective component of the attitude of the system may be changed by first changing the cognitive component through providing new information [10].

Individual attitudes toward an object depends on the information obtained from an object is perceived as positive or negative. Changes in individual cognition of an object will tend to result in changes in feelings and tendencies toward an object. Thus the rational acceptability of information is considered as a positive or negative will affect the propensity to act on that object. In other words, the acceptance of information from the subject matter in the form of the values that have been analyzed rationally why it needs to be done, what are the benefits, how to do it by the individual concerned will strengthen the tendency to act or attitude towards these values. Decisions of the object to do something or not, maintained or not is determined by the rationality of the acceptability of an object. Decisions on the outcomes of learning something of value to be done or not, maintained or not is determined by the rationality of acceptance into a value that has been studied as something that is rational or not. If the value that has been received as a result of thinking rationally, perceived goodness and usefulness in life, done repeatedly over time it will become an ingrained habit. Ingrained habit has become a cultural meaning in life or have become a character in his life. Thus the development of character through the learning process will be formed, when the learning process is done through an activity that makes learners become aware of what the nature of the study, what the values contained therein, where the values need to be emulated, why is the value that needs to be replicated and maintained , practiced in daily life repeatedly.

Ref (12) states that ... routines shape habits, the which in turn establish attitudes. Ref [11] asserts that something good is seen to be done, and done repeatedly will become entrenched customs and or internalized in him, so that they feel reluctant and felt there was something missing when abandon, and feel the need to preserve and maintain the value. That is something that is obtained from the study of an individual will be a character in itself, if practiced in daily life continuously

5. Conclussion

The results of this study showed that (1) scientific learning approach is only able to develope scientific attitudes of students, while sorts of other attitudes very less embedded into the self. (2) the application of the integrated scientific learning approach is able to instill the values of attitudes and characters contained in the content of social studies to the student intact.

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IMPLEMENTATION OF MULTIPLE INTELLIGENCES THEORY IN PHYSICS INSTRUCTION TO IMPROVE THE STUDENTS' LEARNING OUTCOMES

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Abstract

A research was a pre-experimental design about multiple intelligences in physics instruction. The research was very important because every student had different dominant intelligence which could result the students' ability distinction to comphrehend the lesson. The objection of this study was to find out the improvement of students' learning outcomes through the implementation of multiple intelligences theory in physics instruction. The sample consisted of 37 senior high school students who were taken with a simple random sampling. The research used *One Group Pre Test-Post Test Design* as a research design. Data were analyzed by using Descriptive and Inferential statistics. The research revealed these following conclusion: (1) all students' learning outcomes have been improved with low category by implementation of multiple intelligences theory in physics instruction, (2) learning outcomes of students who have visual intelligence have been improved with medium category by implementation of multiple intelligences theory in physics instruction,(3) learning outcomes of students who have non-visual intelligences have been improved with low category by implementation of multiple intelligences theory in physics instruction.

Keywords: Multiple intelligences, Physics instruction, Learning outcomes

1. Introduction

Physics is one of science subject which combines conceptual comprehension and mathematical formulas. The important concept of physics is usually represented in mathematical formulas. But the conceptual comprehension is the most important in physics. Just by comprehended the concept, all the physics problems, not only the conceptual problems but also the contextual problems, can be solved. This suggests that physics is not a rote lesson. Physics is one of science subjects which needs a conceptual comprehension as an absolute requirement to achieve the success of student learning.

For some students, physics is a difficult subject. This thought is usually begun from students' learning experiences. Students found that physics was a "hard" lesson. It is always about a concept comprehension, a difficult problems, and assembly of formulas.

From another point of view explain that students can not understand the physics concept because several physics teachers still use a traditional method in physisc instruction. Several physics teachers always snared to teach physics by using formulas only. This fact causes some students have a negative judgment about physics.

Moreover, physics subject also becomes a scary thing for students because physics are strong related to mathematics. Students who have the lack of mathematical ability would be difficult to comprehend the physics. Most of physics tasks and problems are always solved by using mathematical approach. It means, only students who have strengths in mathematics would be intersted to comprehend the physics matter. Whereas not all students have strengths in mathematics.

According to Howard Gardner [8], explained about Multiple Intelligences Theory that all students may not be verbally or mathematically gifted, students may have an expertise in other areas. Everyone is born possesing the eight intelligences. Neverthless, teacher and all student will come into the classroom with different sets of developed intelligence. It means that each student will have his own unique set of intelectual strengths and weaknesses. These set determine how easy or how difficult the lesson for a student when it is presented in a particular manner.

Based of preliminary observations at several school in Makassar, known that each student has an unique characteristic. One of characteristics is intelligence. Students have various intelligences in physics. Some students thought that physics was a difficult subject. But other students thought differently. Students who have strengths in mathematics thought that physics is an interested lesson. It is appropriate with Piping Sugiharti' research about an instruction based Multiple Intelligences.

The students who did not have any interest in physics would not have any motivation to learn the lesson. This is indirectly caused the learning objectives not achieved intactly. Another impact of it, can be shown by students' learning outcome data: XI IPA 1 = 75,63; XI IPA 2 = 64,70; XI IPA 3 = 57,46; XI IPA 4 = 54,23; XI IPA 5 = 52,62; XI IPA 6 = 51,73.

Therefore, teacher should apply an approach which allows a wider range of students to succesfully participate in physics intsruction and to comprehend the physics concept. One of approach which can be use is Multiple Intelligences Approach.

According to Piping Sugiharti [7], several benefits of Multiple Intelligences Approah are;

1. By adapting students' multiple intelligences in instruction, it can foster students' confidence and have enthusiasm to learn the physics.
2. By implementation of Multiple Intelligences Theory in physics instruction, it have vanished the judgment about physics was difficult.
3. By using multiple intelligences approach, students can discover their self potential then can respect their talent.

Considering at all the reviews could be understood that the basic problems of implementation of Multiple Intelligences Approach were identification of students' dominant intelligence and design the method in instruction which were conformist to each students' intelligences.

Based on explanation above, researcher interested to carried forward the research with "Implementation Of Multiple Intelligences Theory In Physics Instruction To Improve The Students' Learning Outcomes" as the title.

This study was conducted to answer the following issues:

1. How are all the students' learning outcomes by implementation of multiple intelligences theory in physics instruction?
2. How are students' learning outcomes whose visual intelligence by implementation of multiple intelligences theory in physics instruction?
3. How are students' learning outcomes whose non-visual intelligence by implementation of multiple intelligences theory in physics instruction?

2. Summary

The Essence of Physics Intruction

According to Wospakrik [5] physics is one of science matter which has a purpose to study in depth and to encourage the quantitative comprehension to the various phenomenons or natural processes and the nature of the substance and the application. Furthermore explained that all the physical process evidently could be understood by a number of constitutional natural laws. Despite of it, this comprehension needs a knowledge abstraction from the related process and theoritical reasoning in details of structural basic components so it can be formalized and be cultivated quantitaively. The quantitaive formulation enables to analyze in depth about the matter that be inspected and do the prediction about things that might happen that based on the reasoning that be submitted. This quantitaive could increase the potency of prediction and physics control.

Multiple Intelligencesin Instruction

According to T. Amstrong [7] in "*You're Smarter Than You Think"* book, Every children have Multiple Intelligences. There are eight kind of intelligences which one or several of it could be had by a child. The kind of intelligences are;

1. Linguistic Intelligence
2. Musical Intelligence
3. Logical-Mathematical Intelligence
4. Visual-Spatial Intelligence
5. Bodily-Kinesthetic Intelligence
6. Interpersonal Intelligence
7. Intrapersonal Intelligenc
8. Naturalist Intelligence

Here several example of Multiple Intelligences Implemantation in instruction are; students who have Music Intelligence as a dominant Intelligence could arrange a song to memorize and to comprehend the physics concept; students who have Visual-Spatial Intelligence could comprehend the concept of physics by using colourful pen, pictures, or mind map, etc; and students who have Bodily-Kinasthetic Intelligence could comprehend the

physics concept by demonstration or experimentation [2].

These are five strategy in instruction which design for visual-spatial intelligence [7].

1. Visualitation
2. Using colourful pens and markers
3. Picture methaphor
4. Mind map
5. Graphic symbols

Students' Outcomes

Learn is an effort to get a new change of behavior intactly, as outcomes of self experience of interaction in circles [6].

Whereas, Oemar [3] explain that Learn is modification or affirmation of behavior by experiences.

So Students' outcomes can be conclude as a description of students' mastery levels about the lesson.

Framework

The implementation of Multiple Intelligences in physics instruction used several teaching techniques which adapted to students characteristics. Teacher have to indentify the teachers'dominant intelligence first and identify the students' dominant intelligences then. The students whose same dominat intelligeces were collected in one group. Each groups was given a freedom to choose their learning style. These frame work can be describe as follows (Fig.1);

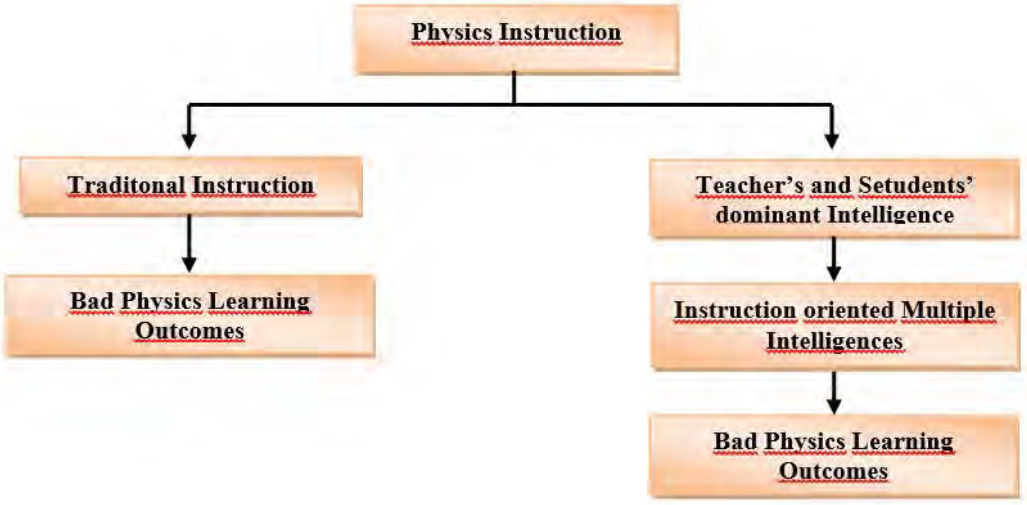

Figure. 1. chart of Framework

3. Data Analysis Techniques

Data were analyzed by using two kinds of statistic. These were Descriptive and Inferential statistics which consisted of Normality Test, Hypothesis Statistic, Gain-test [4].

4. Method

Research Design

This research is Pre-experimental design which used *One Group Pre Test-Post Test Design* as the research design [1].

$$O_1 \quad X \quad O_2$$

Population and Sampel

Population in this study were students of XI Science Grade at SMA Negeri 3 Majene and the number of students are 222 people. Sampel of this research consisted of 37 students.

5. Result and Discussion

The result of descriptive analysis shows that the average of improvement all students' learning outcomes is 8,32%. These result can be shown by Fig. 2:

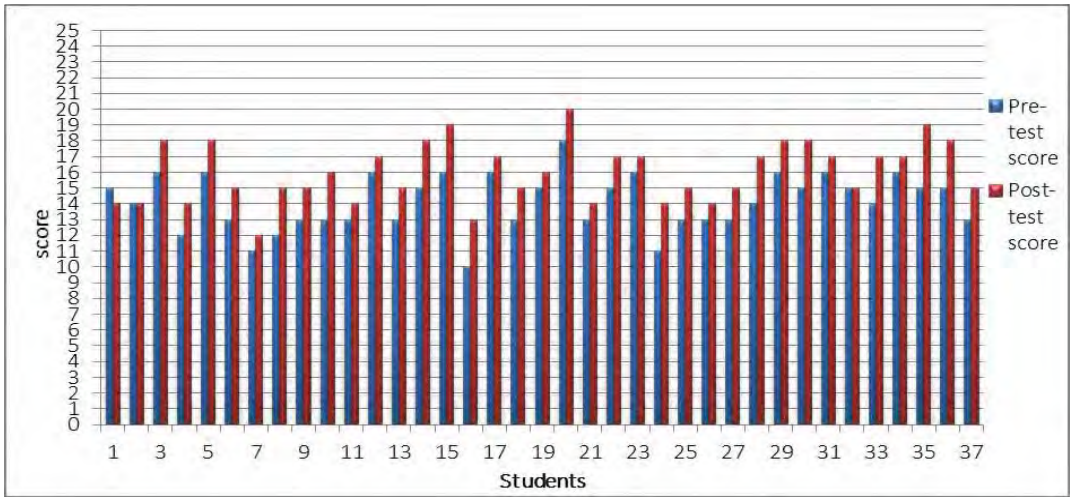

Figure. 2. chart of improvement of all students' learning outcomes

And the average of improvement visual students' learning outcomes is 8,32%. These result can be shown by Fig. 3:

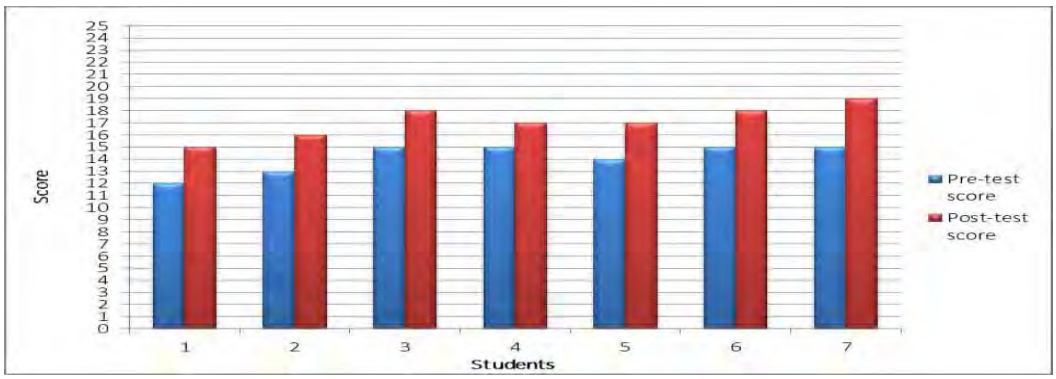

Figure. 3. chart of improvement of visual students' learning outcomes

Whereas, the average of improvement non visual students' learning outcomes is intelligences is 6,00%. These result can be shown by Fig. 4:

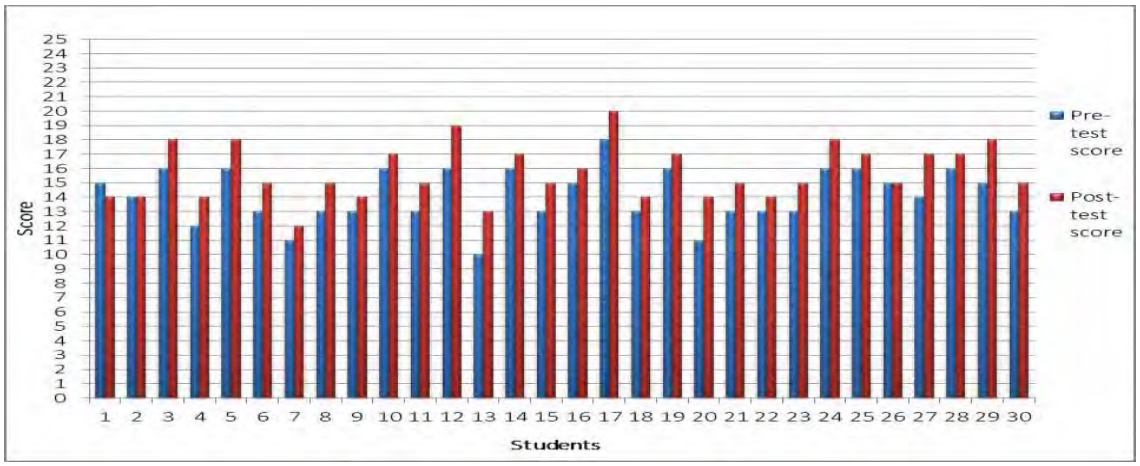

Figure. 4. chart of improvement of non-visual students' learning outcomes

The blue chart describe for pre-test score and the red chart describe for post-test score. The three charts above show that almost of red charts are higher than the blue charts. It means that there are improvements of students' learning outcomes after taught by using Multiple Intelligences Approach in instruction.

The result of hypothesis test shows that the learning outcomes of all students are improved. So do learning outcomes of visual students' learning outcomes and learning outcomes of non-visual students' learning outcomes.

From the gain test is also obtained that the learning outcomes of students who have visual intelligence as dominant intelligence are improved with gain score = 0,3 in medium category. The learning outcomes of students who have non-visual intelligence as dominant intelligence are improved with gain score = 0,2 in low category. So the average of improvement of all students' learning outcomes can be known. The gain score of all students' learning outcomes is 0,2 in low category.

The improvement of visual students' learning outcomes is higher than non-visual students' learning outcomes. It is because the instruction technique which is implemented by teacher in classroom is appropriate for dominant intelligence of visual students. In instruction, the teacher delivered the lesson by using the strategy in instruction. The strategy designed for visual-spatial intelligence. Teacher used these strategy because the dominant intelligence of teacher is visual-spatial intelligence. Whereas, the strategy is not appropriate for non visual students. Despite of it, the learning outcomes of non-visual students are also improved. It is because non-visual students actually also have visual-spatial intelligence in themselves, eventhough it is not their dominant intelligence. They also interest to learn physics because the teacher use a different technique in instruction. Beside that, the teacher also give a wide chance for each students to use their favorite learning style.

However as a whole it can be said that the Multiple Intelligces Approach can be implemented in physics instruction to improve the students' learning outcomes.

6. Conclusion

Based on the research that has been conducted, it can be concluded as follows :

1. Learning outcomes of all students have been improved with low category by implementation of multiple intelligences theory in physics instruction,
2. Learning outcomes of students who have visual intelligence have been improved with medium category by implementation of multiple intelligences theory in physics instruction,
3. Learning outcomes of students who have non-visual intelligences have been improved with low category by implementation of multiple intelligences theory in physics instruction.

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CHARACTER IMPLEMENTATION THROUGH FRIDAY TO SHARE IN STATE VOCATIONAL HIGH SCHOOL I OF MOJOKERTO CITY (SMKN I MOJOKERTO)

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Abstract

Implementation Character Education form the commitment of all components of the nation in accordance with the values of Pancasila. School is a formal educational institution that is expected to build mental attitude formation and life skills in the context of the formation of qualified human resources. SMKN 1 Mojokerto has the commitment to realize through character learning outside the classroom like Friday to share. This study aims to describe the obstacles, strategy, implementation, and strengthening of the values of character in Friday to share. The approach is qualitative descriptive study. Data collected through in-depth interviews, observation and documentation. This study used a case study design (individual case) . The result of this study was 'Friday to share', as schools attempt to provide on the value of the character of others by sharing and from consciousness and sincerity to share. However, the process of Friday to share initially had barriers such as inconsistent attitude on students, the program is not going well, the attitude of indifference, students' apathy to fundraising officer, the unclear fund, and the lack of transparency of activities. These constraintsrequire strategies, such as a clear and transparently conditioned programs, a routine activity every Friday, and exemplary in theattitudeof sincerityshare. The strategy isan attemptto integratethe wholeschool communityschoolto becommitted tobuilda positivecharacter. Implementation of Friday to share conducted of students, by the students and to the needs of the poor students, such as for the students' parents died, parental illness or surgery, the student's illness or hospitalization and accident, students' house fire, bike purchases having rights to use, and surrounding communities on natural disasters or floods. Implementation of Friday to share becomes one of the Best Practices in SMKN 1 Mojokerto because it gives positive results in terms of the value of the increase in the target activity, learning, social relations of the school community, and indicators of achievement related to character education. Strengthening the values of character in Friday to share is positive character values education. The activity affected the students having their positive behavior like religious, democratic, honest, responsibility, social care, independent, and anti-corruption. Friday toShareisimplementablecharacter formationof effectivevocationallevelstudentsbecause students who have been accustomed to seeing, doing activities with a sense of sincerity, responsibility, honest, independent, democratic, transparent to the anti-corruption, it can be realized whenever, and wherever the entire graduate students of community. Implementing integrated character education as school's attempts to measure the students' success in school and out of school success.

Keywords: character, implementation, Friday to share

1. Introduction

The role of education is very important and as the key to create qualified human resources, as stated in the Act of the National Education System 2003 explaining the national education goals are conscious and deliberate effort to create an atmosphere of learning and the learning process so that learners are actively developing their potential to have the religious strength, self-control, personality, intelligence, noble character, and skills for themselves, society and nation. The formulation of the qualified Indonesian people should be developed by each unit of education as well as the basis for the development of the nation's culture and character education.

The current situation of national character as juvenile delinquencies, drugs, violence, sex crimes, corruption behavior, pornography, and pornographic is the focus for all elements of Indonesian. In relation to the current issues on the character, people urge character education movement in all circumstances at each institution

in this country. An alternative way through character education is the implementation of the commitment of all components in the framework of national identity in accordance with the values of Pancasila (Five principles). Character education becomes the foundation for implementing the vision of national development, Indonesian people having noble character, moral, ethical, cultural, and based on the philosophy of Pancasila[1].

The Integrated character education requires cooperation between governments, communities, schools, and parents as a figure and exemplary. School is a formal educational institution that is expected to provide education, teaching, skills, mental attitude formation and life skills in the context of the formation of qualified human resources. Through formal education, the young people are expected to be able to perform as qualified people having the values of Pancasila. Character education is a conscious and deliberate effort to create an atmosphere as well as the process of empowering and developing learners to build personal character having uniqueness as citizens. Character is developed through stages of knowledge, implementation, and habit[2].

Individual character inspired by Pancasila as the result of the integration of four parts, namely beliefs, thinking, sport, feelings and action. Belief has relation to the feelings, attitudes, and faith. Thinking has relation to the reasoning processes to find and use knowledge critically, creatively, and innovatively. Sport has relation to the process of perception, readiness, manipulation, and the creation of new activities with sportsmanship. Action has relation to willingness, motivation, and creativity reflected in the awareness, image, and the creation of novelty [3]. Categorizing these four values are based on the consideration that is essentially characterized by the behavior of someone who embodies the totality of psychological function that covers all potential human individual (cognitive, affective, and psychomotor) and socio-cultural functioned totally in the context of family interaction, educational units, and community in lifetime [4].

School has a important role in the development of character education as a civilizing role through school culture. Ten reasons why the school must make a commitment and wholeheartedly to teach moral values and build good character among, (1) there is a clear and urgent need, (2) Transmitting values is the responsibility of civilization., (3) The school's roles as moral educator becomes even more vital at a time when millions of children get little moral teaching from their parents. (4) There is common ethical ground even in our value-conflicted society. (5) Democracies have a special need for moral education, because democracy is government by the people themselves. (6) There is no such thing as a value-free education. (7) The great questions facing both the individual person and the human race are moral questions. (8) There is a broad-based, growing support for values education in the schools. (9) An unabashed commitment to moral education is essential if we are to attract and keep good teachers, and (10) Values education can be done within the school day and is happening now in school systems all across the country [5].

SMKN 1 Mojokerto as vocational education institutions has different characteristics from other senior schools, thus requiring the systematic planning system, comprehensive, future-oriented, and able to equip graduates with sufficient basic competencies that can be assessed in terms of in school success and out of school success. Embodiments to assess success, SMKN 1 Mojokerto performed the integrated character education in accordance with national education goals, school's vision and mission, making positive habits as a school culture in the form of character learning outside the classroom, such as Friday to Share. This activity was originally a social fundraising activities by students. Friday to Share becomes one of the most effective activities for the education of character and as one of the best practice in SMKN 1 Mojokerto. Ramdhani's finding showed that the educational environment provides a major influence in the education of character and for the implementation of character education must be supported by a good educational environment. This study aims to describe the obstacles, strategies, implementation and strengthening the values of Friday to Share character [6].

The method employed a qualitative approach with a case study. It is in line with the suggestion of Bogdan&Biklen, that the qualitative one has the characteristics of natural setting, researcher as a key instrument, emphasis on process, inductive data analysis, and emphasis on the essence of the meaning of any event occurring in the setting. Furthermore, researchers can see the focus of research by the dimensions of questions to deepen the research findings that the value, justification, and neutrality. The design of the case studies carried out by analyzing the data analysis phase of the individual case data. In addition to this, Miles and Huberman suggest three stages, (1) data reduction, (2) the presentation of the data, and (3)

conclusion. Those are a unity, which is the process interconnectedness and repeatedly during and after data collection [7].

2. Discussion

It is the time that character education can be concretely implemented through educational institutions. The development of character education in schools needs to be selected in accordance with the school's vision to become the main and supporting values that can be implemented in intra and extra-curricular activities. One of the implementation of character education outside the classroom, as well as, school culture in SMKN 1 Mojokerto is Friday to Share. Starting from class' account program that has been done since 2004 for the interests of the classes, in 2007 to 2010, class' fund changed into social funds are coordinated directly by the OSIS committee with a withdrawal method from class to class each Friday. Routines and social fundraisings were initially implemented without any socialization of the use to students and the school community as well as reports on the use of these funds. The observation and communication by all school staffs, showed students' reluctance to give social fund and consequently the quantity and quality of social fund was less successful program. Besides, students in particular do not understand the usefulness of social fund, yet, the barriers have risen such as inconsistent attitude on students, the program is not going well, the attitude of indifference, students' apathy to fundraising officer, the amount is not clear, and the lack of transparency of activities. In accordance with the commitment of character education since 2011, then social fund officially changed its name to "Friday to Share" with a different format from previous years.

The school's efforts to integrate all school staff and students to be committed to create a positive character, can be described as Friday to Share activities as school culture, and students witnessed by other students counted and recorded them on the books of class in break-out hours, the report posted on the bulletin board as the form of reports, class secretary deliver funds to the OSIS, the results of each class fundraiser transparently reported by the OSIS committee by attaching them to the wall magazine. The report made two kinds of weekly reports done every Friday, the acceptance of each class, and monthly global report, the full report use of funds for activities to share and fund balances.

The existence of barriers, in the beginning of Friday to Share, Koesoema, suggests that each individual does not carry out their responsibilities well, violate the rights of others and moral values[8]. If the violation of moral norms occurs in the educational environment, then the individual's moral growth can be hampered because relational patterns unbalanced and there is no space for individual growth in educational institutions. By implementing the conditioned strategy in clear and transparent, routines on every Friday, and exemplary attitude shared sincerity, is the responsibility of the school to sow and grow moral virtues for the members in it, the school helps individuals grow mature and psychologically healthy, moral , and spiritual character education requires exemplary and habituation. Habituation to do good, honest, sympathy, tolerance, shame to cheating, because the character is not created instantly, but should be trained seriously, continuous and proportion in order to achieve the ideal form of character. Character is created by several factors, both internal and external. According to Aushopfactors that can influence the formation of learners' character including the types of embedded value, exemplary of an idol, habituation, reward and punishment, and needs [9].

Exemplary strategies and attitudes of sincerity share. Samanisuggests that the exemplary is the important key. Character cannot be taught but transmitted. When the students (and the public) see the leader / hero / idol do things steady, they will grow to imitate and have sense that it is good and should do so. Schools have the responsibility to implement character education, must take a holistic approach to develop cognitive skills, emotions, and behavior necessary to act correctly. Samani&Hariyanto describes the effective principles of character education such as character must be understood comprehensively including thoughts, feelings, and behaviors. The effective character education requires a seriously approach and proactive as well as promoting the core values to all phases of life, the school must be a caring community, and provide opportunities for students to perform moral acts.

Implementation of Friday to share conducted of students, by the students and to the needs of the poor students, such as for the students' parents died, parental illness or surgery, the student's illness or hospitalization and accident, students' house fire, bike purchases having rights to use, and surrounding communities on natural disasters or floods. It is is a form of social awareness delivering positive

results in terms of the value of the increase in the target activity, learning, social relations of school community, and indicators of achievement related to character education. Samani argued that social justice is reflected in the character of the act maintain their unity, kindship and mutual cooperation, harmony between rights and duties, respect for the rights of others, like helping others, away from extortion attitude towards others, not greedy, not luxurious lifestyles, likes to work hard and respect the work of others [10].

Strategy to implementing of character education can be reached by a variety of approaches. Amri, Jauhari, &Elisah (2011:89-94) suggest that the approach to implementing character education, namely: (1) the approach of teaching values is one that focuses on the learning of social values to be able internalized in self-learners, such as, relation of positive and negative attitude, simulations, role playing, social action, (2) cognitive development approach is that learners are individuals who have cognitive potential growing continuously, so that learners are encouraged to familiarize actively thinking about the moral issues surrounding the present around them, and train learners to take responsibility for their decision, (3) approach of value clarification is to give emphasis to help students examine their own feelings and actions, so that the learners have awareness of the values that can be defined intuitively and (4) approach of learning to do emphasizes on the efforts of educators to facilitate by providing opportunities for learners to perform moral both individually or in groups.

Strengthening the values of character in Friday to Share grows positive character values. The activity affected the students having their positive behavior like religious, democratic, honest, responsibility, social care, independent, and anti-corruption. Religious values, submissive behavior perform religious teachings, grateful fortune, and share with others. Democratic values, the OSIS discussions with all representatives of the classes to evaluate social fundraising and reported donations transparently. Value of honesty, the behavior of person that can be believed to coordinate and to keep fundraisings well. Value of responsibility, the behavior of the person that can be believed to report the amount of fundraisings and to distribute fund transparently. Value of Social Care, behavior awareness of feeling empathy to grant their pocket money, to help ease the burden of the unfortunate friend. Independent values, willingness to share on their own initiative without affecting. Anti-corruption values, attitudes and actions provide an integrated report regularly and publicly on board each class, at the wall magazine to be read by the entire school community. The process of formation of anti-corruption values can incorporate elements of knowledge, skills, values, and behaviors are integrated [11].The results showed that the proactive efforts of schools in implementing character education is very important such as honesty, care, responsibility, and respect for self and others. Universal good character cannot be formed automatically, but it should be developed over time and continuously. It is important for schools to conduct a comprehensive approach with the family, the community and the school community, in an effort to develop character education,

Koesoemasuggests that the development of character education programs that are structured, both within the institution and the concrete realization of the educational unit, will create a particular school culture, in the process, there is a relation between members of the school community who have responsibility for the development of character education programs. Zubaedi states that the principles used in the development of character education is continuous program, it means that the process of the development of character values are endless process, starting from early time the learners study until they graduate from educational institution, even to be a member of the community [12]. .

3. Conclusion

Implementation of Character Education is a commitment of all components in this nation to keep their identity corresponding to the values of Pancasila. School is a formal educational institution that is expected to form a mental attitude to realize the quality of human resources. But in fact not all of the process of implementation of character education in schools in the form of implementation of positive behavior can be easily applied. Implementation of character education needs for commitment, intervention (learning), habituation as well as exemplary.

Effective character education, in process, involves aspects of knowledge (cognitive), feeling (feeling), and action (justification), and its implementation should be done in a systematic and sustainable. By learning values, then, cognitive development, values clarification, and learning to do, thus, Friday to Share is character formation implemented effectively for students of senior vocational school because they are accustomed to seeing,

doing activities with a sense of sincerity, responsibility, honest, independent, democratic, anti-corruption, can be realized anytime, anywhere by all students of alumni in the community. Integrated character education as schools attempt to assess the success of the student both in school and out of school success.

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EFFECT OF INTENSIVE INTEGRATION OF ICT-BASED AUDIO AND VIDEO IN HYBRID LEARNING TO IMPROVE LISTENING SKILL OF STUDENTS AT SMA N 1 PRAMBANAN

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Abstract

Listening is a part of English lesson that is hard faced by students of senior high schools. Therefore, practices of intensive and frequent listening should be provided. One of the way is providing learning materials from which students can use it to practice freely anywhere at anytime. The materials may be ICT-based audio and video that are integrated into hybrid learning of English lesson through edmodo.Samples were 20 students from X-IPA-4 as PTK experiment class, and 31 students from X-IPS-1 SMA N 1 Prambanan as control class. Developed media of audio and video were uploaded on Edmodo library and used intensively by students as online enrichment materials. The improvement of listening skills of students was measured usinglistening test instruments both for *pre-test* and *post-test.* Data of students' *listening skill* were not normal distributed, and so the data were analyzed using non-parametric statistic test of the *Wilcoxon Signed Ranks test* to determine mean difference before and after treatment, and the *Mann Whitney U* test to determine mean gain differences of students' listening skills between PTK class and control class. Wilcoxon Signed Ranks test showed that the listening skills of students in the classroom before and after learning PTK differed significantly (p. 0.000), but it did not differ for the control class (p. 0.091). Mann Whitney U test showed that the gain of listening skills of studentsof PTK class differed significantly from the control class (p. 0.000).

***Keywords**:* web-based learning; hybrid learning; listening; English; audio-video.

1. Introduction

The development of Information and Communication Technology (ICT) in the digital era has affected education and learning significantly. ICT as a media that support learning activities provides a significant advantage [1]. Utilization of ICT can be grouped into four main categories, namely a source of learning, a means of communication, a collaboration tool, and a means of publication. ICT can facilitate learning in which students can build their own concept [2], can sharpen their thinking and deepen their understanding [3].

There are three important components of learning that affect the quality of learning, namely learning object materials, learning delivery systems, and interactivity. ICT in the digital era can facilitate and transform these three components, so that learning becomes more accessible, flexible, and qualified.

Learning object materials of English, especially listening, can be practiced by students at anywhere and anytime with the support of ICT. For instance, audio and video format can be played by laptop and mobile phone for which most students have ones. In response of this fact, learning object materials of English listening should be provided in easily, flexibly played format. This research developed audio and video that was based on the syllabus of 2013 curriculum for 10thgrade students. On another hand, teachers should be able to develop and create their own listening media by clicking on the audio-typed words. The sentences that were typed can be transformed into audio by using open source listening application. The results of development can be stored, managed, and played easily using computers, mobile phones and other digital devices at anytime and anywhere. Pronunciation in the developed media was spoken by native speakers, so the audio was very good in pronunciation. In addition, listening content developed by teachers can be tailored to

the needs of students or can facilitate thematic learning, based on life skills and local needs of lives. Beside the audio, video was also added in the purpose of improving listening skill and motivation of students.

Delivery system inteaching and learning in the digital era is more variety with a broader range of access. The availability of internet-based web 2.0 such as Facebook, Twitter,Path, and other social media can expand the choice of media instructional delivery in accordance with the characteristics of learning object materials and students. Internet-based media has been developed and utilized widely in most educational institutions. As the characteristics of internet whichis able to connect students and teachers without limitation of time and place, internet-based media may help studentsto improve access and the quality of education. Moreover, learning management system(LMS) is often referred to an internet-based toolthat is also widely available for free, and easily operated. LMS should be great for use as a medium of learning and should be also user-friendly. Edmodo was chosen as the LMS of learning delivery system in this study. In the implementation of this research, learning object materials on listeningwereprovided and available in the library ofedmodo that can be intensively accessed by students as independent learning resources anytime and from any places. The availability of online learning materials and with the assistance of teachers, the quality of English listening is expected to improve significantly. Not only through online only, learning was also emphasized through a mixture of face-to-face and online computer mediated learning. This kind system of learning was called *hybrid learning* [4]. However, other definitions of hybrid learning may vary, such as blended learning. According to Partridge [5], hybrid learning is learning in which more than one mode of delivery system is used, for the purpose of optimization of higher learning outcomes and cheaper cost. The proportion of face-to-face and online components in the mixture of hybrid learning can vary depending on the specification of learning material that is managed by the teacher.Ranganathan *et al.* [6] reported the variation of proportion of the mixture between face-to-face and online in practices of hybrid learning at six universities in the USA.

Interactivity between students and teachers, and other friends, and sources of learning materials can be facilitated by LMS Edmodo. Such varieties of facilitieslike discussion forums, chat forums, and writing a message on Edmodo can be used as medium of interaction between teachers and students, and amongst studentss under control of teachers. Edmodo also facilitate participation of parents to joint and so learning may bemore significant and meaningful.

Listening becomes a part of English lesson thatis difficult for students in senior high schools. This is because English is a foreign language and rarely practiced and listened in daily life. In addition, spelling letters and words in English language was quite different from Indonesian. The culturesof English speaking people are usually different from Indonesian cultures, and this may also bea challenge of English learning for Indonesian students. Therefore, listening does not only depend oncognitive aspect, but also skill that requires continuous practices in daily life.

The availability of listening materials in the library and with teacher's thoughtful guidancein hybrid learning, students should be able to access and enjoy guided qualified learning of listening. Since students have frequentlistening practices, *listening skills* of students is expected to improve significantly. Based on this fact, the research of intensive integration of ICT based audio and video in Web-Based Hybrid Learning through Edmodowas conducted to improve listening skill of students at senior high school, SMA N 1 PrambananSleman.

2. Research Methods

This study was an experimental research;with the designwas one factor and two groups of samples. The factor which was also independent variable was intensive integration of ICT-based audio and video into the hybrid learning through Edmodo, while the dependent variable was listening skills of students. The sampleswere 20 students of Class X-IPA-4 as the action class, called PTK class, and 31 students of class X-IPS-1 as the control class. The research design was illustrated in the Table 1.

Table 1. Illustration of research design

Groups of Sample Class	Pre-test	Treatment	Post-test
PTK	X1	ICT-based Audio and Video Integration	X2
Control	Y1		Y2

The researchwas carried out in the academic year of 2013/2014 for 6

sessions. Delivery system chosen in PTK class was mixture of face-to-face and online through edmodo with the proportion of 1 to 1. The mixture was called hybrid learning with the use of edmodo. Face-to-face learning model and approach both in PTK and control class was the same as required by the curriculum 2013, with the main learning approach were Listening, Discussion, and Problem Solving. At the end of the regular face-to-face, explanations and direct instruction on listening was carried out, which was then enriched and assigned with online assignments and discussion on Edmodo for PTK class, on which the discussion and presentation were conducted in next face-to-face learning. However, the online discussion through edmodo was only given to PTK class.

Data were collected by using pencil-paper instruments of pre-test and post-test at the first and the end of learning activities. The data were analyzed to answer the research hypotheses as listed in Table 2.

Table 2. Hypothesis and data analysis techniques

No.	Alternative Hypothesis	Data analysis techniques
1	There are significant differences of listening skills of students in PTK class before and after intensive integration of learning with ICT-based Audioand Video in the Web-Based Hybrid Learningthrough Edmodo	Data distribution normality test and non-parametric tests: Wilcoxon Signed Ranks Test with SPSS
2	There are significant differences listening skills of students in the control class before and after the lesson	Data distribution normality test and non-parametric tests: Wilcoxon Signed Ranks Test with SPSS
3	There are significant differences of listening skills of students in PTK and Control Classes due to the intensive integrationof ICT-based Audio and Video in the Web-Based Hybrid Learning through Edmodo	Non-parametric tests: Mann-Whitney U test with SPSS

3. Results and Discussion

Learning organized by *hybrid learning* which is a combination of learning through face to face and online using Edmodo LMS. The proportion of face-to-face than online was 1: 1 (Figure 1). Here is a picture of instructional design implemented for every meeting.

Pre-test	X v X v X	Post-test

X: face to face learning in the classroom

V: Online discussion and/or assignments through Edmodo or web

Figure 1. Scheme of instructional design

Listening skills or English learning achievement in both PTK and control classes were measured through listening tests. The test includes two tests, namely pre-test at the beginning and post-testat the endof 6 sessions of learning circles (Table 3).

Table 3. Results of pre-test and post-test of listening

No. Student	PTK class		Classroom Control	
	Pre-Test	Post-Test	Pre-test	Post-test
Average	50.9	63.0	64.9	61.9
Highest	60	80	82.0	78.0
Lowest	42	46	44.0	42.0

A comparison of pre-test and post-test results was given in Figure 2**A,** and a comparison of pre-test or post-test results between classes was depicted in Figure 2B. Figure 2A showed an increase in the average results of the tests in PTK class, at which post-test was greater than pre-test. However, in the control class, average post-test was smaller than pre-test. Figure 2B showed the difference of pre-test between PTK and control classes, as well as the difference of post-test between PTK and control classes.

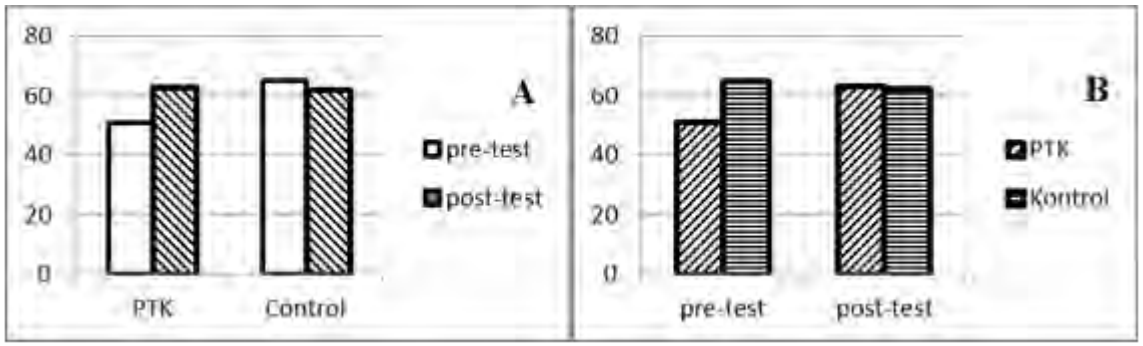

Figure 2(A). The comparison of results of pre-test and post-test in the same class, (B) The comparison of listening skills of students between PTK and control classes.

There was significant mean difference of pre-test between PTK and control classes, but the mean difference of post-test results between both classes was not significant. The mean differences need to be analyzed statistically, in order to take decisions related to the research hypothesis and to answer the research questions.

Statistic analysis to answer the questions of research was the test of mean difference between two groups of samples. The comparison consisted of paired samples and independent 2 samples. As the requirements that need to be fulfilled whether parametric or non-parametric statistical analysis, the data was analyzed for data distribution. The test of normal distribution to four sets of data of listening skills produced results as depicted in Tables 4 and 5.

From Tables 4 and 5 it can be concluded that:

a. Data of pre-test of PTK class; sig. p. 0.107 > p. 0.05 (Kolmogorov-Smirnov) and sig. p. 0.484 > p. 0.05 (Shapiro-Wilk). This means that the **pre-test data of PTK class were not normally distributed.**
b. Data of Post-test of PTK class; sig. p. 0,011 <p. 0.05 (Kolmogorov-Smirnov) and sig. p. 0.316> p. 0.05 (Shapiro-Wilk). This means that according to the Kolmogorov-Smirnov test, **post-test data of PTK class were normally distributed.**
c. Data of pre-test of control class; sig. p. 0.031 <p. 0.05 (Kolmogorov-Smirnov) and sig. p. 0.070> p. 0.05 (Shapiro-Wilk). This means that according to the Kolmogorov-Smirnov test, **pre-test data of control class is normally distributed.**
d. Data of post-test of control class; sig. p. 0.200> p. 0.05 (Kolmogorov-Smirnov) and sig. p. 0.542>p. 0.05 (Shapiro-Wilk). This means that **post-test data of control class were not normally distributed.**

Since not all sets of data of listening skill were normal distributed, the analysis to compare mean data of two groups were non-parametric test. The comparison of mean pre-test and post-test data to test the increase of *listening skills* was performed with *Wilcoxon Signed Ranks test.* While the test for mean difference between classes was done by using the *Mann Whitney U test.* Table 9 showed asymp. sig. (2-tailed) p. 0.000 < 0.050, meaning that there was a significant difference of listening skills of students before and after the action of hybrid learning in the PTK class. The difference was obvious from a very large mean difference, 50.90 of pre-test and 63.00 of post-test. Table 9 showed that from 20 students, only 2 of them got a decrease score, 1 got the same score, and 17 others experienced a significant increase in score.

In the control class, Table 7 showed that *listening skills* of students before and after the study did not differ significantly (asymp. Sig. (2-tailed), p = 0.091> 0.050). The mean pre-test and post-test were 64.90 and 61.94 respectively. The mean post-test score was even lower than pre-test although the difference was not significant. No increase in the score of the post-test from pre-test in the control class also clearly visible from the ranks that were shown in Table 7. From 31 students, 15 of which were decrease, 8 students

got score increased, and the other 8 students got same scores.

Table 4. Test of data distribution for pre-test and post-test of PTK class

	Kolmogorov-Smirnov [a]			Shapiro-Wilk		
	Statistics	Df	Sig.	Statistics	Df	Sig.
Pre-testPTK	.176	20	.107	.957	20	.484
Post-testPTK	.221	20	.011	.946	20	.316

[a] Lilliefors Significance Correction

Table 5. Test of data distribution for pre-test and post-test of Control class

	Kolmogorov-Smirnov [a]			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Pre-testKont	.165	31	.031	.937	31	.070
Post-testKont	.098	31	.200 *	.971	31	.542

* This is a lower bound of the true significance.

[a] Lilliefors Significance Correction

Table 6. Test of mean difference of pre-test and post-test in PTK class

	Post-testPTK – pre-testPTK
Z	-3487 [B]
Asymp. Sig. (2-tailed)	.000

[A] Wilcoxon Signed Ranks Test

[b] Based on negative ranks.

		N	Mean Rank	Sum of Ranks
postesPTK - pretestPTK	Negative Ranks	2 [a]	4:25	8:50
	Positive Ranks	17 [b]	10.68	181.50
	Ties	1 [c]		
	Total	20		

[A] post-testPTK< pre-testPTK

[b] post-testPTK> pre-testPTK

[c] post-testPTK = pre-testPTK

Table 7. Test of mean difference of pre-test and post-test in control class

	Pos-ttest of Cont– pre-test of Cont
Z	-1 691 [b]
Asymp. Sig. (2-tailed)	.091

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

		N	Mean Rank	Sum of Ranks
postesKont - pretesKont	Negative Ranks	15 [a]	12.90	193.50
	Positive Ranks	8 [b]	10:31	82.50
	Ties	8 [c]		
	Total	31		

[a] Post-test of Cont<pre-test of Cont

[b] Post-test of Cont>pre-test of Cont

[c] Post-test of Cont= pre-test of Cont

The improvement of listening skills of students in the class of PTK was reasonable because of the availability of audio-video in the Library of Edmodo provided flexibility for students to learn them anywhere at anytime. Learning achievement can improve well due to the use of hybrid learning. As reported by Bawaneh[7] that the provision of online learning resources can improve learning outcomes. Meydanlioglu and Arikan[8] also reported that the use of hybrid learning in higher education institutions more effective than solely face-to-face or online mode.

Based on the analysis, gain difference of post-test and pre-test between the groups of class was different significantly (Table 8). The improvement of listening skill of students at PTK class was higher than that at Control class. It means that the treatment of intensive integration of ICT-based audio and video in hybrid learning through edmodo resulted in high improvement of students' listening skill. Figure 2B showed clearly that there was not difference of mean post-test results between the classes, on another hand, there was different mean pre-test significantly. As consequence, the improvement of listening skill between the classes was different.

4. Conclusions and Recommendations

4.1 Conclusion

a. Intensive integration of ICT-based audio and video in Web-Based Hybrid Learning through edmodo can improve listening skill of students at the SMA N 1 PrambananSleman
b. There were significant differences of listening skills of students at PTK class who learnt by the integration of ICT-based audio and video intensively in hybrid learning through Edmodo with that of control class.

Tabel 8. Mann Whitney U testfor gain difference between PTK and Control Classes

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Selisih is the same across categories of Kelas.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

4.2 Suggestion

The proportion of face-to-face and online learning may be varied to obtain an effective instructional design of hybrid learning with most appropriate for both cognitive development and the level of educational institutions.

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REVEALING THE MORAL VALUES IN NOVEL SANG PEMIMPI AS FORMING CHARACTER CONSTRUCTION OF CHILDREN AS A RESULT OF MOTHER LANGUAGE

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Abstract

Language is a form of expression that implies a certain someone. Language including the language of communication media is a reflection of one's personality through language means a person can know his character. Because when we talk to other people, we also cultivate feelings directly into an expression. It may be not aware, sometimes what we say to others, his intention was only joking, but it was very painful for the people we are talking to, what we say even make the person offended. Parents can set an example to the children how to behave either like do not like to lie, to be fair, disciplined and others. Therefore, to establish the character of the child shall be started when they were little. If the mother often is looking good deeds to his son by accident, the child will record what he saw. Novel Sang Pemimpi by Andrea Hirata describe vividly colorful life of a teenager. This novel is interesting to analyze because in this novel tells the reality of life in the soil Belitong teenagers who interpret misery in achieving his dreams. Fill novel Sang Pemimpi confirms that the economic situation is not be an obstacle in achieving one's goals and strive earnestly to achieve its goals. Poverty is a social disease that are within the scope of the material that is not related to the ability of a person's brain. With effort, perseverance, passion, and hard work can bring someone into a success.

Keywords: Moral Value, *Sang Pemimpi*, literature.

1. Introduction

Literature is a form of the idea of a person through the eyes of the social environment surrounding them with a beautiful language. Literature is present as a result of the author reflection phenomenon. Literature as fiction have a deeper understanding, not just fiction or fantasy of the author alone, but rather a form of creativity author dig and cultivate the idea that came to mind.

One is a novel form of literature. The novel is a work of fiction that was built through various intrinsic elements. These elements combined intentionally author and made similar to the real world complete with the events in it, so it looks like a really exist and occur. This element will cause the literature (novels) is present. Intrinsic elements of a novel is the element that directly build a story. The integration of the various elements of this intrinsic will make a very good novel. Then, to produce a good novel is also required language processing. Language is the medium or media to convey ideas or thoughts that will be poured author of a work that is one of the novel.

Language is one of the most important elements in a work of literature. Based expressed Nurgiyantoro (2005: 272) in the language of literary art can be equated with the paint color. Both are elements of materials, equipment, and facilities that contain more value to be used as a masterpiece. As one of the most important elements, the language serves as a means of expression and delivery of messages in the literature.

Language in literature contains elements of beauty. The beauty is the aspect of aesthetics. The opinion is in line with the opinion Zulfahnur, et al (1996: 9), that literature is a work of art that element of beauty. The beauty of the literary work of art built by the word art, and the art of words or language arts in the form of the beautiful words of expression embodied soul. Associated with that statement, the reading of a literary work or a book would be interesting if the authors presented the information disclosed to the language containing aesthetic value. A

literature or reading books that contain the aesthetic value it can make the reader more excited and interested to read it. Moreover, when the authors present a style unique and interesting.

Fiction is thus to suggest in a work that tells you something is fairy, fantasy, something that does not exist and occur earnestly that he did not need to look for the truth in the real world so that the truth can be proved by empirical data. Whether there is, or whether or not something mentioned in a work empirically evidenced These are problems that distinguish fiction with nonfiction. Characters, events and places mentioned in the fiction is character, events, and places that are imaginative, being in nonfiction is factual (Nurgiyantoro, 2005: 2).

"*Novel Sang Pemimpi*" gained from exploring the story of friendship and moral values contained them. He packed "*Novel Sang Pemimpi*" with simple language imaginative, but still consider the quality of the content. Reading the "*Novel Sang Pemimpi*" makes the reader as if seeing a real portrait Indonesian society. It's like a connoisseur response "*Novel Sang Pemimpi"*, namely Harnowo (senior editor and author of The Meaning Binding) he said that, "the words of Andrea managed to" bewitch "my soul. He can be said to possess the ability to say so mesmerizing that read (*"Novel Sang Pemimpi"*: front cover).

Although the story of what happened in the "*Novel Sang Pemimpi* "has happened very long, but in fact the story of The Dreamer is still present today. Many observers who provide assessment literature relating to the success of the "*Novel Sang Pemimpi"*. The success of the "*Novel Sang Pemimpi"* caused the novel appeared at the right time is when the community, especially people who are experiencing the same education as some of the figures contained in the novel. This is consistent with the statements made by Sapardi Djoko Darmono, poet and Professor of the Faculty of Humanities, University of Indonesia. He stated "*Novel Sang Pemimpi"* is "Herb interesting experience and imagination, which is the core answer our questions about the relationship between a simple idea, constraints, and the quality of education" (Ruktin Handayani: 2008).

There are various forms of literature, one of which is novel. The novel can be examined from several aspects for example, characterizations, content, story, setting, plot, and meaning. All studies were performed only to determine the extent of literary works enjoyed by readers. Reader responses to the same novel will certainly vary according to the level of understanding and the power of their imagination, such as the novel by Andrea Hirata, titled "*Novel Sang Pemimpi"*. "*Novel Sang Pemimpi"* by Andrea Hirata describe vividly colorful life of a teenager. This novel is interesting to analyze because in this novel tells the reality of life in the soil Belitong teenagers who interpret misery in achieving his dreams.

Fill novel "*Novel Sang Pemimpi"*confirms that the economic situation is not be an obstacle in achieving one's goals and strive earnestly to achieve its goals. Poverty is a social disease that are within the scope of the material that is not related to the ability of a person's brain. With effort, perseverance, passion, and hard work can bring people into a success. In this regard, encouragement, enthusiasm, and motivation are the things that surround the achievement of success.

Based on this background, the researchers are interested to analyze the "*Novel Sang Pemimpi"*. Analysis of the "*Novel Sang Pemimpi"* researchers limit on moral values. Reason selected in terms of moral values for the "*Novel Sang Pemimpi"*known to inspire many readers, it means that there are positive values that can be taken and realized by readers in their daily lives, especially in moral terms. Pradopo (1994: 94) reveals that a good literary work is directly give instruction to the reader about the manners and moral values, it was already deviated from the laws of literature as works of art and literature as a means of making education directly while the value of his art made or imposed number two. That first understood in the assessment of literary works indirectly inferred from Indonesia novel motifs that initially, is to provide education and advice to the reader.

2. Discussion

Moral values are often equated with ethical values, which is a value which measures whether humans should get along in society. A moral human behavior or actions that are considered of value individuals live. Discipline is not only done in terms of worship, but in everything, attitude filled with discipline will result in goodness. Just as if in religion, slave and prayed on time will be rewarded more, as well as if the discipline is run on another job and regardless of who is instrumental in performing the act of discipline, like in the following passage contains a very important moral values.

Moral values in the "*Novel Sang Pemimpi"*Andrea Hirata's work are as follows:

Fragment 1:

Of the sentence. amine very tuma'ninah can disturb others in worship activities. As it is known that worship is a sacred activity that must be done by humans and closely related to God. When worship should be in a calm and peaceful situation. When there are people who annoy us in worship will be able to spoil our concentration in touch with God.

Such behavior is not worth it because it is contrary to the values of decency and can disturb others. Preferably in conducting worship we should tuma'ninah or earnest. So we do not just perform "rituals recommended in religion, but we can interact with God. It is a mandatory ritual that must be performed by human beings. With disturbing others at the time of worship, we worship will not be accepted by God".

Fragment 2:

"It's three times this week Makcik come borrow rice. Our family is poor but Mak Cik more unfortunate. He was helpless because no longer cared about him, partly because he could only give birth to girls it. My mother beckoned and Arai bolted to peregasan warehouse. He put a few servings of rice into a sack, back to the yard, give it to my mother's rice sacks are then melungsurkannya to Mak Cik ". (SP, 39)

Based on 2 fragment above, there are moral values, especially the value of compassion. It is due to the feelings of love and deep sensitivity of a sincere heart. It can be seen from the sentence "He put a few servings of rice into a sack, back to the yard, give it to my mother's rice sacks are then melungsurkannya to Mak Cik". So it can be seen that the moral values that can be taken from the sentence that should help each other. As did Arai and mother who took the rice that has to Mak Cik. "

Such behavior should be emulated, because such behavior is one example of good moral values to be applied. By helping others, we totally have nothing to lose and of course we will get a feeling of comfort and peace because we could see the people we help feeling happy. Each other mutual assistance is highly recommended because it can tighten the brotherhood. Human beings need each other help each other. In addition, property and possessions is titpan God, and of course it is not only we have personally and should we give to the needy.

Please help can be done in various circles, do not care about old or young. Of fragment 3, the behavior of a student who helps people in need despite usinya advanced. It msih young students, so that the community should follow the example of the student's behavior and apply it in everyday life.

Fragment 3:

"Evidently, if the distribution of report cards arrived, my father took off two days of shoveling xenotime in lead leaching installation, wasrai. Today the division of my report card is a great day for him. Without much fuss, the first day he issued a branded shoes Space. Dry alligator shoes that looked like a placemat that sempret cake, soft dipolesnya with brake fluid mixed with charcoal collision. Then, belt, from plastic but mimic snake motif, also got a special polish sentuahn it. Dijemurnya soccer socks too thick till to the knee, dark green ". (SP, 88)

In the third fragment containing the moral values of the family affection that is the feeling of love, compassion, and deep affection and Sustainable against the family. It can be seen from the behavior of a father who volunteers his time to take rapot. The father prepare the best clothes in taking rapot son. Any busy father figure willing to take the time for their children's education. The father's behavior was exemplary and replicable because family relationships are most closely ties.

The behavior of the father should be conducted by the parents in decision rapot son. Due to the now many parents who do not care when making their rapot. Although making rapot is trivial and simple, but must be done by parents to their children. When taking rapot is a long-awaited by children to show to parents about the end result of their seriousness in the study. So that parents are the most anticipated figure when shooting rapot. Therefore, parents should take the time to come when shooting rapot and children can be proud of their parents.

Fragment 4:

"The film did not wear the brain! Acting shameless !! There was no mouth at all. The poster seen it! Aurat diumbar-diumbar everywhere. The film as it will spoil your soul. "(SP. 96)

Moral values in fragment 4 is the moral value associated with a person's self esteem. That is because self-esteem is keupayaan and confidence to be able to memulia and keep

themselves in the lives of people's lives. Everyone will have the self-esteem that must be maintained and protected. Self-esteem is the most expensive property owned by someone.

As in the fourth fragment contained a sentence stating, "the poster clay! Aurat diumbar-diumbar everywhere. The film as it will spoil your soul ". From the description, it can be known that someone had spit genitalia. Aurat is pride that we must cover in order not to cause appetite to others who see it. If we spit genitalia means we humble ourselves prices for others. In addition to the moral values of self-esteem, at 4 also contained fragments of moral decency. With the indulgence genitalia, meaning we disturb the peace of others. Another JV will certainly feel uncomfortable with the image around an open genitalia.

Moral values in fragment 4, there are also moral values will love the country. By making the film as it could damage the image of a country that is supposed to uphold good behavior in a country. If a state is not good morals, then the behavior of the nation is also not good.

Fragment 5:

"An uncle Basman and account standing at the exit meeting cinema. When we were herded, they looked at us with a feeling of guilt. Why do not you ignore our warnings? Very stupid. Good people had been trapped in the circle of the national film industry immoral and found us, the students, manipulated in them, making them disgusted with the profession ". (SP, 115)

Moral values in fragment 5, there are also moral values will love the country. By making the film as it could damage the image of a country that is supposed to uphold good behavior in a country. If a state is not good morals, then the behavior of the nation is also not good. A film, is the main national film should give an example and role model to the youth of the nation who see it, so that they can imitate good behavior contained in the film. National film should be films struggle so that the nation can benefit from watching the film.

In addition to the moral values will love the country, there is also a moral value education. In this case terlohat of the phrase, "Good people had been trapped in the circle of the national film industry immoral and found us, the students, manipulated in them, making them disgusted with the profession". In the sentence contained in the words of the students. The students should learn at home apada night and did not wander out of the house. Moreover, supported by seeing inappropriate movies watched by the students. In addition, these students are not old enough to see a movie like this. This behavior should not deserve to be imitated and emulated by the other students.

Fragment 6:

"It is almost a year WC ignored because tap water clogged. But humans worms, young intellectuals SMA Not Play the shell of his brain has been moved to the knee, reckless use if the call of nature was unbearable. Armed with only water segayung upon entering the sacred place, they humiliate themselves before Allah's religion that teaches that cleanliness is part of faith. And we're the menaanggung all their moral depravity. "(SP, 130)

Based on the above fragment, containing the moral value highly inappropriate craft as an example for the community, especially the successor to the nation (students). WC clear that the tap water is clogged, even still used. Moreover, the use is the basic education of young intellect there. Those who use religion to ignore despite already taught cleanliness is part of faith. Those who do not actually even feel guilty, even though other people affected of their act.

It can be seen in the phrase "braincase has been moved to the knee". The meaning of the sentence is the person who does own wishes regardless of rules and ethics. Of the sentence can be seen that the sentence is inappropriate spoken by a student. Students should be able to choose appropriate words to say. Development of moral values are very important so that people understand and appreciate the ethics when interacting and communicating with the public. Understanding and appreciation of ethical values capable of putting humans in their capacity, thereby manifest feelings of mutual respect, mutual affection, and create a harmonious atmosphere.

Fragment 7:

"Even if you fill the piggy bank for a real horse, my friend Jimbron, will never be money-dime was able membiayaimu school to France ...., said my heart. And hear it, my friend. The suggestion sisnis sentence from a pessimist. It venomous sting pessimist. It is a poisonous ghost. That attitude mengekstrapolaso a curve that drops down and will continue to go down and have made me into a dark and narrow-minded person ". (SP, 147)

In fragment 7, there are moral values pessimistic. Moral values are indicated by the attitude of curls that look down on something when he does not know what will happen. Pessimistic attitude can only happen if we have tried as much as possible in reaching and menggapi anything but our results do not correspond with what we expect.

Pessimist is an attitude that should be avoided because it can damage the spirit in achieving something. In fragment 8, curly underestimate what Jimbron and it is an attitude sisnis. Cynicism was also not good. As we have cynicism, it means we do not believe in the ability of other people and we feel jealous of what others were doing. Pessimism and cynicism are strictly not allowed. That is because both are inappropriate attitude to do. Cynicism and pessimism is the opposite of optimistic attitude we should have. With cynicism means we regard ourselves that truest and we underestimate the abilities of others. In addition, this cynical attitude will ruin a relationship because of jealousy in our hearts. Pessimistic attitude is also not allowed due to have a pessimistic attitude we will be reluctant to do something.

Fragment 8:

"All the water that is in my body up to the head. "Ah, father, curly, invited to the inauguration of the regent was not he remove the safari clothes. Only you curls, the best of him just for you .... "The water was spilling tears through my eyes". (SP, 149)

Moral values contained in the fragment 8 is affectionate towards family. Moral values affection towards family is feeling the love, affection and deep affection and Sustainable against the family. This is shown by the behavior of curls father who uses his best clothes, the only safari clothes for her curls. Although he was invited to the inauguration of the regent was not he use his safari suit but he saved. Such behavior is an expression of the love of a father to his son.

A father willing to sacrifice for the sake of her child. The affection of a father who was willing to sacrifice the entire body and soul to her son. Such behavior ought to be emulated. Due to the now many parents are less affectionate toward his son never even came nor attend his event. A father who leaves his time to attend the event.

As well as how to be a parent figure where parents are always trying their best for their children, parents want the child would achieve better than what has been achieved. Know matter how small the achievement of the child if it is good then the parents will be very proud and happy for her, like a picture of a new baby can say so happy parents and the parents always remember for the rest of his life. Likewise, do not let the small vices to disappoint their parents, although parents were disappointed actually affection towards children never faded and parents are still working for their child to achieve what is best in life until the end of life of parents.

Parents will fight tooth and nail against her. A father or family who willingly sacrifice all for the sake of the soul to beloved child. That's because parents want to show some affection to their children. Parents with affection has been taking care of her child.

Fragment 9:

"Arai growled once. He could not understand me. "Let you know, Kal, people like us do not have nothing but passion and dreams, and we will fight it out for the sake of the dream !!!" (SP, 153)

Moral values that can be replicated from the fragments 9 am, is optimistic attitude of the child to achieve something. Optimism is a strong feeling or belief that good things will happen in the future, an impulse feeling or belief that what is expected to happen. Optimistic people are not seeing a smooth road in front of him, but the people who have great confidence in carrying out what must be fought, optimistic people know and realize that in every process of struggle will inevitably face the gravel - small gravel or large rocks were always ahead.

Optimistic person ready and dare to overcome problems or difficulties on the block, even when a failure will not even make him discouraged, because he knows there is a learning process every failure he experienced. Of those who have such an optimistic mental attitude is a person who has a mental wealth and the only people who have a mental wealth, which is able to change the bad luck for the better.

Optimism will encourage us to lift the eye over the top, creating a future for themselves, and do not make the future as a source of fear or threat. Outlook on life is a choice that we create. If we create a positive view of yourself, this does not mean in us no negative things. Likewise, if we create a positive view of the circumstances, does not mean there is no negative things. Positive things that exist everywhere equally well as negative things, which is offered to us is a choice. Optimism can be described best as a light in the

darkness, which is more widespread with the ever-expanding horizon of thought. Along it, grow a love of hospitality in man, thus establishing a new development in his view of life. Optimism allows people to see the colors of life with a more beautiful, so that enabled him to see everyone in a new light and strength.

Real happy hue more optimistic in the face of people, not just now but also enjoy the satisfaction of all his life, in positive or negative situations, the light shining optimism of the soul happy every time. It would be optimistic that the magnitude of benefits. Therefore, be optimistic figure with full awareness. And optimislah always towards goodness surely we will get that goodness.

Finally, to maximize the potential of optimism that exist in a person, the key is the self we need to be built with a positive habit. And we pray that the Almighty himself gives us the ability to build a strong personal and unyielding. Let us nurture a sense of optimism in us to believe that tomorrow should be better than the present and the future is full of good times and success with always try and accompanied by prayer.

Fragment 10:

"That Capo: simple, not a lot of fuss, and the ability to realize their ideas into action is much higher than the young Malay intellectuals everywhere. Teach mentality realize their ideas into tangible actions might be considered as a new subject in our schools. Capo talks on the market then dikicaukan Minar everywhere ". (SP, 165)

Moral values that can be taken from the fragment 10 is self-sufficient or independent moral values. Moral values are self-sufficient or independent of skill and ability to do something without depending on others. With independent attitude can build confidence in themselves. In the above quote Capo independent and self-sufficient attitude and mentality teach realize their ideas into tangible actions that might be considered as a new subject in our schools.

Independent means being able to live a life of self-ability, the ability to do something alone without involving the help of others. Each of us who feel themselves to be successful then we need independent attitude, because independence is an attitude that is absolutely necessary as the main prerequisite for receiving a lot of success in this life. As a positive attitude, we all need to have an independent nature.

Social human beings will need others to continue living. Apart from the human need to live independently in order to survive the rigors of life that will not be too dependent on the help of others. If independence can be nurtured from an early age it will improve the quality of life and ultimately strengthening the foundations of the nation.

Nature of independence can be fostered from an early age through family education that is applied to the child. Actually teach children about the values of self-reliance is not as difficult as expected, things are very basic understanding of communication can be taught through subtly and then continued to practice.

An independent and confident in her ability will tend to be honest, optimistic and not easily provoked by others. The most important thing is being able to provide an example to others on how to live, some things are also a concern when a private not formed by hard work or just want to live the good life with a little work. Perhaps work ethic can be built if prefixed with the value of independence.

Fragment 11:

"Next time nominate himself so regent! Posting large h before his name, claiming pilgrimage ??? !! And I know his behavior !! Time a student, money order from her mother wore to gamble tail! That is if you want to know the nature of today's leaders, Boi !! The new run has become a fraud, what if the bastard like that so chairman !! ?? "(SP, 168)

Fragment 11 above shows clearly contains moral values of self-esteem. It can be seen from the sentence "What if that bastard so chairman !! ??". That phrase has meaning someone who has insinuated bad behavior if menyalonkan become chairman, it could not imagine what his men would like.

The fragment containing the implicit meaning of moral values, as stated clearly that the regent is the leader now been dishonest behavior and justify any means just for the sake of seizing leadership seat. It needs to be changed, so that other human morality is not be polluted. The value is referred to in the context of good and bad regarding generally accepted regarding actions, attitudes, and liabilities. Can also be regarded as a moral decency teachings that can be drawn from a series of stories for the literary work presents, support, and respect the values of the life force.

Fragment 12:

"Arai always go home at night and always directly snoring did not want to listen about kesahku lamented. I'm worried about the state Jimbron for the first time, shrinkage weight. Every day I pray expect miracles, and you know, my friend. The miracle came! Wonders of the menegjutkan like millions of exploding star, bright-hued berwarni, cornucopia, abound. Miracle that fell from the sky ". (SP, 177)

At 12 fragments contained the moral values of trust in God. Moral value of belief in God is the belief of God as the creator of his form and keep all His seruhan based on religion handle each aligned with the principle of harmonious state. This can be seen from the curls are praying expect miracles that come down from the sky. We pray means we ask for something to God. So we believe that God exists and will grant our prayers.

God is All grant something. What we ask for as long as it is a definite goodness of our prayers will be granted by God. We must believe that God exists. In difficult conditions and there is no discharge jlan we had to ask for help to God. We must believe that God will bring down its magic in helping us. Because we've been trying and praying.
In this case one should be able to have the view that in this life to make them believe that everything that is done will be fruitful maximum results and get all desire to be achieved. Thus, in this case people will make their experience of this world for those who have always revered god.

Any problems there then each between - between the time available for taking the time to god it will get a new, more serene atmosphere and mind become more relaxed. By way of worship then someone will produce the greatest works of the human being itself. Therefore, if you believe in the existence of God and always pray to him then it will get the biggest benefit is getting windfall and keep away from evil or misery.

So this will give you the sense that in this life if believing in God will produce a different atmosphere. Faith is believing something we interpret as the liver, say verbally, and realize the actions undertaken by the body. It is a belief that can not indisputable because it is the awareness of the essence of life.

Fragment 13:

"However, now I have a new philosophy that works best at the point where I stand, that's actually a realistic attitude. So now I was the most optimistic. If the human spirit kuibaratkan a curve, a graph, then the optimistic attitude will bring the curve continues to climb ". (SP, 208)

Moral values in fragment 13 is optimistic attitude. Optimistic attitude is a good attitude that we must apply and we did. In the above quotation are optimistic attitude which likens the human spirit is a curve, a graph, then the optimistic attitude will bring the curve continues to climb. So it can be interpreted that the optimistic attitude will bring encouragement and enthusiasm in achieving something. People who have an optimistic attitude will tend to do things that are positive. Due to the optimistic attitude means he believes will be the results of operations he had done. And what he did was already a maximum.

Optimistic is a light in the darkness that is able to shed light on what happened. Optimism can be described best as a light in the darkness, which is more widespread with the ever-expanding horizon of thought. Along it, grow a love of hospitality in man, thus establishing a new development in his view of life. Optimism allows people to see the colors of life with a more beautiful, so that enabled him to see everyone in a new light and strength. So with this optimistic attitude can bring about a change in a person into a better direction.

Fragment 14:

"We wanted to visit the island of Java that gemah ripah jinawi tablets and speculated with our fate." (SP, 216)

In the 14 fragments are self-sufficient and independent moral values. That is someone the child who will venture into areas overseas for a better life. By doing activities and actions as it means he will not trouble others. Independent means being able to live a life of self-ability, the ability to do something alone without involving the help of others. Each of us who feel themselves to be successful then we need independent attitude, because independence is an attitude that is absolutely necessary as the main prerequisite for receiving a lot of success in this life. As a positive attitude, we all need to have an independent nature.

Children who are accustomed to dealing with situations or things that have been determined by others, would be lazy to do their own choice. Conversely, if he is accustomed faced with several options, it will be trained to

make their own decisions for himself. For example, before deciding on the menu that day, the mother gives some alternative dishes to choose a child for breakfast. Similarly, in choosing clothes to wear to go to the council or to the council feast day so his friend, as an example. Habit to make their own decisions in some cases since little easier for them in the future to determine and decide for themselves other matters bigger in his life. With independent attitude one can make choices in life.

An independent and confident in her ability will tend to be honest, optimistic and not easily provoked by others. The most important thing is being able to provide an example to others on how to live, some things are also a concern when a private not formed by hard work or just want to live the good life with a little work. Perhaps work ethic can be built if prefixed with the value of independence.

The positive effects of this independence will be able to trigger the creativity of which will come up with ideas in accordance with their wishes and try to realize them as strong as they are able. As adults they will become a person with high ideals and capable of controlling a variety of things in accordance with the expectations that will be achieved.

The element of independence is also proved very needed in the field of management in which a manager is required to be independent and expert in managing their subordinates and their related matters. Besides being able to organize his subordinates a manager is also required to produce a creative new ideas and innovations so as to wake up in time of distress.

This independence attitude can build high confidence and attitude does not depend on others. Everyone has the ability of each. So with the independent attitude can make a person a sense of responsibility and also have a high optimistic attitude. Whatever he was doing and he did upon the willingness and ability alone. So on will feel satisfied with the work he had done. This independent attitude can be uplifting. related matters. Besides being able to organize his subordinates a manager is also required to produce a creative new ideas and innovations so as to wake up in time of distress.

This independence attitude can build high confidence and attitude does not depend on others. Everyone has the ability of each. So with the independent attitude can make a person a sense of responsibility and also have a high optimistic attitude. Whatever he was doing and he did upon the willingness and ability alone. So on will feel satisfied with the work he had done. This independent attitude can be uplifting.

Fragment 15:

"When we clean up bags, Jimbron approached me and Arai. "Kud ... Sumbawa horse is for you, curly ...." I was shocked. Jimbron submit savings Sumbawanya horse for me ". (SP, 217)

Moral values in fragment 15 is the moral value of sacrifice. Moral values of sacrifice is an attitude to help others with sincere and selfless. In the above quotation self-sacrifice shown by the attitude of the surrender Jimbron Sumbawanya horse piggy bank for his friends. Although he collected money in a piggy bank to put it bit by tiny fraction, but because he felt his more needy than themselves so Jimbron Jimbron willing to give kitty-kitty horse Sumbawanya for both people with a sincere friend.

Sacrifice consists of two words, namely the word and the word was willing to sacrifice. Means prepared sincerely willing heart, not expecting anything in return or with kemaun own. While the sacrifice was a sacrifice means to have something that belongs even to inflict suffering on himself. So willing to sacrifice in life means being willing to sincerely give something (power, possessions, or thought) for the benefit of others or society. Despite the temptation to sacrifice would inflict suffering upon himself sendir means that self-sacrifice is his attitude of a hero willing to give something (power, possessions, or thought) for the benefit of others or society. With self-sacrifice we would not krehilangan something instead we will feel satisfied already helping others.

Fragment 16:

"Interest is a word that is not relevant to my situation and Arai. Because in order to survive, while it is lawful, we have reached the stage of the most willing to do things we are not interested in though ". (SP, 241)

Moral values in fragment 16 is a self-esteem. Moral values of self-esteem is the belief and confidence to be able to memulia and keep themselves in the lives of people's lives. Esteem itself connotes an individual assessment of his results expressed in attitudes can be positive and negative. How does one judge about her will influence behavior in everyday life. Positive self-esteem will evoke a sense of confidence, self-esteem, sense of confidence in the ability of self, a sense of useful and necessary in the sense that the presence of this world. For example, a teenager who has a fairly positive self-esteem, he will sure be able to achieve what he and others

expect. In turn, the belief that it will motivate youth to really achieve what is desired.

Self-esteem is actually not just a matter of us, but almost hit everyone at all age levels. Esteem at any level is the most personal experience that is at the core of our lives. Self-esteem is what we think and feel about ourselves, not what she thought and felt by others about who we really are. Nobody can control us and trust us to trust and love yourself. With dignity means we acknowledge our existence.

Fragment 17:

"We hugged. How I long for my long cousin's. Someone who often hated but always think of as heroes. Arai certainly seemed more mature. Ray mischievous eyes fraudulent unchanged. But light-skinned ". (SP, 262)

Moral values in the above fragment is affectionate towards family. Moral values affection towards family is feeling the love, affection and deep affection and Sustainable against the family. In the above quotation are feeling homesick a brother whom she has not met and then met. They hugged each other to devote deep longing after so long not met.

Compassion for this family is a natural feeling. Guess it appears because of something to do with the experience I've ever done together. Any difficulty and sorrow passed and solved together. Causing a deep impression. At the time always felt happy together. Usually affection for this brother arise due to the similarities as well as events or a history of blood that has been experienced.

Affection and love for this family will never be lost of all time. That is because you are the closest that we understand what it is and know everything about ourselves events in the past. So if we are far apart with their brother very deep longing because many habits that have been carried out jointly. So that when we meet we can devote our desire and we may recall the days we have been through together.

Fragment 18:

"I and Arai for the first time to return home to Belitong. We have met the challenges of my elementary school teacher, Ms. Muslimah, and Mr. Mustard, ie new home after so scholars. I am proud we were able to finish college recalled in Java without ever getting any consignment notes sheet. We commend her home address on the scholarship committee secretariat in order to send the results of our tests there ". (SP, 263)

Moral values in fragment 18 is a moral responsibility. Moral values of responsibility is the ability of a person to assume and carry out tasks and kewajibanb perfectly. In the above quotation there are two children who had previously been berjanju to seseoarng to achieve the highest scientific and university degrees. Only after two university degrees he will return to his native land.

Attitude is very important responsibility is taught to children, because it will eventually affect the quality of his personality when you grow up, to live a life in the community. Responsibility is related to accept the consequences of what we have done, or is a must to do something. A person who is responsible means trustworthy and reliable.

Children need to be grown passion, desire and sensitivity to be responsible, not burdened continuously with various responsibilities. Responsibility can not and should not be imposed on children, because it will not last long and counterproductive. If the child has woken up the attitude of responsibility and sense of pride in taking responsibility, then he will be able to carry out various forms of responsibility that was his duty.

Fragment 19:

"We got up to the living room. From the doorway, we see the face Arai swollen tears. He clamped tightly photo frame his father and mother and the scholarship decision letter. He looked at us full of sadness and longing ". (SP, 271)

In the 19 fragments contained the moral values of the family affection. Moral values of the family affection is a feeling of love, affection and deep affection and Sustainable towards families. In the above quote, Arai was longing for his parents 7yang long he did not see.

Compassion for this family is a natural feeling. Guess it appears because of something to do with the experience I've ever done together. Any difficulty and sorrow passed and solved together. Causing a deep impression. At the time always felt happy together. Usually affection for this brother arise due to the equation or a history of blood and events that have been experienced.

Affection and love for this family will never be lost of all time. That is because you are the closest that we understand what it is and know everything about ourselves events in the past. So if we are far apart with their brother very deep longing because many habits that have been carried out jointly. So that when we meet we can devote our desire and we may recall the days we

have been through together. Our affection to their parents will take place and we feel to old.

Fragment 20:

"That was the phrase that can describe how perfect God has arranged the pieces of the mosaic of my life and Arai, so the beauty of the Lord many years have embraced our dreams, expectations have been listening to quiet our hearts, because on paper it is written the name of the university who accepted it, together with the university accepted, there is written clearly, Universite de Paris, Sorbonne, France ". (SP, 272)

Moral values in fragment 20 is a belief in God. Moral value of belief in God is the belief of God as the creator of his form and keep all His seruhan based on religion handle each aligned with the principle of harmonious state. This can be seen in the quote that how perfectly God has arranged the pieces of the mosaic of my life and Arai, so the beauty of the Lord many years have embraced our dreams, expectations have been listening to quiet our hearts, because on paper it is written the name universities that receive, together with universities receive. God is the most perfect substance. So that God will derive a miracle for those who asked for as long as it is for the good.

Faith in God is one of the duties and obligations we as God's creatures. It is a form of devotion without limit, we have to do for the Creator. Faith is believing something we interpret as the liver, say verbally, and realize the actions undertaken by the body. It is a belief that can not indisputable because it is the awareness of the essence of life. That there is the power over life and we must believe as everything that is essential. There is nothing that can beat the power of God. Nothing and no one in this world should be governed by, and believe the existence of God. Anyone in this world believe in God as the source of life and livelihood. With the ability that He has, then God would be able to do anything about the world and everything in it.

Most teenagers began to dare to parents, dared to his teacher, when given advice may boldly denied even dare to challenge the people who advise. Attitudes such as we meet in adolescents. This condition indicates that the school only produce students who have a high intellectual but do not have to lack of character shown by its noble character.

In the reality of everyday life, disrespectful attitude is bad behavior that should be abandoned. If we continue to cultivate an attitude of polite inside the kit would be bad also in ourselves. We will find it hard to appreciate others, nor any other person will have difficulty in mengjargai us. With us being polite we acknowledge the existence of other people around us.

Disrespectful behavior can also hurt other people. That is because if we do not behave decently, others will be disappointed to us because we underestimate and do not recognize the degree of the person. The attitude of courtesy is also highly recommended. This is due to the attitude of courtesy can tighten the brotherhood of man so that the relationship beings on this earth will grow in harmony. Courtesy the Java language term that can be interpreted as the behavior of someone who upholds the values of respect, appreciate, not overbearing and noble.

Each other mutual assistance is highly recommended because it can tighten the brotherhood. Human beings need each other help each other. In addition, property and possessions is titpan God, and of course it is not only we have personally and should we give to the needy. Such behavior should be emulated, because such behavior is one example of good moral values to be applied. By helping others, we totally have nothing to lose and of course we will get a feeling of comfort and peace because we could see the people we help feeling happy.

The father prepare the best clothes in taking his report card. Any busy father figure willing to take the time for their children's education. The father's behavior was exemplary and replicable because family relationships are most closely ties.

Being a good role model for children is not easy back your hand. But if positive behavior is common in daily life made it an example can be given even without much effort. Parents can set an example to the children how to behave either like do not like to lie, to be fair, love others, studious, disciplined and others.

Good example of a father to his son is one of the most important things in a child's life. Especially in the moral education of a child. Similarly, a good example of a mother is also important for the moral education of the child. For that parents should be able to be a good example and role model for children and also for our own family. As this will affect the child's stage of development we will anyway.

The role of parents in providing a good example for the children is very large. We know that a child has a good mimic nature. That's necessary for every parent to be able to give good example to their children. Good example to children by their parents can not be separated

from the support of the neighborhood where we live.

As a parent who always wants the good of his children, then it should start by fixing yourself duu for the parents themselves. So that parents can set a good example for her baby. Good example to children who have to start from the behavior of parents in the household environment.

We must do good to our children then our children will also be able to be a dutiful son to parents that ourselves. If we can not do good to our parents that we will get our children also will not do good to us. We seek refuge in Allah for this. For that we need the example of a good parent to child.

In order to perform a useful role as parents for their children needed mutual understanding between parents and children. This understanding attitude is one of the pillars of domestic harmony. This attitude can be achieved by increasing the smoothness of communication individuals forming the household. Pioneering a good relationship in the family can begin to make time to eat together at least once in a day, for example. This meal should be free from a variety of disorders, such complicated talks about work and television shows. Thus, eating activities will provide many opportunities to all members of the family to exchange ideas and sharing. It seems trivial, but if implemented will be able to produce the harmony of the family previously unimaginable.

If the event can be used as a meal together has been a tradition in the family then the next parent can act as a good friend for her children. Friends who are able and willing to listen to all the jeremiads and happiness they felt. That's when parents can direct the child to provide advice and moral guidance needed as a provision in the face of their future independent and confident. This certainly requires a little sacrifice precious time parents. However, if we do not want to sacrifice for the child at this time, in the future we will get a lot of hardships because of the problems caused by children. When it comes time like this, it regrets the failure of parents to children's educational outcomes then appear. All means be taken, all costs incurred by the results do not necessarily correspond with the expectations. It seems, really hard life. and family relationships will be harmonious if family members understand each other.

Everyone will have the self-esteem that must be

Conversely, a teenager who has a negative self-esteem will tend to feel that he is unable and unworthy. In addition, adolescents with a negative self-esteem tend to not dare to seek new challenges in her life, more happy with things that are already well known and enjoys the things that are not filled with demands, tends not to feel confident going sensibilities its thoughts and feelings, tend to be afraid to face the response of others, not being able to foster good communication and tend to feel life is not happy.

In adolescents who have this negative self-esteem often appear negative behavior. Starting from feelings of inadequacy and valuable, they are offset against other action, as it were, makes him more valuable. For example, by seeking recognition and attention from his friends. From this and appear drug abuse or fighting, for example, is done for recognition of its environment.

Not all compensation negative self-esteem causes negative behavior. There also are aware of inferiority then compensated through achievement in a particular field. In this case, any accomplishment achieved, will enhance the self-esteem of a person.

Associated with adolescence, the results of a long study in various countries shows that the most important and determines the development of self esteem is in adolescence. At this time, especially someone will recognize and develop all aspects of himself, so determine whether it will have a positive self-esteem or negative.

It's so priceless this self-esteem, so that there are some among men who put his position in the most respectable in the life of his world. As if it has become a principle, the law, or the law in his life to be in taatinya. So inevitably even death could be a way / solution only last for the defense of self-esteem.

But sometimes, seen from the other side, self-esteem as if like to appear on the stage of human life as a manifestation of the ego. Not to be outdone, did not budge, and feelings are not willing to accept the other, it is like being a daily diet of ego over a pride. But how just as prostitutes who sell themselves for food, if they no longer have self-esteem? How high levels of the values contained in the self-esteem in every human being. Self-esteem has an important role in life. Every human being is born into the world to have its own right in him. The development of self-esteem in a teen will determine the success or failure in the future. With pride we will have a space in the community.

If a state is not good morals, then the behavior of the nation is also not good. A film, is the main national film should give an example and role model to the youth of the nation who see it, so that they can imitate good behavior contained in the film. National film should be

films struggle so that the nation can benefit from watching the film.

Education is the most important thing in our lives, this means that every human being has the right to get and Indonesia are expected to keep growing in it, there will be no endless Education ,. Education in general have a sense of self-development process in the life of each individual to be able to live and sustain life. So it becomes a very penting.Kita educated was educated to be useful both for the State, and Bangsa.Pendidikan Nusa first time that we get in the family environment (Informal Education), the school environment (Formal Education), and society (Non-formal Education) .Pendidikan Informal education is obtained by someone from everyday experience consciously or unconsciously, since a person's birth to mati.Proses education lasts for hidup.Sehingga role of the family is very important for children, especially the parents educate their children tua.Orang sayang.Kasih loving affection given parent is endless and countless old nilainya.Orang teach us things that are good for example, how we behave courtesy towards others, respect for others, and sharing with those in need.

In addition to the moral values will love the country, there is also a moral value education. In this case terlohat of the phrase, "Good people had been trapped in the circle of the national film industry immoral and found us, the students, manipulated in them, making them disgusted with the profession". In the sentence contained in the words of the students. The students should learn at home apada night and did not wander out of the house. Moreover, supported by seeing inappropriate movies watched by the students. In addition, these students are not old enough to see a movie like this. This behavior should not deserve to be imitated and emulated by the other students.

School is a place to study and cultivation of character. In everyday life was found a lot of students who do not act that reflects berkependidikan. Supposedly it is inappropriate to do. Students should be able to differentiate between a good and a bad thing to do.

Optimism is a strong feeling or belief that good things will happen in the future, an impulse feeling or belief that what is expected to happen. Optimistic people are not seeing a smooth road in front of him, but the people who have great confidence in carrying out what must be fought, optimistic people know and realize that in every process of struggle will inevitably face krikiil - small gravel or large rocks were always ahead.

A spirited optimistic attitude will be considered to have selfish or not pay attention to anyone else. Actually, this optimistic attitude should be appropriate to the circumstances. If done with excessive levels of optimistic attitude will lead to selfishness, selfish, and do not care about others or observing others.

Finally, to maximize the potential of optimism that exist in a person, the key is the self we need to be built with a positive habit. And we pray that the Almighty himself gives us the ability to build a strong personal and unyielding.

At the end of life is related to the way we look in addressing the problems that occur. For it remains to always optimistic or positive prejudiced when it finds life's problems. Do not make any shortcomings it as a reason for the success of your life. Precisely because of shortcomings that we must constantly improve themselves. Never belittle themselves. Be assured you are a man with millions of potential latent and must be in the explosion. Remain optimistic to God and all mankind. Due to the positive thinking everything will be wonderful. Association would be wonderful, every situation is always beautiful, and at the end of each process to success would be lovely to achieve a happy life in this world.

In everyday life we often meet people who have a very high optimism to achieve a specific achievements and underestimate the challenges that may confront. However, behind the optimism is not uncommon to also find that people tend not to have a strong base or foundation to support optimism reflected in the form of lack of preparation and planning, perseverance, hard work, funding capabilities. By having a sense of optimism will be able to drive out bad thoughts and negative influences in us.

3. Conclusion

How does one judge about her will influence behavior in everyday life. Positive self-esteem will evoke a sense of confidence, self-esteem, sense of confidence in the ability of self, a sense of useful and necessary in the sense that the presence of this world. For example, a teenager who has a fairly positive self-esteem, he will sure be able to achieve what he and others expect. In turn, the belief that it will motivate youth to really achieve what is desired.

The fragment containing the implicit meaning of moral values, as stated clearly that the regent is the leader now been dishonest behavior and justify any means just for the sake of seizing leadership seat. It needs to be changed,

so that other human morality is not be polluted. The value is referred to in the context of good and bad regarding generally accepted regarding actions, attitudes, and liabilities. Can also be regarded as a moral decency teachings that can be drawn from a series of stories for the literary work presents, support, and respect the values of the life force.

In adolescents who have this negative self-esteem often appear negative behavior. Starting from feelings of inadequacy and valuable, they are offset against other action, as it were, makes him more valuable. For example, by seeking recognition and attention from his friends. From this and appear drug abuse or fighting, for example, is done for recognition of its environment.

Not all compensation negative self-esteem causes negative behavior. There also are aware of inferiority then compensated through achievement in a particular field. In this case, any accomplishment achieved, will enhance the self-esteem of a person. High self-esteem means that we can restrict ourselves to the behavior of others, so that others can respect us and provide an assessment of ourselves. A person who has self-esteem means he mempu put himself in civic life and uphold the human level of existence itself. People who have self-esteem is usually able to distinguish good and bad behavior that must be done and must ditingalkan. Other people will acknowledge our existence, if we can show good self-esteem and personality ourselves.

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PROFILE OF CRITICAL THINKING FOR SUPPORTING HABITS OF MIND AMONG PHYSICS EDUCATION STUDENTS

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Abstract

Habit of critical thinking is one aspect of the habits of mind beside creative thinking and self-regulated thinking. This study involving 40 college students will programmed Physics Education courses on Waves & Optics, to know their habits of critical thinking without treatment through an adaptation of rubrics developed to testing the habits of mind by Marzano (1994). The results showed that an average of 16% students be accurate and seek accuracy, 11% students be clear and seek clarity, 20% students maintain an open mind, 15% students restrain impulsivity, 21% students take a position when the situation warrants it, 17% students respond appropriately to others' feelings and level of knowledge. It is seen the highest percentage, students take a position when the situation warrants it. The lowest percentage, students be clear and seek clarity. By knowing the critical thinking skills of students is expected to be arranged in courses that can form the habit of mind of students. It realizes the human character in the development of the nation of Indonesia that is capable of dealing with the problems of life well.

Keywords: critical thinking, habits of mind, Physics Education Students

1. Introduction

Marzano (1994) stated that habits of mind is one-dimensional long-term learning outcomes. This is a competence that should be developed in the students learning effectively and efficiently. The habit of thinking that includes aspects of critical thinking, creative thinking and self-regulation. Marzano developed critical thinking include be accurate and seek accuracy, be clear and clarity, maintain an open mind, restrain impulsivity, take a position when the situation warrants it, and respond appropriately to others' feelings and level of knowledge.

Critical thinking has been accepted as a way to reveal the intelligence skills possessed someone. Walker (1999) outlines the importance of critical thinking in everyday human activities and states that only qualified individuals who have the ability to continue to grow. Meaning of critical thinking can be presented through a variety of ways. Beyer (1995) provides the simplest sense: "Critical thinking means making judgments that makes sense". Beyer believes that critical thinking using the criteria for assessing the quality of anything from the simplest activities like normal daily activities until the conclusion of a research paper. According to Beyer, critical thinking is a thinking person's discipline used to evaluate the validity of something (statements, ideas, arguments, research, etc.).

Paul (1993) and Angelo (1995) looked at the critical thinking as smart disciplined process of conceptualization, implementation, analysis, synthesis and evaluation of active and skilled collected from or produced by observation, experience, reflection, reasoning, or communication as a guide to the trust and action. In addition, critical thinking has also been defined as the thinking that has a purpose, reasonable, and goal-oriented and ability to analyze something of information and ideas carefully and logically from various perspectives. This is similar to a preliminary study revealed Susilowati (2014) that scientific reasoning ability is very supportive habits of thinking.

According to Wilson (2009) Critical thinking is the ability to systematically evaluate the weight of personal opinion and the opinion of others. This opinion means that critical thinking is the ability to evaluate things based on certain criteria of an object. This capability is of course related to one's initial knowledge of the variables evaluated. Present critical thinking to analyze and evaluate a variety of things such as ideas, ideas, or thoughts that exist as noted previously. Not all forms of thought that birth is a good idea. There is also a bad idea, so the presence of critical thinking skills will make an assessment of the idea of the norms in force or any other criteria of truth.

Critical thinking is thinking that check, connect, and evaluate all aspects of the situation or problem. This includes collecting, organizing, remembering, and analyze information. Critical thinking including the ability to read with understanding and identifying the materials needed and not needed. It also means being able to draw conclusions from the data provided and able to determine the inconsistencies and contradictions in the data group. Critical thinking is analytical and reflexive.

Critical thinking according to Paul (1993) is correct thinking in order to find out the relevant and reliable of the world. Critical thinking, is thought reasonable, reflect, responsibility, ability to think, which is focused on making a decision on what is believed to be or should be done. Critical thinking is thinking ask the right questions, gather relevant information, sort information efficiently and creatively, reason logically, finally to the conclusion that a reliable and trustworthy.

The scientific method is the most effective method ever invented by man in order to gather knowledge, having relevant and reliable nature. Non-scientific method is more directed to the emotions and expectations of mankind and more easily learned and practiced rather than the scientific method. Improving teaching the scientific method and the famous manifestation is critical thinking.

Physics science which has been the 'scourge' lessons at school because learning pattern that is not true. Most students are required to memorize formulas without knowing it means causing no meaningful learning. Indonesia in the PISA tests, especially on a scale of IPA, was ranked 60 out of 65 countries and obtain an average score of 383 is fairly low if it is compared with an average score set by the OECD at 501 (OECD, 2009).Waves and Optics is a branch of physics that is within its competence IPA requires the habit of critical thinking in solving the problem. Therefore habit of critical thinking is indispensable in the classroom.

Based on the above background can be formulated problem is how critical thinking habits profile Physical Education Students in the formation of habits of mind.

2. Methods

This study aims to determine the profile of critical thinking habits of students of Physics Education Students Lambung Mangkurat University which will be programmed course Waves and Optics in developing Habits of Mind. Population of 40 students consisting of 17 males and 23 females.

The method used to adapt the rubric habits of mind of critical thinking (Marzano, 1994) which consists of: accurate and search accuracy, clear and look for clarity, is open, refrain from impulsive nature, able to put themselves, sensitive and know his capabilities . Each level is divided into 4 levels.

Sections were analyzed using the percentage of the number of students choosing the level of the level which is then divided into 4 levels of appropriate levels of critical thinking and interpretation of the range is not as good to excellent as follows:

$$Percentage\ (\%) = \frac{\sum x}{N} x100\%$$

Where Σx: the number of students who choose level

N: total number of students

Table 1. Categories assessment (Arikunto, 2003)

Range (%)	Interpretation
0 – 25	No Good
26-50	Good Enough
51-75	Good
76 – 100	Very Good

3. Results and Discussion

This test was adapted from the rubric habits of mind about self-regulated thinking that consists of five aspects: (a) Be accurate and seek accuracy, (B) Be clear and seek clarity, (C) Maintain an open mind, (D) Restrain impulsivity, (E) Take a position when the situation warrants it, (F) Respond appropriately to others' feelings and level of knowledge. Each category consists of 4 levels. Each percentage level aspects of critical thinking skills are shown in Table 2.

Table 2. Habits of critical thinking Physics Education Students

Aspect	Category	Percentage of Level			
		1	2	3	4
A	Be accurate and seek accuracy	0	7.5	50	42.5
B	Be clear and seek clarity	0	50	35	15
C	Maintain an open mind	0	2.5	60	37.5
D	Restrain impulsivity	5	20	47.5	27.5
E	Take a position when the situation warrants it	2.5	20	65	12.5
F	Respond appropriately to other's feelings and level of knowledge	10	10	52.5	27.5

In A. aspects accurate and search accuracy comprising 4 level that is as much as 42.5% of students paying attention in detail, checking every usefulness of sources to ensure that the task is complete and accurate. When it finds an error, the error will be corrected, thereby increasing the value of the task at hand. 50% of students can give attention to detail when working. Confirmed other sources to ensure that the task accurately. Students find and fix major errors. 7.5% students tried to give detailed attention to his work, but ignores some important ideas. Confirming multiple sources to see if the work is accurate, but it ignores the important places that should be checked. Students ignore important error and failed to fix it. And none (0%) students do not check to make sure the information is accurate. His efforts a little to find and correct errors.

In the aspect of B. obvious and seek clarity is also divided into 4 levels covering 15% of students felt that no part of the work which is confusing. 35% of students stated that there are some parts of the work free of confusion. 50% of students felt some confusing parts of the job that affect the overall results. 0% of students stated that much of the work is confusing.

In C. aspect is open as much as 37.5% of students try to find different ideas and evaluate them to decide if considered these ideas are not unusual. 60% when the students arrive at the idea of a different shortcut, they try to understand it. 22.5% of the students understand that other people have a different idea of it, but they do not give attention to the different ideas. 0% of students believe only valuable ideas to be heard and not willing to listen to people with different ideas.

In D. refrain aspects of impulsivity as much as 27.5% of the students carefully evaluate the situation and seek advice from other sources to decide whether to information before acting. 47.5% of the students evaluate the situation to decide whether to require a lot of information before acting. When deciding necessary information, they look for such information. 20% of students in the evaluation of the situation quickly to decide whether the necessary information before acting. When deciding a lot of information that is required, they are looking for some additional information only when it is easy to obtain. 5% of students did not evaluate the situation to decide whether to require a lot of information before acting.

In the aspect of E. able to put yourself when no guarantee is made up of four levels of which 12.5% of the students express ideas or opinions about an issue or situation when sure to provide something useful for the issue or situation. They provide important information and providing something of value or a way to resolve the issue or situation. In addition, students also explain important information that supports the idea or situation. 65% of students express ideas or opinions about an issue or situation when convinced can provide important support for a way out of the issue or situation. They explain the reasoning idea or situation. 20% of students express ideas or opinions about an issue or situation when comments are not really necessary. Comments can be repeated as what has been said or can not explain clearly about the reasons of such an idea or situation. 2.5% of students express ideas or opinions in a way that is harmful situation. They do not support the idea or opinion.

In F. sensitive aspects and know his capabilities as much as 37.5% knowledge of the students can evaluate the situation to ensure that they understand the feelings, knowledge and abilities of others. Students use this understanding when communicating and encouraging others to show respect for the feelings, knowledge, and abilities are different from others. 52.5% when the student is able to communicate well with other people who have feelings, knowledge and abilities. They encourage others to show respect for the feelings, knowledge and abilities of others. 10% of students are able to communicate well with other people who have feelings, knowledge and abilities of others when communicating effectively with them. Only a few encouraging others to show respect for these differences. 10%

of students are not able to communicate well with other people who have feelings, knowledge and different abilities. In fact, they communicate regardless of these differences.

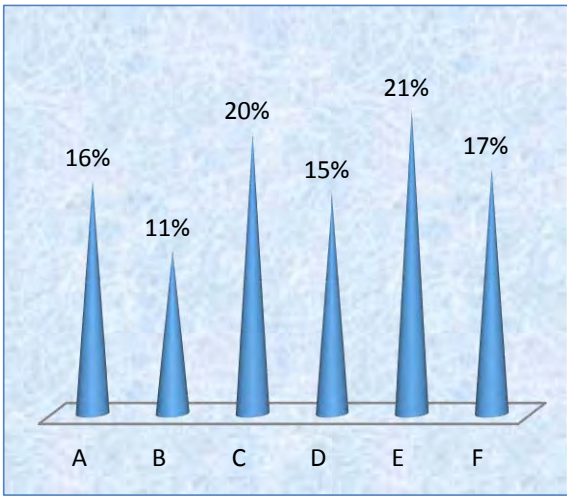

Figure 1. Percentage of critical thinking habits

Based on Figure 1 which shows the percentage of critical thinking habits can be seen that the 16% be accurate and seek accuracy, 11% be clear and seek clarity, 20% maintain an open mind, 15% restrain impulsivity, 21% take a position when the situation warrants it, 17% respond appropriately to others' feelings and level of knowledge. It is stated that the lowest percentage of students lies in clear and seek clarity and the highest percentage of students were able to take a position when the situation warrants it.

4. Conclusion

Based on the results and discussion, it can be concluded that the profile of Physics Education Students the habit of thinking in the formation of habits of mind from high to low, namely: (1) take a position when the situation warrants it, (2) maintain an open mind, (3) respond appropriately to others' feelings and level of knowledge, (4) be accurate and seek accuracy, (5) restrain impulsivity, (6) be clear and seek clarity.

5. Suggestion

By knowing the habits of critical thinking profile Physics Education Students lecture program plan can be made effective and efficient in supporting the formation of habits of mind.

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REFLECTIVE MENTAL ATTITUDE AND COGNITIVE ABILITY: A STUDY OF REFLECTIVE THINKING SKILLS IN SOLVING MATHEMATICAL PHYSICS PROBLEMS

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Abstract

Reflective thinking skills in solving Mathematical Physics problems are skills needed to solve physics problems analytically by using mathematical analysis techniques. Reflective thinking skills requires good mental attitude in organizing and manipulating information, data, and facts related to problems in order to make a breakthrough in solving problems more effectively. This study aims to describe the possible relationship between the students' mental attitudes in solving problems with their cognitive abilities in problem solving Mathematical Physics reflectively based on their time schedule activities. This research was conducted at Mathematical Physics-cognitive apprenticeship instruction based learning program comprises two experimental classes, namely morning class and afternoon class. These two samples were differentiated in their achievement of reflective thinking test versus their reflective mental attitudes. A total of 76 students involved in the study, they were asked to complete a questionnaire and interviewed reflective thinking skills. Qualitative data is further confirmed by quantitative data of reflective thinking skills test results of Mathematical Physics. The results from questionnaire and interview analysis shows that the level of reflective thinking skills in both of classes are not quite different. In contrast, the attitudes scores in solving problems of afternoon class are higher than that of morning class, further more the normalized gain score of middle and high level students of the afternoon class are about 18% higher than that of the morning class. It can be concluded that the reflective cognitive abilities are affected by the reflective mental attitudes and not by the time schedulle.

Keywords: reflective thinking skills, mathematical physics, cognitive apprenticeship instruction, mental attitudes.

1. Introduction

The development of social, economic, and modern technologies increasingly require individuals to constantly adjust proportionately and take the right attitude in facing the accelerating change. Skills in determining this effort certainly involves the ability to know the situation at hand, to connect with the experience of the situation to develop specific strategies, and to determine the choice of the most reasonable strategy. Option that has been done is certainly not always in accordance with the conditions encountered or may be in accordance with the conditions encountered, but it is still not optimal. Thus, it would appear an attempt to revisit to fit the criteria or the expected goals. Efforts to review or evaluate the actions that have been performed are called reflection. The process of conducting this mental reflection is called reflective thinking. Individuals who are able to think reflectively will follow the process of reflective thinking in action. The ability to think and act positively as a result of the ability of reflective thinking is a form of reflective thinking disposition. This reflective mental attitude will be able to support the individual to select, sort, and considering the decision taken to be able to behave and act in a mature and responsible. This reflective mental attitude will only be able to occur within the individual when formed by processes that leads them to practice gradually, in stages, and continuously in conducting reflective decision-making. One of the processes that support the development of this reflective mental attitude is through a process of problems solving practice. The process of reflective thinking in problem solving is a process that requires problem solving skills to identify problems, to formulate problems, to develop

some alternative solutions, to develop the idea of the alternative chosen, as well as the skill to reconsider the solution chosen to be the final decision [1]. The individuals' abilities in reflective problem solving also vary depending on their reflective thinking disposition. There are four levels of reflective thinking in solving the problem, namely the habitual action, understanding, reflection, and critical reflection [2]. Habitual action is a category in which an individual automatically resolve problems due to frequent of doing the same settlement and if the individual has been able to understand about something but still not associate with any other situation then he was at the level of understanding. Reflective category is the category of an individual who actively, continuously and be carefuly in considering the belief that support and lead to the real conclusion, while the category of critical reflection is higher than reflection category, where an individual has begun to consider in terms of why they receive, think, feel, or do something. So, the culmination of the process of reflective thinking in these categories is critical reflective thinking (critical reflection). Critically reflective thinking is a method of testing an assumption which is possesses by adult learners and the ability to question the assumptions [3]. From this definition implied that critically reflective thinking should be present on undergraduate student mindset. This thinking skills can be taught by introducing, engaging, coaching, as well as encouraging the students to think critically [3]. One of the learning programs that provide this facility in physics education curriculum is Mathematical Physics subject. In this subject, problem-solving skills through cognitive activity i.e. perform a mathematical analysis of the contextual physics problems is the goal of the learning. The process of tiered problem-solving skills can be trained trough Cognitive Apprenticeship Instruction based learning [4].Therefore, the following description will explain the relationship between reflective mental attitude and cognitive abilities in the context of reflective problem solving skills in a Cognitive Apprenticeship Instruction-based Mathematical Physics 1 learning program.

2. Result and Discussion

Mathematical Physics learning Vision is in line with the vision of Mathematics learning but in the context of Physics. When the vision of mathematics learning is to provide an understanding of mathematical concepts and ideas required to complete math problems and other sciences as well as provide opportunities of developing the ability to reason logically, systematically, critically and carefully, creatively, foster self-confidence, and a sense of beauty to order the nature of mathematics, as well as develop an objective and open attitude that is needed in the face of an ever-changing future, as in [5], the vision of Mathematical Physics learning emphasis is on understanding mathematical concepts to solve contextual problems of Physics and provides opportunities for students to be able to think reflectively. In physics education study program, Mathematical Physics subject usually taught separately into two semesters with 4 credits of each subject, namely Mathematical Physics 1 and Mathematical Physics 2.

Through a process of reflective thinking students will be able to improve their critical thinking skills by conducting in-depth study of the realm of science and will be able to develop creative thinking skills by performing scientific studies and apply them to new situations [6]. Implications on Mathematical Physics lectures, in term of critically reflective thinking skills students are expected to have the ability to use their existing knowledge about the basics knowledge of mathematical analysis techniques, physics concepts, as well as advanced mathematical analysis techniques of Mathematical Physics lectures to solve contextual but simple of physics problems logically and systematically. Reflective thinking in the context of education basically is a complex mental process that makes the subject of the process of thinking as its object. For example, when an individual has mastered a particular technique, the reflective thinking process allows individuals to rethink about these techniques, through the assimilation process, linking with other aspects that ever possessed, to change or adapt these techniques and build on the results of this thinking in a practice or action [7]. Based on the results of a study of Cognitive Apprenticeship Instruction-based Mathematical Physics 1 learning program in two experimental classes, namely the morning class and the afternoon class, which each of class consists of 37 students, obtained the following data.

Before and after the learning, the students were given a test of reflective thinking. This test contains contextual physics questions on the concepts of wave, thermodynamics, and electricity that require mathematical concepts; they are the series, complex numbers, vectors, and partial differential equations and ordinary differential equations. This test was taken at the same time, at noon, assuming no difference in

treatment in both classes to minimize the influence of bias that was not expected.

In the first study, the query whether there is a significant effect of cognitive apprenticeship instruction-based Mathematical Physics 1 learning program to the improvement of students reflective thinking skills in both classes, it can be answered in correlation pre test and post test results as shown in Table 1 below.

The t test results of reflective thinking abilities

	Mean	SD	t	Sig. (2-tailed)
Afternoon Class	-22.67	12.07	-11.58	7.3×10^{-15}
Morning Class	-15.18	14.55	-6.43	1.6×10^{-7}

The result of data analysis in Table 1 shows that the outputs of sig. (2-tailed), 7.3×10^{-15} and 1.6×10^{-7} are less than 5%, thus H_1 is received and H_0 is rejected. This means that there are signifficant differences in the average improvement of learning outcomes in both classes before and after treatment in the Mathematical Physics 1 course.

The significant difference is then followed by measuring gain of the pre-test and post-test scores using a normalized gain test and obtained the data in Table 2 below.

The percentage of students' normalized gain score of reflective thinking test.

<g>	Afternoon Class (%)	Morning Class (%)
high	2,63	0
moderate	39,47	23,68
low	57,89	76,32

The Table 2 shows that the percentage of normalized gain scores in the afternoon class overall is much better than that of the morning classes. The difference in total score on the moderate and high levels of both classes is equal to 18.43%. From the analysis of reflective thinking skills test, the data of students' mental attitudes in solving problems of the post test shows that the mental attitudes of afternoon class is higher in all aspects of reflective thinking skills components, as seen in Fig.1.

If the data in Table 2 confirmed with the data in Figure 1, the strong correlations between the students' cognitive ability and their mental attitude in solving Mathematical Physics 1 problems then became apparent. It can be concluded that the students'cognitive abilities in solving Mathematical Physics 1 problems are indeed influence by their reflective mental attitudes.

The three lowest scores on the R8, R9, and R10 components are associated with critical reflective thinking skills. Less accurate execution causes the student get the small scored as seen in Table 2, where only about 42% in afternoon class and nearly 24% in the morning class that received moderate and high scores. So basically almost all the students are able to explain the basic concepts of mathematical analysis and basic concepts of physics underlying the problems, but when they are met the contextual cases they are not able to execute exact answer. But the interesting thing is that the students are already getting used to divergent thinking by proposing an alternative solution, although not accurate in completion. It means that the scaffoldings done by the lecturer during the coaching process has helped the students to always retrieval decisions based on evidence, facts, and strong knowledge. From the material presented has also been training the students to have confidence that there is always an alternative solution of any problem solving. For example, in testing the series convergence there are some test to convince the convergence the series, solving the complex number using rectangular and polar form of the complex number, etc.

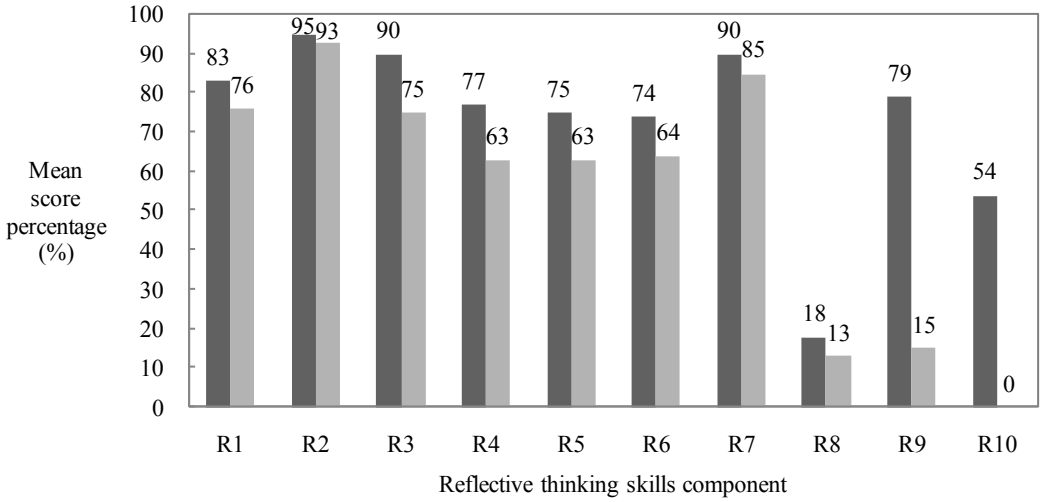

Figure 1. Mean score of reflective thinking components of cognitive abilities in both classes (R1 = identify the problem, R2 = identify the physics concepts related to the problem, R3 = formulate equations, R4 = apply mathematics procedures, R5 = explain the procedure, R6 = connect the procedure to the relevant physics concepts, R7 = consider alternative solutions, R8 = analyze accurately, R9 = explain significance of the answer, R10 = evaluate the answer through the process of evidence)
(■ = afternoon class, □ = morning class)

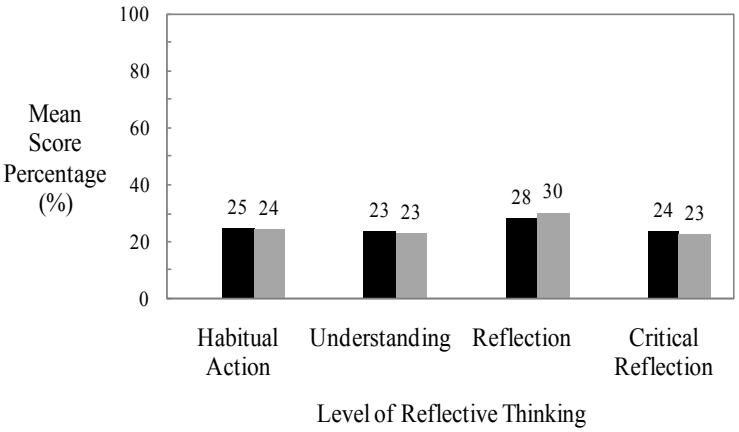

Figure 2. Students level of reflective thinking after experience Cognitive Apprenticeship Instruction based Mathematical Physics learning
(■ = afternoon class, □ = morning class)

At the end of cognitive apprenticeship istruction-based Mathematical Physics learning programs, all students were asked to fill out questionnaires and some of them that have the highest post-test scores and students who take this course for the second time asked for an interview session. The questionnaire of reflective thinking skill-based Mathematical Physics problem solving is a modification of existing similar questionnaire as in [2]. The qualitative data are then analyzed by grouping them into the levels of reflective thinking group as presented in Figure 2.

Seem that the percentage of students' reflective thinking level spread evenly on all four levels. There was no significant difference in both classes of experiment to the average distribution of the level of their reflective

thinking. This indicates that the student is still carried the previous characteristics of reflective thinking and gradually towards critical reflective thinking. However, there is a tendency that the students level to accumulate on the reflective level. At this level the morning class achieve slightly higher than that of the afternoon percentage, it is about 2%. It means that the learning time schedule, the afternoon session and the morning session is not signifanctly affect the students's cognitive abilities or their reflective mental attitudes.

In the interview session, the chosen students were asked to share their experience during the learning program and to give their suggestion based on what they felt during the lecture. Giving examples and exercises that are more contextual intensively and explanation of the significance material in the physics fenomena at the modeling were the input given by the majority of students.

3. Conclusion

From the above discussion it can be concluded that in the Mathematical Physics learning program that was conducted using cognitive apprenticeship instruction approach, the students' cognitive abilities in solving a problem is influenced by their reflective mental attitudes and not entirely by the time of learning. The higher the reflective mental attitudes the higher the cognitive abilities.

Future work related to the results of this research will focused on the development of teaching materials that support the cognitive apprenticeship based learning by adding the control class and implementation of teaching materials class.

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THE ROLE OF PEER TUTOR IN PLANT ANATOMY COURSE FOR ENHANCING STUDENT QUANTITATIVE LITERACY

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Abstract

This research investigated the role of peer tutor in the first of three phases of plant anatomy course to increase student skill in laboratory works as precondition for enhancing quantitative literacy. The research was conducted using quasy experiment. 52 students were divided into two classes. The first class consisted of 27 students in which six students of one year above class was involved as tutor in the teaching proses and the second class consisted of 25 students in which six of them were involved as the tutors reinforced with certain task stimulating student prior knowledge. Student skill of laboratory works of plant anatomy was measured by performance test in three activities, preparation of fresh object for microscopic observation, the use of microscope, and measurement of the cell size. Data were analyzed statistically using Mann-Whitney Test and t-Test. The research reveal that both of class showed no significant differences in all of three activities of plant anatomy laboratory works with the average n-Gain were 0.75 for the first class and 0.71 for the second class. This result showed us that the use of tutor from one year above class and from within the class reinforced with a task stimulating student prior knowledge has no significant different effect in increasing student skill of laboratory works of plant anatomy. The role of the tutor and the task stimulating prior knowledge in the course and enhancing student quantitative literacy are discussed further in this paper.

Keywords: laboratory work , peer tutor, plant anatomy, quantitative literacy

1. Introduction

In our Biology Department plant anatomy is one of the compulsory subjects in which the student learn almost all teaching subjects through observation using microscope both from hand sections and preserved preparations. Originally the lecture of plant anatomy was divided into theoretical part and practical work which were separately conducted. Since 2006 plant anatomy lecture was changed, the theoretical part and practical work were conducted in an integrated way. A few Efforts had been made to improve the meaningfulness of plant anatomy lectures. Constructivist approach using multi-method (practical work, discussions, assignment and presentation) combined with electronic multimedia was formerly used as teaching strategy. However, this strategy did not give a satisfaction result. Students failed to develop their knowledge that should be constructed through their observation of microscopic objects of plant structures. . This result was correlated with the low ability of students to make a microscopic representation of plant anatomy[1].

Microscopic representation is defined as the ability of students to describe the idea, concept or object obtained from microscopic observation. The developing student capability for microscopic representations has been previously investigated by[2]. She found that almost all of two-dimensional (2D) and three-dimensional (3D) images of observed plant tissues including parenchyma, sclerenchyma, collenchyma and epidermis were less proportional and lack of proper network position. Proportionality of 2D images is determined by accuracy and the ability of students to weigh the observation scale. These can potentially lead to the deviation of the cell size from the actual size [2].

Capability of microscopic representation is greatly influenced by the accuracy of the data collected by students when they do the observation. The ability of students to make microscopic preparations and to use a microscope as well as the accuracy of

microscopic observation is the main keys to conduct the successful microscopic representation of plant anatomy. These can be further reinforced by quantification of data obtained from microscopic observation.Reference [3] describes that one clear sign of the developing observation ability is the recording of the more obvious compared with the general characteristics. To obtain detailed and accurate information can be used a number of tools and a number of observation methods.

Quantification is defined as the process of conceptualization in which quantities are assigned to attribute, with properties and relationship formed among them. These attributes have the unit of measurement and the measure of these attributes has a proportional relationship (linear, bi-linear or multi-linear) with the units. A part of the conceptualization of act of quantification is the ability to conceive the problems mentally through image. Refference [4]supposed that quantification is the first step in developing quantitative literacy. Therefore the quantification of teaching material of plant anatomy intends to enhance quantitative literacy of students and understanding the concepts of plant anatomy. However, quantification in plant anatomy course needs to provide the basic skills to make an expressive microscopic representation before the students construct their own knowledge resulted from their observations. Providing an accurate teaching strategy facilitating the students to master the basic skills to work in laboratory on plant anatomy is the actual problem that should be solved first in our investigation to enhance student quantitative literacy and understanding of plant anatomy concept.

Social constructivism states that knowledge is acquired by individual who is to construct their own knowledge by the process of interaction of the encounter objects and social experiences. Hence, it is important to give to the student a continuous feedback wherein the students obtain many scaffolding that can facilitate them to reach the Zone of ProximalDevelopment (ZPD). Scaffolding means providing some assistance and support to individual in solving problems during the early stages of phase and gives the individual the opportunity to gradually become independent. Scaffolding can be given by the teacher or peers in many ways such as giving directions (explaining certain concepts), warning, or boost [5]. Peer means students with equal status and class which are from the same social group or equivalent [6].

Peer tutoring is the most common method of peer-assisted learning (PAL) which is emphasis on the obtaining of knowledge or skills with the help and active support from peers [6].A strategy by demonstration and peer tutoring has the potential in raising student's achievement. Peer tutoring can enhances motivation, improved cognition, and social outcomes in learning, increased sense of responsibility for one's own learning and improved meta-cognitive skills [7].This paper reports the role of peer tutor to help students master the basic skills of laboratory works of plant anatomy. Peer tutor was used as a strategy combined with self-lecture in the first of three phases of plant anatomy course that facilitates the students to develop quantitative literacy.

2. Materials and Methods

This study has been done using a quasi-experimental research design with Non-Randomized Pretest-Posttest Control Group Design [8]. Subjects were 52 biology students of Indonesia University of Education attending plant anatomy course. The 52 students were divided into two classes. The first class assigned as first experiment class consisting of 27 students and the second class assigned as second experiment class consisting of 25 students.

Both first and second experiment classes implemented three teaching methods of demonstration, laboratory work, and discussion. Peer tutoring was employed in both classes particularly when the students do laboratory work. In the first experimental class, tutors were taken from one year above class who has passed the previous plant anatomy course (PAL2 Class). In the second experiment class tutor were taken from their own group but the class was reinforced with certain task stimulating student prior knowledge (PAL1+ Class). Either in PAL2 Class or in PAL1+ Class the tutors had two main tasks. The first task was to guide the students to master their three laboratory skills of making fresh preparations using hand section, using microscope including the ability in focusing the object of observation, and measuring the cell size using micrometer stage (objective and ocular micrometer stage). The second task of tutor was to provide feedback on student performance of laboratory work. The difference of both tutors employed in PAL2 Class and in PAL1+Class was the tutors of PAL2 Class had more sufficient laboratory work experience and theoretical knowledge of plant anatomy than the tutors of the PAL1+Class. To conceal these differences an additional task was given to PAL1+Class a week before the class begins. The students of

PAL1+Class had to learn the subject of teaching including plant anatomy laboratory work procedures before they enter the class. This task was aimed to give and stimulate the prior knowledge of laboratory work procedures and concepts of plant anatomy.

There were four indicators of plant anatomy laboratory skills assessed by performance tests accomplished by the note obtained from the employment of the test (Table 1). Validation and reliability of performance tests instrument was analyzed using SPSS 21. The validity of the item tests were 0.465 to 0.674 and the reliability was 0,748 of Cronbach's alpha. Data obtained from the test were analyzed using SPSS 21. Independent t-Test was used to analyze the differences of pre- and posttest between PAL2 Class and PAL1+Class. The improvement of student performance was determined from the differences of n-Gain between two experiment classes.

3. Results and discussion

Four performace indicators of laboratory work of plant anatomy course preparing for enhancing student quantitative literacy are showed in Tabel 1. Statistical analysis showed no significant differences for all four indicators of performance test between PAL 2 Class and PAL1+Class both in pre-performance test and post-performance test ($p \geq 0,05$). These results informed that the students from two experiment classes had no significant differences in laboratory work skills at the beginning and at the end of first phase of plant anatomy class. This result revealed that the use of different tutor treatment of PAL2 Class and PAL1+ Class did not have a significant impact on the acquisition of laboratory skill performance of plant anatomy.

The improvementof student performance of laboratory work of plant anatomy course preparing for enhancing student quantitative literacy (N-gain)are showed in Tabel 2.Independent Sample T-. test was performed on N-gain of two classes. Statistical analysis showed no significant differences between two classes ($t(98) = 0.255$; $p>0.05$). Students with PAL2 ($M = 0.75$; $SD = 0.19$) had the same improvement of laboratory work performance with students PAL1+ Class ($M = 0.70$; $SD = 0.25$). Both of classes have a high category of Normalized gain according to [10].It infers that both the peer tutoring strategy (PAL2 &PAL1+) were proved to be same effective in enhancingoflaboratory work of plant anatomy course.

Based on Table 1, laboratory work skills at the beginning of phase 1 of plant anatomy course is relatively low. The whole participants are the first year student who have not experienced making fresh preparations using hand section, using microscope including the ability in focusing the object of observation, and measuring the cell size using micrometer stage. The improvement of the performance's laboratory skills at the end of first phase in both classes is because of the strategy was implemented.

Table 1. Comparison of laboratory skill performance of PAL2 Class and PAL1+ Class students

Indicator	PAL2 Class		PAL1+ Class		Signifikansi (2-tailed)	
	Pre	Post	Pre	Post	Pre	Post
Making Fresh Preparations	0,15	2,9	0,44	2,8	0,67	1,0
Using a Microscope	1,5	3,6	1,12	3,5	0,41	0,27
Focusing the Object of Observation	1,4	3,5	1,04	3,6	0,32	0,92
Measuring the Cell	0,0	3,3	0	3,2	1,0	0,70

Table 2. N-gain of the Two Classes

Class	N-gain (SD)	T (98)
PAL2	0,75 (0,19)	0,255
PAL1+	0,70 (0,25)	

The findings indicate that combination of three teaching methods of demonstration, laboratory work, and discussion improved student laboratory skill performance of plant

anatomy. The performance of students in both classes increased on making fresh preparations, using a microscope, and measuring the cell indicators. The highest performance improvement achieved in the measuring the cell indicator. The implementation of three teaching methodes in PAL2 and PAL1+ is presented in Table 3.

Through demonstrations, students can "learn how to learn" about the procedure. The use of direct video demonstration causes prosedural demonstration presented can be seen clearly by all students. Although given in classical, students seemed have no trouble following the demonstration process. Demonstration method is effective for both small group and large groups [7].

Table 3 Strategy Lectures in phase 1 Plant Anatomy

Week	Performance Developed	Demonstration		Laboratory work		Disscusion
		PAL2 Class	PAL1+ Class	PAL2 Class	PAL1+ Class	
0	The Whole Performance	-	Reading procedures in teaching materials	-	-	
1	Using Microscope	Direct video demonstration	Direct video demonstration	Using a microscope with preparation preserved peer tutor	Using a microscope with preparation preserved Peer tutor from their own group	Disscusion
	Focusing the objects	Shown image with the best focus	Shown image with the best focus	Observing preparation preserved using a variety of lens magnification peer tutor	Observing preparation preserved using a variety of lens magnification Peer tutor from their own group	Disscusion
	Measuring the cells	Measuring the cell by LOS with Direct video demonstration	Measuring the cell by LOS with Direct video demonstration	Determine the size of epidermis of Ficus (fresh preparation) with LOS (magnification of 100x and 400x) peer tutor	Determine the size of epidermis of Ficus (fresh preparation) with LOS (magnification of 100x and 400x) Peer tutor from their own group	Disscusion
2	Making the transversal preparation	Direct video demonstration	Direct video demonstration	Observations to identifyepidermis cells of Rhoeo discolor from fresh transversal preparations peer tutor	Observations to identifyepidermis cells of Rhoeo discolorfrom fresh transversal preparations Peer tutor from their own group	Disscusion
	Making paradermal preparation	Direct video demonstration	Direct video demonstration	Observations to identifyepidermis cells of Rhoeo discolor from fresh paradermal preparations peer tutor	Observations to identifyepidermis cells of Rhoeo discolor from fresh paradermal preparations Peer tutor from their own group	Disscusion

The methode which is implemented in PAL2 class and PAL1+ class are same, except for the origin of the tutorsand additional task for PAL1+ class. PAL 2 class supported by tutors

were taken from one year above class and PAL1+ by tutor were taken from their own group with task to stimulating student prior knowledge.

By observing the demonstration, a skill cannot be automatically mastered by the students. The students have to practice directly with objects and materials needed to master the required laboratory skills in plant anatomy class. Practicum is a method to train and use these procedural knowledge

Intensive interaction between tutor and students in PAL2 class and PAL1+ class observed. All peer tutor in two classes are comfort and confident to guide the students. Both tutors on PAL2 class and PAL1+ class received a positive responses from students. Implementation of peer tutoring in two classes can reduce student dependence to the teacher. A student can learn from the peer's instruction, gaining problem-solving knowledge and skill, tutor can also learn from tutoring, re-organizing his knowledge andpractice his skill. Reference [6] point outs that through peer interaction, mutual discussions, students can develop communication, presentation and explanation ability; by sharing experiences and works, students may reduce learning anxiety.

In PAL1+ class stimulating prior knowledge narrowed ZPD. Even though they were guided by tutors who had less sufficient laboratory work experience and theoretical knowledge of plant anatomy than the tutors of the PAL12 class, students do not get significant difficulties. Tutor on PAL 1+ (group 1) were able to explain and train all skill with different way from lecturer. According to reference [7], peer tutoring increase motivation, develop cognitive, and social goals in learning, increase the sense of responsibility for their own learning and to improve the skills of metacognition.

Table 2 showsthat the increasing student's laboratory skill performance in PAL2 and PAL1+ classes were high for normalized gain of PAL2 and PAL1+ respectively 0.75 and 0.70. The high of N-gain students cannot be separated from the strategies implemented in the both classes. Reference [7] reported that teaching strategies with methods of demonstration and peer tutoring potentially to improve students achievement.

According to constructivism theory, students will be able to learn the concepts very well when they are already in ZPD. ZPD is the distance between the students' ability to do the tasks under guidance of older person or peers until the student is able to solve problem on their own.

4. Conclusion

The role of peer tutoring when practice has optimizing the mastery of laboratory skills on the plant anatomy subject to develop quantitative literacy. Tutors from the previous class, and the combination of tutors from their own group with prior knowledge stimulation produces the same effect on the mastery of laboratory skills. Prior knowledge stimulation provides a narrow range in the ZPD.

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PROJECT BASED LEARNING AS A METHOD OF LEARNING ENTREPRENEURSHIP ON PRIMARY SCHOOL AGE TO EMBODY WELL-EDUCATED GENERATION

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Abstract

Indonesia as a developed country has the potential to become an independent country that has natural resources, and a lot of human resources.Unfortunately, people in Indonesia has not been able to take advantage of the opportunity to improve.Visible from the condition of human resources is still small in terms of independence.They prefer to workers, rather than creating jobs.The writing of a solution is meant to provide a more entrepreneurial ideas through education in form of project implementation is based learning through entrepreneurial the integration system of education in the schools.That primary school age children have been logical thinking while only limited to the concrete and give it to you for this opportunity to introduce their mindset for entrepreneurship as early as the next generation.Hopefully, at the level of later they outcome can be useful.Methods used in writing a piece of writing this is qualitative descript.An approach to analyze the facts in the field of the values character existing in entrepreneurship education.Then implemented in the system of learning the son of primary school age.Engineering data collection is done by interviews and a literature review.A method of project based learning is a way to change mindset and prepare the next generation strong character and matured.With the implementation entrepreneurship education based this project children will had more vision and mission of more clearly as well as having a strong character as values contained in an entrepreneurial.

Keywords: entrepreneurship education, primary school age children, the character

1. Introduction

Population growth in indonesia continues to rise , in the year 2013 indonesia having the population as many as 250,000 million people , according to the father of muhammad nuh as education minister of indonesia stated that the number of the population very much it to be a demographic dividend and not be catastrophic demographic, because with the number of large population will be comparable with the productivity of indonesia. According to data from the central bureau of statistics (BPS) 2013 of the population, the number of productive age as much as 118,19 million people where as many as 110,80 million people are as workers and 7.39 million people are as unemployment .Nevertheless unemployment in indonesia fell to 5,92 percent in february 2013 from 6.14 percent in august 2012, but this is not an achievement should be proud of .

According to the BPS (2013) from 110,80 million people were employed, only make the job of 22.42 alone or we refer to as the rest of the employees, they have the status as an employee. Thus it is seen that the population in Indonesia have a low level of self-reliance they prefer to find work rather than creating jobs and entrepreneurship whereas Indonesia as a developing country has a lot of opportunity to become an independent state because of the abundance of natural resources and human.

Many aspects to cause problems such as politic, economy culture.Education as one of the social certainly also affect the society mindset and formation of character.Education is not optimally run their role to educate, develop and improve the quality of public life.

In the future indonesian generation need multitalkers because of competition from other countries and the progress of science and technology rapidly need something to deal with it all. So that the author of offering a solution to optimize softskill and character education in the form of the implementation of entrepreneurship education for primary school age. Entrepreneurship education here are directed by a method of project based learning or learning based project with dintegrasikan learning not only in the form of the theories of knowledge but

also in form of integration in any matapelajaran so that learning not only to find money , but also educating children since early about how having mental and character of an entrepreneurial namely a strong character as tenacious, uses a chance, discipline and other characters .

Because there are values of education in entrepreneurship is in line with nine pillars characters derived from the universal values which contains independence kejujuranamanah generous like to help and work the same independence and responsibility and confidence and workers hard according to Suyanto in Akhmad M. Azzet (2011 : 29)

The importance of entrepreneurship education since primary school age because of where the primary school age are able to think , learning , considering that and communicate where the process more logical kognitifnya (Rita Eka Izzaty, 107 : 2010). Entrepreneurship education writer of this offer to be integrated in the system of learning in schools that includes kurikullum, teachers, students, the media even the method, so as to form a pattern think children as the next generation character and defenseless global competitiveness.

2. Literature Review

2.1 Entrepreneurship Education

Education is an effort to help obtain welfare human life (Wasti Soemanto, 28: 1999) opinion describes the education needs have become important .So that humans can create prosperous life , then they either give or receive education should be having a view and understanding kewiraswastaan to achieve the final goal of education. In other words, the human embodiment entrepreneurs support the achievement of the purpose of education. To become human entrepreneurs needed some skills:

- creative thinking skills
- skills in decision-making
- skills in leadership
- skills deals between humans (Wasti Soemanto , 63 : 1999)

Self-employed in forging a man lies all the strength of private men this dynamically and creatively to make it able to try to life in advanced students (Wasti Soemanto, 135 : 1999). Entrepreneurial be described in education curriculum kewiraswastaan kanak-kanan 2 to 13 years of primary school age :

- story of entrepreneurship among animals
- story travel adventure the discovery of new things
- selections entrepreneurship
- fragments of entrepreneurship

Entrepreneurs are people who maximize opportunities , Peter Drucker (in Ari Wibowo : 61 : 2009). Entrepreneurship is the discipline that studies about the value, the ability, of the behavior of someone in the face the challenge of living to obtain a chance with the risks that may be faced (PO Abas Sunaryo, 1: 2010). David Obsorbne & Ted Gaebler (1992) in reinventing Gpvernment book suggested that in the development of the world adult entrepreneurship berjiawa government is necessary. With a soul entrepreneurship and bureaucracy and institutions will have the motivation, optimism and competing to create new ways of a more efficient, effective, flexibel innovative and adaptive manner .Entrepreneurship is not always talking about money, but jutsru about character and creativity, enterpreneurship and spirit can also be considered as in education because there are the values of a strong character who can educate the generation of Indonesia.

2.2 Child Primary School Age

1) Understanding child primary school age

World health organization said the organisation is the primary school age students aged 7-15 (repository.usu.ac.id) years .But in indonesia , the son of primary school age children who are in range is 6-12 years of age who are joining education in primary school level .

2) Characteristic of child primary school age

Primary school is an educational institution that runs education program for children age six years of 612 years (Suharjo, 2006). In primary school education aimed at basic ability to give the provision of knowledge to students, skill , and attitude that is beneficial for himself in accordance with the level of development , and prepare them continue to the next level of education.

Suharjo (2006) has suggested that characteristic of a child primary school can be divided into three types of, some of them are a) physical growth, b) psychological growth, and c)social development. Physical growth of primary school age children tend to be more stable than when children will into early adolescence that physical growth rapidly (Izzaty, 2008 : 105). Cognitive development childhood

the end (7-12 years old) is located in the operation of concrete in this case child unable to think logically about the objects or events , although limited to some of the things siafatnya concrete, can be described or ever experienced .Even though they were unable to think logically, bu t a way of thinkin g they are still oriented kekinian of Jean Piaget (1896-1980 in Rita Eka Izzaty, 2008 : 117).

The world sosio-emosional they become increasingly complex and different with the past. Children love to play, glad to move, love to work in groups, and happy to do something directly or model them . As in the process of the development of other in terms of the process of the development of the aspect of affective students also relating to the learning process .A consequence, the quality of the results of social development students are very dependent on the quality of the process of the student learning , both in the school environment and broader environment.

Anning (in Suharjo, 2006) said that the characteristics of the development and a learned way primary school children effective can be done through direct experience. This is consistent with the development to learn concrete operational expressed by piaget. At this stage, children already starting to think logically, systematic referring to the objects or activity that is concrete.

Of some exposure to the above about the characteristics of primary school student was encourage teachers to in carrying out of learning can contain elements in the involvement of students.

2.3 Learning System

Learning is a process of intercultural factors and systemic usnsur-unsurnyanya. Elements of learning, including educators, learners, curriculum, methods, and media (Dakir, 2011 : 4).

2.4 Educator (Teacher)

According to Act No. 14 of 2005 about the teachers and professors of article 1 paragraph 1, the teacher is a professional educator with the main task of educating, teaching, guiding, directing, train, assess, and evaluate learners early childhood education on the formal education, elementary education, and secondary education. In the conception of Ki Hajar Dewantara, teachers are teachers (Wajihudin A., 2010 : 203). Does that mean the teacher is a practitioner who directs to tercapaianya a destination with certain media and methods as well as to form the characteristic learners in accordance with the national education goals.

2.5 School Tuition (Student)

School tuition (student) is the son who is immature, that requires effort, assistance, the guidance of, others to become mature, in order to able to conduct his duties as a creature of the lord, as the human race, as a citizen, as members of the community , and as a private or individual (A. Ahmadi and N. Uhbiyati , 2007: 87). So school tuition is the object that run learning activities.

2.6 The Method

The method is an effort to implement a plan that has been arranged in the real purpose has been developed to optimally be achieved. A method of learning to become part of the strategy of learning, a method of learning serves as a way to present, outlines, give an example, and provide training to students to achieve a particular purpose , but not every method of learning in accordance with certain used to achieve the purpose of learning.

Learning methods can be said to be a way to convey, presenting the subject matter to students. Many learning methods which can be used in presenting the lessons to the learners, such as methods of lecture, discussion, faqs, demonstrations, etc. The methods that provided has advantages and shortcomings in the implementation of teaching and learning activities.

In this case, the appropriate method for the study of entrepreneurship is a project-based learning (project based learning), i.e. the learning methods using the issue as an initial step in collecting and integrating new knowledge based on pengalamnnya in a significantly. According to some experts, PBL is the systematic teaching methods that involve students in the learning of complex knowledge and expertise, the question of the authentic and the design of products and tasks (University of Nottingham, 2003).

2.7 Curriculum

According to Prof. Drs. H. A. Dakir in the development, planning and curriculum curricula is an educational program that takes all the teaching materials and experiences to preprogrammed instruction, as planned before, and dirancangkan a systemic the prevailing norms become a guideline for a learning process for the workforce and learners to achieve educational objectives.He was given brief explanation on the lists of the curriculum content

and materials on the subject and how it is used as a guideline for teaching learning activity.

In academic , the curriculum has the goal that is not much different from the purpose of education , especially on a national scale , namely give the provision around the basics of to learners to develop the life as a person a member of the community, a citizen , and members of the human race and preparing school tuition to follow secondary education (Government Regulation/PP No. 28 year 1989 chapter II article 2).

2.8 Learning Media

Learning is the media in general help the process of teaching and learning. Everything that can be used to stimulate the mind, feeling, attention and the ability or skill pebelajar so as to promote a learning process .These restrictions include pretty broad and deep understanding the source, the environment, human and methods used for the purpose of learning and the training.

All media in the need to apply them in learning .In choosing the media of learning, need to be adapted to needs , the situation , and the condition of each. In other words , the media that the best is the media that there is .Up to teachers how he can develop properly seen from the contents, explanation and characteristic of a message to determine students learning the media.

The utilization of the relevant lessons can optimize the learning process , the media for a child also can be used to think critically (Keinich, Molenda and Russel, 1992) so that we can conclude that the media is a communication channel that stimulates cognitive ability , affective and psychomotor .

2.9 Character Education

Education until now still trusted as the instrument applicable in building the character of a nation.The character have human resource quality. Because of it, education in continually developed and built to the implementation process of education capable of producing genarasi nation character. Similarly with education in indonesia this land. Education in indonesia always repaired both the quality and kuantitasnya in order to print generaasi the people who performed well and characterless .It was done to the next generation of the nation capable of facing intense competition in the world current global. The improvement of human resources that smart, skilled, independent, and noble attitude continue to channeled through the process of education (Akhmad Muhaimin Azzet , 2011: 9).

Act number 20 year 2003 on national educational system in article 3, said that “the national education serves develop the ability and form the character of the nation as well as civilization dignified life in order to educate nation”. In this law clearly mentioned about the character. Derived or character in etymological characters derived from the greek language , namely karasso which means blue print , basic format , and fingerprints as in the fingerprint (M.Fadillah and Lilik M.K, 2013 : 20) .Education experts perceive the value of character as a way of thinking , be , and acting is typical someone who is listed in the habit of social life .Because they have into the habit by often appearing in the daily life , character also closely related to the personality of a person (Suharjana in Zuchdi Darmiyati, 2011: 28).

The purpose of character education is taught certain values , the values widely accepted as the basis of good behavior and responsible in life in the community .In the act number 20 year 2003 on national education system education said that the government aims to develop the potential to be learners of human faith and guard against evil to the lord almighty, noble berakhlak, healthy, magicians, ably, creative, independent, and being a citizen democratic and responsible.

M. Fadillah and Lilik M.K (2013: 25) of the opinion that the purpose is character education: 1) develop the potential of conscience and affective students as human beings and citizens having the character of the nation values, 2) develop habits and behavior students laudable and in line with universal values and traditions of religious nation culture, 3) of imparting people leadership and responsibility of school tuition as the next generation, 4) develop the ability of being human independent learners, creative, nationality and insightful, and 5) develop environmental school life as a safe learning en vron nent , honest , full of creativ ty and friendship , high and with a sense of nationality as well as full of strength. In the work of writing this, if linked with the implementation of learning based projects (project based learning in entrepreneurship education learning child primary school age, the lead to the establishment of the attitude of students independent, creative , young leaders and responsible .So since the early primary school after already prepared to able to face global challenges .

3. Method of Writing

3.1 Kind of Writing

The writing was the writing used descriptive qualitative.The writing of a piece of writing is meant to explain about implementation and the role of entrepreneurship for the school-age children the groundwork for creating the characterless.The method is applicable descriptive problem-solving to describe keadaaan subject and object research at the time it seemed or based on facts as they are.The descriptive qualitative approach is analyzing the facts on the ground of the values of entrepreneurship is in education.Later than the facts is implemented on the system of elementary school age children.

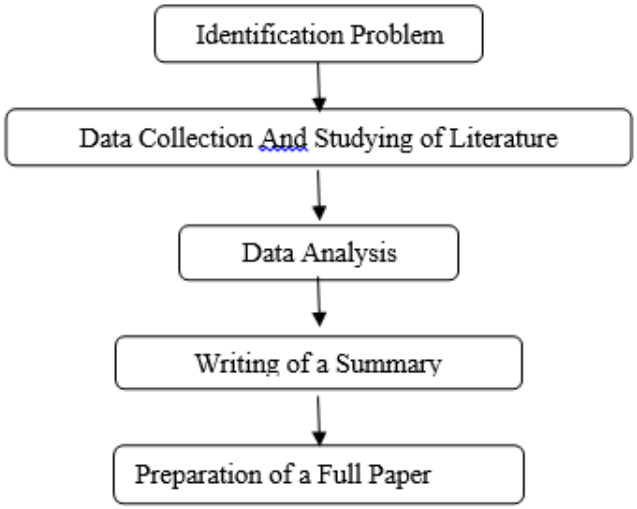

Figure 1.1 A Groove of Writing Paper

3.2 Data Collection Techniques

An interview conducted data collection and study of literature.An interview conducted by the international SDIT Luqman implementing education of judges and entrepreneurship kwirausahaan elementary education which has not been implemented.Meanwhile, based on data obtained, the literature that is a source of reference and other media such as the internet. They are relevant data processed to yield conclusions deskriptif analysis and advice.

3.3 Data Analysis

The analysis of qualitative data in writing done at the time and after data collection takes place. In the writing of this paper, the author uses an interactive analysis models in accordance with expressed by (Miles and Habermen: 1979), includes four components: data collection, data reduction (reduction), performance data (display), and verification of data or withdrawing the conclusion (conclusion drawing).

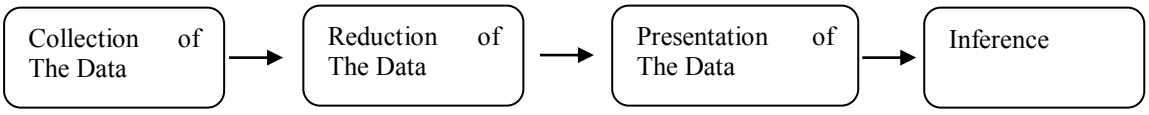

Figure 1.2 Data Analysis

On the writing of the work of writing this is a reduction process data through the election process and focus on language entrepreneurship education learning the implementation of the form of character capable of mengahislkan defenseless generation of global competitiveness.Then doing the analysis of data to data already in get up to get a conclusion on the implications of the application of the media of learning.

4. Discussion

4.1 The Implementation of Project Based Learning As A Method Of Entrepreneurship Learning In Primary School

Entrepreneurship education object is to form a full allocation of human (holistic) and able to run peran-perannya in society , entrepreneurship education is a strategy to strengthen the ability of individuals within view and explore opportunities in the context of economic, social and cultural. The importance of education entrepreneurship that konstruktivistik as through project based learning because it will make education this entrepreneurship become a lesson that are more important .

In the future indonesia requires the next generation that has a strong character namely the generation that steady to manage indonesia rich in natural resources and human resources and able to compete globally so that indonesia capable of being an independent country.To prepare the next generation that having the character of these powerful need to be built in terms of skill and hard in softskill since early one of them is through implementing the entrepreneurship education in primary school age.

Being the shoulder of entrepreneurship education capable of engendering the next generation that has a strong character because in entrepreneurship education in a heated state is so substantial .Entrepreneurship education not just talking about money or risk and reward is in education but there are the essential characters of values entrepreneurship . And basically on the implementation in the form of education which is entrepreneurial learning activities into learning by integrating elements.

The Values of Education in Entrepreneurship

In education are entrepreneurial values that we can teladani.According to experts, entrepreneurship there's a lot of entrepreneurial values which should be owned by the students and residents in another school.

There are 17 values. Some of the values of entrepreneurship and the discription that will be integrated with entrepreneurship is the education of a character education, cultures and entrepreneurship (president instruction/Inpres no. 1 and 6) in 2010 :

No	Value	Description
1	Independent	Attitude and behaviour that is not easily depending on others to complete tasks
2	Creative	Think and do something to produce the manner or a different outcome of products and services are being there have been
3	Dare To Take Risks	The ability of someone to love and brave and challenging work capable of taking the risk of work
4	Oriented In Action	Take the initiative to act , and not wait , before an unwanted incident happened
5	Leadership	Attitudes and behavior someone who is always open to suggestions and criticism, easily associating, cooperate and directing others
6	Hard Work	Behavior that shows the effort to truly in complete the task and overcome the various obstacles
7	Honesty	Behavior based efforts to make himself as a person who can always believed in words and actions .
8	Discipline	The act of showing an orderly and obsequious behavior in the various provisions and regulations
9	Innovative	Ability to apply creativity in order to solve problems and opportunities for enhancing and enrich life
10	Responsibility	The attitudes and behavior someone were willing and able to carry out the tasks and their obligations
11	Cooperation	Behavior based on efforts to make himself mampiu relationships with others in implementing action and work
12	Unyielding	Attitudes and behavior someone who is not easily give up to achieve a goal with various alternatives
13	Commitment	An agreement on terms of something that somebody made, good against himself nor anybody else
14	Realistic	The ability of the use of the facts and reality as the basis of rational thought in any decision-making and action and deeds
15	Curiosity	Attitude and actions are always trying to understand deeply and widely from what is learned , seen , and be heard
16	Communicative	The act of which shows some of the pleasure speak , associate , and cooperate with others
17	Strong Motivation For Success	The attitudes and the act of always looking for the best solution

The implementation of the 17 (seventeen) entrepreneurship principal value mentioned above does not necessarily directly implemented at once by a unit education, but it is done in stages. The first phase implementation entrepreneurship values taken 6 (six) principal amount , namely:

1. Independent
2. Creative
3. Dare take the risk
4. On the action oriented
5. Leadership
6. Hard work

Entrepreneurship education for primary school age

As have been exposed in this study about karakteritik primary school age the theory of cognitive development of this age are in the stage of concrete operational where they are able to think logically about the incident, although limited to things which are concrete. For example the implementation of the son of former are asked to get creative with a newspaper , they allowed to cultivate to become something useful after that teachers give lesson study of the activity well here children creative dikenalkan became a good man, in the space .In addition get through media-media learning books printed as the stories describing about hard work so that the pattern think they start waking up.

Well, sosio-emosional the world primary school age the more complex and more different from the past . They love to play , happy move , love to work in a group , and particularly happy about making something directly or model them .Well is to look at this opportunity it is likely to introduce through the importance of the values of entrepreneurial pembiasaan existing in entrepreneurship education.

Integration Method Project Based Learning for Entrepreneurship Education in The Elements of Learning

Learning is a process that also has various elements that systemic interconnected .Between the element of interconnected so that in integrating entrepreneurship education there should be the links between the elements .The first element that must be considered is the curriculum , the curriculum is an instrument to determine the purpose of the curriculum so here having the role of the earliest in applying entrepreneurship education .Integration in the curriculum is to connect values entrepreneurship into the materials provided to students.

As described above inpres issued 17 the value of entrepreneurship which are then taken in its implementations 6 principal amount entrepreneurship that is 1) Independent, 2) Creative, 3) Dare take the risk, 4) on the action oriented, 5) The leadership, 6) Hard work. This does not mean limiting the planting of values that all schools in uniform doing the internalization of six values entrepreneurship, but every level of education unit internalization values entrepreneurship can do that independently in accordance with the needs of other schools .To the size of primary school age to at least the introduction of this value only in six only to knowledge and skill that applied to certain provisions of this knowledge will be the realization that eventually form at the level of education such as entrepreneurial outcame higher .

Of an element in learning system which is there are other educators and school tuition, where educator here having considerable contribution in the context of the implementation of enterpreneurship edu is because educator or teacher who directs and give intruksi to school tuition. Of course in to fulfill their function teacher must have uses the method developed a set of means to is given the lectures .Every method there is an excess and his own weaknesses .And in learning methods used are eclectic namely by some method of learning so as to produce better quality and effective . Delights as by an learning good quality Bloom (1976) said that quality of instruction is the extend which the cues, practice, and reinforcement of the learning are appropriate to the is of the learners.In addition to the method of learning and a thing to be observed in their experiences according to blooms for the rest of the individual differences in learning that is an observable phenomenon which can be predicted, explained, and altered in a great variey of ways. Every school tuition having uniqueness of each and we almost could not make enterpreneurship edu as a program that absolute but also it should remain passion and uniqueness individuals.

In addition to the curriculum in the form of integration, educator, students and the learning methods, can also through media of learning the utilization of relevant media learning can optimize adapted to the needs of the learning process, the situation, and the condition of each.

So that it can be concluded an implementation of a method of project based learning in entrepreneurship education it will be the higher integration in the form of the theory but not in the form of hidden curriculum into education components as school curriculum, the culture of schools, of teaching materials, as well as a method of media pembelajarannya adapted

to primary school age so as to from this implementation, primary school age as the next generation can understanding the concept in practice as well as entrepreneurship formed a pattern he thought. As by project based learning are the son of in accordance with its age was thinking in kongkret going to learn in real about these roles that they have to face at some point.

4.2 The Role Of Learning Entrepreneurship In Realizing Well-Educated Generation

A method of project based learning in entrepreneurship education is a program of education entrepreneurship integration into learning is by penginternalisasian values entrepreneurship into learning activities so that it result procures awareness of the importance of values, entrepreneurial pembiasaan nilainilai the establishment of the character and entrepreneurship into the conduct of school tuition daily through a learning process which takes place in inside and outside of classes in all the subjects .

Basically learning activities in addition to make school tuition over matter or competence certain, also designed and done to make school tuition know , realized / care, and do internalization entrepreneurship values and it has become behavior can even attached to be the character. A move made by means of integrating into the system learning values entrepreneurship.

Based on the observation some writers school education program already implement entrepreneurship in a project based learning is by holding a market day is certain that every day the child should open street disekolahnya to sell whatever they want it was so simple give impact to the students.They indirectly to sell, ethics in selling, for creative and innovative and edify/learned behaviors to be honest respect for other work and others. Not only that while he was still elementary schools and they began to show passionnya and having high ideals and very diverse.Unlike the students who do not implement entrepreneurship, education they tend to passive and just follow the current. Indonesia not only require generations following the current but also the maker.

Go and look at the number of the existing problems around we are today especially with the development of science and technology can be balanced by a strong she had character. Because the characters give someone a have an identity card about him and the learning activities is not only in order to educate for the pebelajar but also could be beneficial as well as to meet the challenges the future, that is the meaning of a breed of characterless and defenseless global competitiveness. And through the integration of entrepreneurship values as six principal amount that is independent, creative a risk-taker, leadership, orientation to the action of and hard work sixth hope is make such a value becomes a character which it is attached.

5. Closure

5.1 Conclusion

Education as social subsitem having a role in forming nation character. Necessary optimization character education to produce the generation that characterless defenseless competitiveness and global. For it through enterpreneurship edu could be implemented a form of character education namely in the form of entrepreneurship that education be integrated in the elements of learning for children primary school age that includes integration values entrepreneurship in entrepreneurship education for children primary school age.

Edu this enterpreneurship implemented to primary school age they could begin by being cognitive think logically although limited to the things that just concrete. This works in entrepreneurship education form the character of school tuition values that was aware of the importance of entrepreneurship and to implement it into the conduct of school tuition daily through learning.In addition it is also formed school tuition capable of defenseless competitiveness globally .Through the integration of six basic values entrepreneurship as: independent, creative a risk-taker, leadership , orientation to the action of and hard work expected to sixth such a value becomes a character attached to school tuition .

5.2 Suggestion

- The teacher as an educator should understand how to teach values of entrepreneurship for children through entrepreneurial early education system implemented in learning to be included in the curriculum.
- the learning methods entrepreneurship education should be applied in this packed and be able to use the media and a source of learning.
- Every element of learning need balance the role of education so that entrepreneurship can be optimal in forming well-educated generation.

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DEVELOPMENT OF CITEVIR (INTERACTIVE MULTIMEDIA WITH PUZZLE EDUCATION GAMES AND VIRTUAL LABORATORY) OF EXCRETORY SYSTEM ON SENIOR HIGH SCHOOL

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Abstract

Excretory system is one of the material that difficult to understand. Based on the results of the media analysis questionnaire, 100% students of senior high school 1 Jepon need a media that has an inteactive appearance, easy to understand, and have scientific approach content. Based on the problems developed interesting media with puzzles education game and virtual lab. Virtual laboratory is utilize virtual media such as computer simulation, where students are conditioned as in laboratory. The aim of this study is (1) analyze the development of CITEVIR in excretory system in senior high school and (2) determine the effectiveness of CITEVIR to improve learning outcomes and student activities of excretory system. This research was conducted at SMA 1 Jepon, Blora for 2 month. The research approach using research and development approach (R&D) by referring to the steps of Borg and Gall, (1) research and information collecting with preliminary study analysis (2) planning (3) develop a preliminary form of product (4) preliminary field testing, through validation of media by experts, (5) main product revision, (6) field testing: testing a wide scale by 64 students (7) operational product revision (8) operational field testing, (9) the final product revision. The results showed that multimedia is fair criteria (91.17%). Prelimenary field testing result show that the students give fair criteria (84.38%), while the operation field testing is 92.19%. CITEVIR also improve student activities, students who achieve the active criteria is 90, 63%. The result shows that CITEVIR effective to implemented as excretory system media in senior high school.

Keywords: *CITEVIR, puzzle education games, virtual laboratory, scientific approach, excretory system.*

1. Introduction

Media is an important tool that helps teachers in teaching and learning activities [1]. Along with the global changes in the development of science and technology, teachers are required to develop a media that facilitate the students to learn, but it often ignored by some teacher [2]. When students open a high school biology textbooks, students will see a page that is filled with sentence, sometimes with pictures, but it is too small and looks unclear [3]. Biology books are generally thicker, and makes the students are required to deal with small-sized writing more, which makes them quickly bored and unmotivated to learn more, especially if biology materials studied have a high level of difficulty such as excretory system. Excretory system in Indonesia's senior high school are learned by students of grade XI in the second semester. Based on interviews with biology teachers in grade XI Senior high school 1 Jepon showed that excretory system is difficult by students. This can be seen from some students who have not reached Minimal Criteria Score (70). At this time the teacher has to use visual media in the excretory system to teach, but students are less interested in the media so that students are less active in their learning and feel tired and sleepy. Based on the results of the questionnaire analysis of teachers and students SMA 1 Jepon, 100% of students need an interesting media, complete content, and apply the principles of scientific learning. Interactive learning media used in learning usually in the form of CD (Compact Disc), but CD that now exist are generally not completed with education game. One form of education games is evaluating tools in the form of puzzles games (crosswords).

In addition to content of education games, instructionally media needs to be developed by

applying the scientific approach. Scientific approach includes observe, ask, reasoning, associate, and communicate [4]. For this purpose, laboratory of science biology is basically can be implemented, but the fact many schools do not have science labs, or they have science lab but can not be used optimally because the limited of laboratory facilities (the availability of tools and materials). One solution that that can be use for solve this problem as the lack of a laboratory facility that is through the implementation of a virtual lab on teaching and learning. Virtual lab allow the emergence of activities hands-on minds-on [5]. This is supported by the results of interviews with high school 1 Jepon biology teacher which states that the computer laboratory facilities are already available, but not fully utilized. In the implementation of this virtual lab, the students do same activities as in real laboratory [6]. In the virtual lab, students are required to prepare the tools and materials, conduct experiments, analyze the data, conclude the experiment, write the report of experiment, and then present the results [7] [8]. Based on the problem above it is clear that the instructional media such as Interactive multimedia completed with crosswords and virtual lab on excretory system needs to be developed.

2. Methods

2.1 Time and Place of Research

The research conducted at Senior High School 1 Jepon in grade XI second semester Academic Year 2014/2015, located on Blora-Cepu Street Km. 9 Blora, Central Java Indonesia. The experiment was conducted at December 2014 untill March 2015. The subject of the research on field testing are students of grade XI class Mia 1 as many as 32 students. While the subject of operation field testing are class XI Mia Mia 2 and Mia 3 with totally 64 students.

2.2 The research Procedure

This study using research and development approach (R & D) is a process used to develop and validate educational products. In this approach a product of education developed, tested, and revise it according the results of field testing [9]. The stages of research and development approach process includes (1) research and information collecting, (2) planning, (3) develop a preliminary form of the product, (4) prelimina1y field testing, (5) main product revision, (6) field testing. (7) operational product revision, (8) the operational field testing, (9) the final product revision. and (10) dissemination and implementation. The products resulting from this research is CITEVIR (Interactive multimedia with puzzle education games and virtual laboratory) as a media for teaching and learning of excretory system with a scientific approach.

At the stage of research and information collecting, collected a media type that used in senior high school 1 Jepon and analysis the media needs of students. For this purpose a technique used are questionnaires, observation, interviews. Subjects including teachers and students. Students that given questionnaire on this stage is the students who have studied excretory system in grade XII Mia on academic year 2014/2015 with totally students 96 students, which is determined by using random sampling method. In the planning stages implemented instructional media based on the results of the data analysis of media needs questionnaires. In planning steps made flowcharts and storyboards [2], Collection source of material from some of the data, photos, videos and animations from the book and the Internet. Assessment criteria for the preparation of media according to the National Education Standards of Indonesia by modifying some aspects such as the feasibility of the content, language, learning goals and indicators, as well as the p ep aration of the manu scrip t media.

At the stage development a prelimenary form of product preparation of crossword puzzles and a virtual lab. crossword puzzles is an evaluation tool that used in CITEVIR in the form of 30 items based on basic competence and indicators of learning. In this steps also developed evaluation tools such as test instruments to measure the level of students' understanding of the material that has been studied using CITEVIR in the class. Whihe the kind of tests performed is posttest. Virtual Laboratory that made are glucose test of urine, protein test, physical test and pH, as well as urine chloride test. Citevir overall initial product created using the Adobe Flash Player. CITEVIR validation conducted by media experts and material expert. The aspects of media assessment includes aspects of software engineering consists of reusability, compatibility, reusablity, effectiveness in teaching and learning, audio-visual communication aspects, while assessing a material aspect includes content or material, the depth of the material and the relationship between basic competencies and indicator, and aspects of the language that used. The questionnaire responses provided to the media

first high school biology teacher and students on research Jepon on field testing and operation field testing.

Prelimenary field testing conducted validating the design of media by 2 experts using validation questionnaire media. Validation activities followed by revision of the product, if at the validation is still found a few things that need to be revised. Field testing conducted with 32 students of XI Mia 1. The test was use to got information about the use of CITEVIR in learning. The test is done by giving the media to the students, then collect the student response data through questionnaires and observation activities and student learning outcomes, to determine the level of student mastery of the learning. The method used in this experimental phase is pre-eksprerimental design. In this case, students are first given learning process (which can take as much as 4 meetings) using CITEVIR and scientific aproach methods, then they were given a post-test. Operation field testing conducted with using 64 students. Assessment of the students activities carried out by observing students during the learning process by observers using observation sheet. Assessment of student learning outcomes after all the learning process, using multiple choice test with 30 questions.

Operation product revision done by revising the product based on the advice that goes at the end of the process of testing at the operation field testing, in order to obtain more perfect product.

2.3 Method of collecting data

1. Eligibility criteria of multimedia CITEVIR in terms of media and materials by Ref [10]; with modifications).
2. Data of student and teacher responses to CITEVIR taken by questionnaire. Student responses to the questionnaire consists of 12 aspects CITEVIR such as: legibility, navigation buttons, the display of media, the clarity of the text, language, backsound, puzzles, virtual lab, implementation of virtual lab in teaching and learning, and student interest to the media.
3. Data of student learning outcomes after teaching and learning using CITEVIR are taken with astructures assignment, virtual lab report, and a final evaluation.
4. The data of student activity got from the observation of the student by observer.

2.4 Data Analysis Methods

2.4.1 Analysys of eligibility of CITEVIR

Analysis of the product by expert assessment data conducted using a Likert scale 1-4 [10]. then calculated by the formula 1

$$NP = \frac{R}{SM} X\ 100\% \ldots\ldots\ldots\ldots\ldots\ldots$$

NP = the value of percentage (%)
R = score obtained
SM = maximum score

With eligibility category specified product based on the value of percent are: 81% ≤ NP <100% (Fair/Well), 62% ≤ NP <81% (Good), 43% ≤ NP <62% (Good enough), 33% ≤ NP <43% (Bad), NP <33% (Very Bad).

2.4.2 Analysis of student and teacher response data

The analysis of students and teacher response refers to the measurement of variables Likert scale 0-1, answer "yes" was given a score of 1 and answer "no" was given a score of 0 [11]. Criteria for student and teacher responses to CITEVIR are: 85% -100% (Fair), 70% -84% (good), 60% -69% (enough), 50% -59% (less good), <50% (Bad).

2.4.3 Analysis of students Learning outcome

Stated student learning outcomes have fulfilled if the value of the individual mastery achieved a score ≥ 80, in accordance with the minimum completeness criteria. The calculation of the final scores or the value of student learning outcomes in individuals are calculated with formula 2.

$$NA = \frac{A+2B+3C}{6} \ldots\ldots\ldots\ldots\ldots$$

NA = final scored
A = score of structured assignment
B = score of virtual lab report
C = The final evaluation test

Furthermore, the evaluation results were analyzed to determine the level of classical completeness, the criteria ≥ 80% of students meet individual mastery values analyzed by the formula 3.

$$N = \frac{\sum siswa\ tuntas}{\sum siswa} X\ 100\% \ldots\ldots\ldots\ldots (3)$$

N = classical completeness students

2.4.4 Analysis of Student activity

Student activity data obtained from observation sheets, and then analyzed descriptively (%). The formula used to calculate

the percentage of student activity is the formula 4.

$$\text{Student activity (\%)} = \frac{\text{The activity that observed}}{} \text{ X } 100\%. \quad (4)$$

Percentage obtained shows the percentage of student activity. Criteria for student activity according Arikunto (2006) are classified into: 85% -100% (very active), 70% -84% (active), 60%-69% (quite active), 50% -59% (less active) , <50% (inactive).

3. Results And Discussion

The results of the study are discussed in three points, development of multimedia CITEVIR which describe the outlines steps to create a detailed media, multimedia testing of CITEVIR based on the results of field testing, and its effectiveness to improve learning outcomes and student activities on excretory system.

3.1 Development of Multimedia CITEVIR on excretory system

Based on observations and interviews at the stage of research and information collecting were known that the media that available in the form of powerpoint made by the teacher, while textbooks are not provided by the school specifically for the biology subject. This is because the student book that should be the government's curriculum until the second semester of 2013 are not yet available. Related to that school policy making, the students should find their own resources needed. Senior high school 1 Jepon biology teacher explained that the policy is taken for the study of biology curriculum in 2013 students are required to learn independently by searching for sources and information independently from a textbook or the Internet. Based on the results of laboratory observations obtained information that the laboratory is used simultaneously as biology and physics laboratories in same place. The schedule of using laboratory are becoming increasingly congested with the experiment schedule for students of class XII in the context of school final exams. Therefore the biology implementation schedule so collides with school final exam schedule (ie for lab biology and physics). Based on this problems, it is clear that there needs a solution to the problems in SMA 1 Japon is by conducting a virtual lab as a substitute for the real experiment activities in the laboratory. Results of the questionnaire about the learning needs of the media showed that 100% of students want the media learning interesting, and contain scientific approach.

Teachers also need more varied instructional media that is able to generate interest in students to learn better. Although the study of biology teachers are utilizing computer-based media, but still needed additional media in order to attract the students. The data obtained from the identification of the potential and problems in school may be best utilized and followed up with product design. In this study the data to design a product obtained from a textbook, School Electronics Book, Internet, and a high school biology syllabus. The data is used as source material in designing CITEVIR.

Development of a virtual lab activities carried out by making the design tools and lab materials and its steps as closely as possible to the actual lab activities. Activities designed that allows the students can perform activities sequentially. When students click on tools and lab materials are available in a virtual laboratory bench to the right, step of lab work will be run automatically, so that the task of the students just to mak e observations on the results of the execution of experiment. On physical and urine pH virtual test, students can determine the pH of the urine after observing the correspondence between the colors listed at pH indicator with standard color on universal pH indicator. The magnitude of the pH can be seen from the numbers listed on the appropriate standard colors. In the g ul ose test stu dnts do b y observing the color of urine before tested, after drops of reagent benedict color, color during burned with spirit burner, and the final color.

At the finishing stage a media component, crossword games, and virtual lab series of activities repaired repeatedly until the media does not error and can run smoothly from start to finish. After making the media was completed, a compilation into the application form. Application has been made has size 443 Mb (Mega Byte), named MULTIMEDIA CITEVIR_HERU SETIAWAN. A minimal hardware used in the development of this media is the personal computer (PC) with these specs: Intel Pentium Dual Core 2.0 Ghz, 128 MB RAM, 150 MB hard disk remnant, 1024 x 768 SVGA monitor, Windows XP, Windows Vista or Windows 7.

Multimedia CITEVIR also equipped with a virtual lab manual and lab reports so that students do not getting difficulties when operating a virtual lab in this lab guide CITEVIR module is a manual book, which shows you how to operate the virtual lab correctly. Students report format contains the column headings, the purpose, the

basic theory, steps of experiment, observations result, data analysis discussion, conclusion, and reference. CITEVIR also comes with questions that require students to think critically (contextual teaching and learning).

3.2 The result of CITEVIR on field testing

Prelimenary Testing of CITEVIR Multimedia CITEVIR tested by expert of media by two experts that media and experts of material and through trial use by students and teachers in a real learning. Test deployment carried out in 2 phases, that is field testing and operation field testing. Feasibility of CITEVIR based on the multimedia material validation results are presented in Table 1. Based on the data in Table 1, can be seen that CITEVIR worthy to be used as a medium of learning, the feasibility of the material in the classical level of 90.62% in Fair Criteria.

Table 1. Eligibility of multimedia CITEVIR according by material experts

Aspect	Percentage
The content	75%
Linkage between competence and basic competences curriculum	91,67%
Accuracy of content	100%
Presentation of content	90%
Aspects of language	75%
Communicative and interactive	100%
The average score in the classical material feasibility	90,62 %
Eligibility criteria of CITEVIR material is Fair	

Validation results in the terms of display media are presented in Table 2. Based on the validation results in Table 2 it can be seen that CITEVIR have a very decent criteria. CITEVIR validated the feasibility of the 4 main aspects. In classical percentage obtained by the feasibility CITEVIR 91.17%.

Table 2. Feasibility CITEVIR multimedia media according to media expert

Aspect	Percentage
Software	100%
Audio and visual communications	89,28%
Other aspects: the design of a virtual lab, design of crossword puzzle	87,50%
The average score in the classical media feasibility	91,17%
The eligibility criteria in terms of media are Fair Criteria	Sangat Layak

Main Product Revision is used to Revised multimedia CITEVIR implemented based on the recommendations and suggestions that given by media expert and material expert. Revision products may include the revision of the opening page views, instructions for use, display, background, navigation buttons. the distance between the main menu and sub menu simulation lab so that students know the practical procedures appropriate steps correctly. Revision based on the sugestion of experts include some of the material, such as the conversion of experiment guides on the simulation that made slow motion, should be added to the image support, improved legibility of text and images, changing the simulation lab into a flowchart, adding animation to clarify certain mechanisms such as the formation mechanism of urine excretion, sweat excretion, biliary excretion, kidney stone formation, animation test results with benedict and biuret reagent for urine with diabetes mellitus. Display one expert revised the material before is showed in Figure 1 while after revition showed in Figure 2.

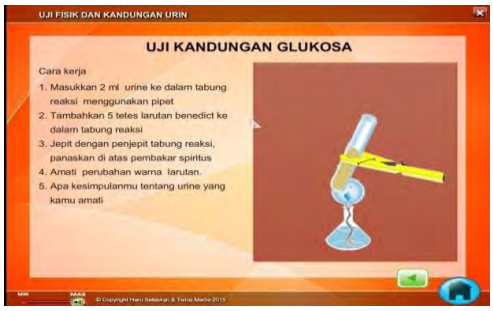

Figure 1. The display of virtual lab urine simulation on glucose test before revision

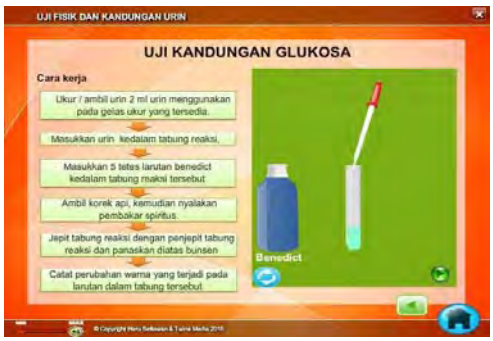

Figure 2. The display of virtual lab urine simulation on glucose test after revision

Field testing of CITEVIR was conducted to determine the effectiveness of CITEVIR in teaching and learning activities in the classroom. CITEVIR effectiveness referred to CITEVIR effectiveness in improving the activity and student learning outcomes. Field testing is involving 32 by a class XI Mia 1 student. Based on the test results of a Field testing showed that most of the students assess CITEVIR in Fair criteria. Feasibility CITEVIR media on product Field testing are presented in Table 3.

Table 3. Results of student responses to the multi-media CITEVIR on a small scale trial

Students Response Criteria	Percentage
Fair	84.38%
Good	12.50%
Good Enough	3.13%
Bad	0.00%
Very bad	0.00%

Based on the analysis of the response item 100% of students agree to use CITEVIR in learning fun and not boring, and urine lab simulation allows students to understand the physical test lab procedures of the urine. This correlates with the general view that given instructional media CITEVIR interesting, as much as 96.88%.

Based on the responses of students on field testing, at this stage some revisions (operation product revision). ie on the main menu, audio settings (backsound), revamping the content material into points, reducing the number of questions in the TTS of 30 to 20 questions, and revision chloride test. The display of crossword puzzle before revition showed on figure 3, while after revition showed on figure 4.

Figure 3. The Display crossword puzzle before revision

Figure 4. The display of crossword puzzle after the revision

The Result of Operation Field Testing is done Based on the operation field testing, the student responses to the media CITEVIR that had been revised presented in Table 4.

Table 4. The response of students to multimedia CITEVIR on operation field testing

Response Criteria	Percentage
Fair	92,19%
Good	7,81%
Good Enough	3.13%
Bad	0.00%
Very bad	0.00%

Based on the data in Table 4 it can be concluded that the current state of the multimedia CITEVIR are better than before the revision. According to students opinion, the media CITEVIR easier for them to do a physical test of urine. The media makes students more enthusiastic to learning, so that learning becomes fun and not boring.

Final Product Revision at this stage is add the urine sample with a more varied color. Urine provided are urine with colourless 3 colors, 3 yellow, 3 yellow and brownish urine colours.

Teacher's response to Multimedia CITEVIR

From the responses that given by teachers of biology, it is known that the multimedia CITEVIR very good (95%), but according to them the music backsound on CITEVIR make students uncomfortable in learning. Backsound music on CITEVIR not correspond to the subject matter and makes the students feel sleepy, so teachers give advice to backsound replaced by rhythmic. In a previous study of teachers have

never used an interactive learning media that directly involve students, but only use the media in the form of power point slides or downloaded internet media. According to the teacher one of the things that become obstacles in the learning process is the presence of students who do not like music in teaching and learning because they are not familiar with using computers. This can be overcome by adding the music volume control buttons, so it can be used according to user preferences. Constraints in implementing CITEVIR media that takes longer periods on teaching and learning can be overcome with proper preparation before applying the learning and improve the management of class time. The use of multimedia can help the teacher in presenting the material easily and effectively, and will be centered on student learning (student centered). [12] argues that it is usually used as a medium of multimedia presentations in class or assist teachers in explaining the material to students.

3.3 The effectiveness of multimedia CITEVIR to improve learning outcomes and student activities

The research results showed that the use of CITEVIR effective to improve student learning outcomes in teaching and learning (Table 5). It can be seen from the number of students (%) who achieved the minimum criteria score.

Table 5. The results of students learning outcome on field testing and operation field testing

Test Stage	Graduation of learning	
	Graduate	Not graduate
Field Testing	84,37	15,62
Operation Field Testing	87,5	12,5

Classical learning completeness students with minimum criteria score ≥ 75 were obtained on a operation field testing is 84.37% and on a operation field testing reached 87.5%. This result showed that the learning outcomes using CITEVIR media can improve student learning outcomes of students.

CITEVIR effective in improving student learning activities. The results of research showed that CITEVIR also increase the activity of students in the excretory system (see Table 6).

Table 6. Activities of students in learning using CITEVIR on field testing

Criteria	Activity on field testing	Activity on Operation field testing
Very Active	34.38%	39.06%
Active	50.00%	53.12%
Quite Active	9.38%	6.25%
Less Active	6.25%	3.13%
Not Active	0.00%	0.00%

One of the things that cause an increase in the activity of students in learning is because the learning that implemented in groups. During the learning process of the students interact and work together to discuss the matter and problems that exist in the learning media. Group discussions also make students more active and enthusiasm in learning. According to ref [13] discussion helps students in learning and stimulate the spirit of questioning and individual interests. Another thing that causes more active student learning is the exercises of evaluation tools in the form of crossword puzzle in multimedia CITEVIR. In this case, this interactive games created an atmosphere of competition between groups that encourage learners to winning the competition, so that they become more active, passion, and focus more on learning and solving problems. The game unconsciously make the students more excited, motivated and self-learning activities, because the learning atmosphere was nice. Students are basically like the game and the challenge to carry out learning with enthusiasm and active participation in the learning though formed small groups [14].

The atmosphere became more and more enjoyable learning supported by the media interest, particularly in the virtual lab. According to some students of the virtual lab simulations greatly assist them in understanding the physical test lab procedures and content of the urine. Atmosphere interesting and enjoyable learning easier for students to learn, so will result in the achievement of students' understanding of the object being studied. This is consistent with the statement of ref [15] which revealed that the education game is one tool in teaching students are quite effective in helping teachers to organize learning, so that students are higher absorption than the conventional learning. This happens because (1) the students quickly absorb information and knowledge of the material, (2) pictures, video, and animation in the media more attractive than text, (3) interactive, and (4) oriented to problem solving. According CITEVIR teachers use learning easier for them to organize in order to achieve the goal, because

in it there is complete material and interesting display. Reference [16] suggested that the computer can accommodate students who are slow to accept the lesson, because the use of multimedia involves various organs to ear (audio), eyes (visual), and hand (kinesthetic). The involvement of various organs makes information easier to understand. According to reference [17], students are only able to retain 20% of the visits, 30% of which are heard, but can remember 50% of what they hear and seen, even can remember up to 80% of that seen, heard and done simultaneously.

CITEVIR effectively to improve student learning outcomes because the media can visualize the material of excretory system which abstract and difficult to understand directly. This is similar to the statement of [16] which states that multimedia has a special function in the form of animation, simulation and visualization, so that students get more information from the estate of abstract information. It can develop cognitive aspects. In this regard, the teacher wants the other biological materials also created a kind of CITEVIR, so that students are interested to learn better. On the other hand, the students hoped that teachers of other subjects also apply instructional media too. Learning using CITEVIR require teacher acts as a facilitator, because human interaction with the computer can not replace human interaction with humans [1].

Most of the students have achieved complete learning through learning using CITEVIR, but there are still some students who have not completed. The factors that cause this are internal factors and external factors of students. This shows that the application of multimedia in CITEVIR lead to more effective action to achieve good learning outcomes. CITEVIR multimedia can improve the learning process and facilitate the process of communication between teachers and students [17], as a multimedia capable of creating an individual learning so that students have the ability and opportunity to organize themselves and have the intrinsic motivation to learn excretory system [3]. Based on the data analysis of lab virtual report score got information that the learning outcomes of students on average is good enough. Some students are able to write good reports from the title, theory, tools and materials, methods, data analysis, discussion, and conclusion. In addition, students generally are able to answer questions that require the use of critical thinking, although there are some students who do not write well the report. It is caused by many factors. During the execution of this study, some students already have a note book, but the amount is less than half number of students overall. Therefore, at the time of implementation of this research students are grouped by the number of members of the group consists of 3 to 4 people.

In addition, students are also given homework to be done at home. It is intended that students learn from the media CITEVIR then be able to answer questions on a given task. Based on the results obtained almost 100% of students do a good job and get satisfactory results. In this case, the student assignment average much higher than the value of the final evaluation. However, the results of student learning or the final value not only from the final evaluation but also of the value of practical reports and assignments with different weighting proportions. Virtual lab work on the material system excretion did not use real but only a simulation laboratory.

Experiment using Virtual lab also has some weakness, such as not giving an opportunity to the students to show activity psikomotorics of student's skills in using tools and materials laboratory [5]. In such conditions, the understanding gained students through virtual lab is not the same as understanding the student obtained through direct practice with real tools and materials.

4. Conclusion

The results of the overall study shows that CITEVIR (Interactive multimedia with puzzle education game and virtual lab) very viable to implemented in teaching and learning of excretory system, got a positive response from students and teachers, and effective to improve learning outcomes and student activities in class.

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THE PROCESS OF STUDENTS' CHARACTER BUILDING THROUGH TEACHERS' SPIRITUAL LEADERSHIP

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Abstract

The purpose of this study is to describe the process of learners' characters building through teachers' spiritual leadership. This research was conducted in the State Primary School of Kauman 1 Malang. In relation to the purpose of this study the writer focus on the building of the students' character since childhood. It is in line with the team of Directorate Primary Education, 2012 stated that the national education character has a strategic role performed by the government through the schools, communities, and families in order to build character and noble civilization dignified nation based on the framework of national life comprehensive of Pancasila and UUD 1945. The writer believe that the appropriate time to teach the children moral and religion values is in the Elementary school periods. It is very important to make people not only smart but also have a good character, in order to make them have a strong foundation to face all the problems in their life. The process of character building is done by the teacher through the spiritual leadership. This study is a phenomenological qualitative approach with case study aimed to investigate and describe the detail process of students' character building through the teachers' spiritual leadership. Moreover, in order to find out the accurate data, the writer conducted observation, documentation, and interview with the elementary school teachers. The results of this study show that the schools implemented various policies which became the culture in the school; it starts during the school program till the students' daily activities that should be done by all the students regularly. All activities are led by teachers as the instructional leaders with their own spiritual background. In addition, supports from the students' parents were used as one of the key success in the process of building the students' character.

Keywords: students' character building, spiritual leadership, teacher

1. Introduction

There are many ways needed to improve the degeneration of the moral life, it starts from the arranging the fundamental changes in the national curriculum until the internalization of character education in every subject in the school. The government began to intensify character education as one of the policy of national education, considering the character education is something that cannot be separated from the goals of national education in Indonesia. Quality characters need to established and nurtured from an early age. Early childhood is a critical period for the establishment of a person's character. Failure planting character from an early age will form his mature personal problem later. Besides, instill moral to the younger generation is a strategic effort in the formation of character.

Building moral through education as early as possible is one of the important things for children. Character is not something innate that cannot be changed again as a fingerprint. It is a fact that cannot be denied, that the personality and character of the children of this nation awakened generation of the family pattern as the first educational placement that gives the values of personalities such as discipline, cooperation, kindness, honesty, solidarity, empathy, and other positive character. In the classroom, the character building is supposed to do. Furthermore, it also had to be instilled through the activities such the implementation of habituation, spontaneous, unplanned, and giving good example.

Teachers as education component are expected to have a fundamental understanding of the true nature of learners. Moreover, to cultivate the talents and interests of learners the teachers should provide the direction lovingly in healthy social relationships. Likewise, teachers should understand that the learners have motivation, trends and basic needs, whether derived from heredity (genetics) and non-descendant factors,

such as intelligence, aptitude, interest, art and so on. On the other hand, the students also require the interaction with the environment, the award of the community as a reflection of the needs of education, social status, engaging with the community and so on.

Teachers not only appear as a teacher, but also as a coach, mentor, learning manager, friend, even obligatory as an educator and leader who exemplified for learners (Sari, 2007).

Abdussalam (2011:159) stated that teachers are required to have personal competence, social competence, professional competence, and pedagogical competence. Personal competencies include faithful/devoted and focused on the road piety. Teachers as educators in the act, think, act and behave in everyday should always measure themselves with personal competence. Social competence related to good attitude and Islamic civilized was in good relationship with human and environment. Professional competence is related to the science to be taught and continue to improve and follow the development of technology that supported the process of learning outcomes and education for their students and themselves. Then, the good teachers should also have a good ability in analyzing the material for teaching and conducting research. Teachers' pedagogical competence is constantly improving the quality and knowledge about how to educate students or to increase the aspects related to the development and growth of learners and their implications on children's education.

Effective leadership is a multi-disciplinary, it involving not only the discipline of sociology, psychology and technology, but also spirituality. The new approach is effective because of the different ways offered to gain a deeper spiritual insight of themselves as a leader, but also around it to others with whom to interact leaders, and others who are affected by the results of their leadership. It also in line with Burke (2006) who stated that Effective leadership is multi-disciplinary, involving not only those disciplines of sociology, psychology and technology, but that of spirituality as well. This new approach is effective because of the different ways it offers of gaining deeper insights into a leader's own spiritual self, but also beyond this to others with whom the leader interacts, and others who are affected by the results of their leadership. The purpose of spiritual leadership is to touch the fundamental needs of leaders and followers for spiritual survival through calling and membership. So, it can create the vision and values congruence across individuals, empowering the team, and organizational level, and ultimately to lead the higher levels of organizational commitment and productivity (Fry et al, 2005).

Leadership involves feelings and behavior which is irrational and rational behavior of followers. Leadership as a process of influencing a group organized to achieve the goals of the group (Hughes, et al, 2012).

2. Method

This study focuses on the process of character building of learners through the spiritual leadership of the teachers, which includes the internalization of character education in learning, teachers role as a models, and the application the values of spiritual leadership of the teacher, so the teacher as an educational component is expected to have a fundamental understanding of the true nature of learners.

This study used a phenomenological qualitative approach with case study. Interviews, observation, and documentation conducted by the researcher to obtain the accurate research data. Interview guides used only contains the outlines of the problems that will be asked (Mantja, 2007). Researchers noted only a few topics that will be questioned to the informant related to the focus of this research. Interview used in this study were in-depth interviews, intensive interview, and unstructured interviews. The characteristic of unstructured interviews according to Ulfatin (2013) is (a) open ended questions, (b) the questions is very flexible, (c) the informal form of conversation, and (d) the situation informal.

The focus of this research can be observed to the integrity of the data collection which is done repeatedly. Data analysis was conducted through reviewing the data, organizing the data, dividing into units, synthesizing, looking for a pattern, finding the meaningful data, and systematically reported (Bogdan & Biklen, 1998).

3. Result

The results of data collection through interviews, observation, and documentation obtained some findings about the internalization of character education in the learning, the expected target in the vision and mission of character education students poured in RPP is applied to the learning activities. Daily habituation programs and extracurricular activities/incidental (eg PHBN, PHBI) is also

used as a means for internalization of character education.

The process of character building of learners through the spiritual leadership is one of teachers as models who serve as good models for students. Teachers become the parents also for students have the important role in the process of learners' character building.

The Application value of spiritual leadership in the form of assignment of teachers conducted in groups. Each group consists of members ranging from lower to upper class. The assignment was given to the groups include; Friday clean, and the implementation of the Friday prayer together for boy learners, while for the girl they have "keputrian" class with activities carried out studies of young women around the world.

4. Discussion

Tobroni in Julianto (2011) stated that spiritual leadership style based on the values of the deity, leadership imitate God and be "pipe" channels of God's grace. Noble spiritual leadership can create an effective industry. Standard effectiveness is measured in three ways; organizational culture conducive, effective organizational processes, and innovations in the organization. Based on public elementary school, this school has a school culture with a strong moral content and spiritual. Positive values imparted to the students so that they understand the values and norms of goodness in society, as their knowledge for their future. All the learners' needs have to fulfill not only cognitive aspect and psychomotor aspect, but also affective aspect. Good character will surely make the learners to be a good personality. Good character as stated in the vision and mission of the school is set forth in the RPP and actualized in learning activities. Working in groups is a form of cooperation with others, presentation of the work is a form of courage and responsibility, which is the form of internalization of character education in learning. Bafadal (2003) in Julianto (2011) stated that the qualified schools/madrasah is the school/madrasah was able to carry out its mission in order to achieve the objectives of education. It is recognized by the principal that the rule used in the application of the characters on the learner is using Islamic rules because 90% of the students and teachers are Muslims. Still not close access to students of other faiths to remain in force and act in accordance with their respective belief. Services in addition to religious education for non-Muslims were still given despite join other elementary schools.

Spiritual leadership in influencing the unrevealed teacher, who led the way to motivate in order to have a strong passion to subordinates, lightens the mood by creating a conducive atmosphere, organizations, steering the mission / purpose of the organization, and uplifting to improve the quality of human resources (Julianto, 2011). Various programs were made for planting character habituation to students, ranging from speech in the morning when students arrive at school conducted by principals and teachers who set according to the agreed daily picket, then the meeting in the morning filled with a variety of activities including a conversation in English and Java (Pacelathon), an also pray on Friday clean. The implementation of the habituation is different every day. Subsequent habituation after entering the classroom before class performed a prayer led by the teacher in charge of the office staff through the microphone that is connected directly to the classes. Followed by reading Juz Amma in each class, because each level has different a target of readings. In the first breaks of school activity around 9am, the learners are given the time to conducted the Duha prayer for 30 minutes. Furthermore, the school also has the habit to conducting midday prayer along with all the entire school community, including teachers and staff. The activities carried out regularly every day.

The school principal said that they wants to build the students believe that teachers are also their parents in the school, which will cause the closeness between teachers and learners, if they are closed each other automatically the teacher will be easier to guide the learners. The spiritual leadership of teachers appears from the way to affect others, the way to inspire, enlighten, awaken, enable and empower through a spiritual approach (Julianto, 2011).

5. Conclusion

From the results of the research and discussion, it can be concluded that in realizing the vision and mission of the institution need various ways that the internalization of character education in the learning according to the expected target. RPP used during the teaching and learning activities designed as such by inserting the targeted character, then to be realized in the teaching and learning activity. Daily habituation programs and extracurricular

activities also used as a means of internalization the character education.

Then, the process of characters' building of learners can be conducted through the spiritual leadership of the teacher as a role model who serve as good models for students. Teachers become the parents for students in the school also one of the process of characters' building of learners, because the closeness between teachers and learners will be easier in guiding the learners.

Finally, the application of the spiritual leadership values of teachers can be conducted in the form of assignments and activities in groups. Each group consists of members ranging from lower to upper class. The group assignment include in the teaching and learning in the classroom are; "on Friday clean", and the implementation of the Friday prayer and so on. In this group of activities is expected that the interaction between learners and teachers are also involved in it, so that the application of the leadership value can be achieved.

6. Suggestion

Last but not least, the researcher also has some suggestion addressed to schools that the results of this study would be useful for the delivery of basic education, especially for the internalization of the character education learners. The planning of internalization of character education utilize in the realization in the teaching and learning activities.

The second suggestion is addressed to the Ministry of Education; that the results of this study should be used as the importance input of character education. The elementary school is the appropriate level to implement the character education on students as early as possible.

The last suggestion is addressed for further researcher, in order to use the result of this study as the inputs that can be utilized and developed in subsequent studies, related to the topic of character education students through teacher of spiritual leadership.

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MEANINGFULNESS OF LEARNING MATHEMATICS IN BUILDING THE SPIRIT OF ENTREPRENEURSHIP

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Abstract

Anyone would be surprised to hear that there are still many students who sit in 6th grade elementary school, complained when they have to study mathematics. By asking a few of the reasons why students do not like math, find answers including "math is difficult, math is boring and not fun". Why it happened like that? Who should be responsible, parents or teachers? When the mathematics learning process is ongoing and the lack of significance it is certain there will be boredom. If students are bored, then the feelings that arise are displeased and the next due to the difficulty in learning. Penchant for mathematics learning will not occur if the students do not understand the benefits of what is being studied. Based on ex post facto study, after the fact, and further explore the causes why the learning of mathematics is unpopular with students. Observations and interviews with primary teachers, as well as school teachers and high school teachers, found that not many teachers who are able to carry out the mathematical learning be fun and meaningful, let alone which can establish entrepreneurial spirit. The conclusion shows that there are 88% of the 25 elementary school teachers, 80% of 10 junior high school teachers, and 80% of the 10 high school teachers within the first half of the teachers, was less creative evident from statements made themselves that the person concerned has not been think about how the application of mathematics learning meaningful and enjoyable experience to prepare students for life useful to be able to build the entrepreneurial spirit that is to prepare students who later able to live independently. Furthermore, it takes the direction and motivation or training can foster innovative and creative spirit of the teachers to associate each material mathematics with economic needs in achieving their hopes and dreams, so that tomorrow is better than today.

Keywords: application, the significance of mathematics, entrepreneurial spirit

1. Introduction

All parents always have hope in the future of their children grow and succeed independently. Through education in schools, the parents really want that hope can become a reality. But the reality is often not as expected, like when we heard that there are many students who sit in 6th grade elementary school to complain when one day have to study mathematics. Complaining is a sign unpleased, so that the teachers should be sensitive to the "chatter" of the students when they spontaneously expressed are not happy at math. Teachers should have the ability to introspect on how to teach that become habits. When teachers take pride in teaching habits that had been done, then do not realize that what happened the teacher "static" and delighted at this habit may be unpleasant for the students.

As the teachers should be aware that there are at least three roles that should not be forgotten such as an **instructor**, the teachers must be able to instill the concept of learning math is right and strong as the foundation or basis of mathematical thinking. Mathematical concepts should be invested in the right way and is able to adjust the curriculum demands in force. As an **educator**, the teachers must be aware that this day should be better than yesterday so that teachers will need to innovate the formation of such a character, especially at ourselves and then innovate in the learning process in helping students achieve their goals. As a **coach**, the teachers must be aware that its main task is to train students to have the mathematical skills such as counting skills, measure, predict to equip community life.

Not much is known about what steps should be done by the teachers to achieve the title of professional teachers. Maybe it all depends on the sincere intention in the heart and soul of each

the teacher. Many options can be used to create an active learning mathematics, creative, innovative, fun, and meaningful. However, in reality each teacher who admitted they had long taught, was already old age, and was already maximal in teaching, still looks "shocked" when receiving suggestion that the learning process is needed meaningfulness. By the suggestion words in the meaningfulness of learning, it appears various reactions from teachers who had consulted on how to teach the fun.

If teachers educate someone just to think just with the mind, without moral education means building a threat to public life [1]. Moral education is the basis of the development of all the knowledge needed for the provision of future life, so it takes the role of the teachers who understand how to educate moral. Especially moral independence in dealing with problems of life. For teachers who felt "great" are certainly not interested in this subject, but for teachers who have an open soul and always want to be better than before, start asking how the application of mathematics learning meaningful and fun for students.

Significance of the circumstances indicate that the submitted already has significant meaning can be understood. Meaningfulness in learning mathematics is a condition that meaningful learning mathematics are important and useful or beneficial to students' lives. Students feel the need to learn math so they no longer feel bored in learning. Characteristic of meaningful learning, students will make at least the spirit and they begin to comment "yes yes"; “oo so yes". As evidence, usually students are able to show enthusiasm, able to provide arguments of each answer, and are able to show other examples around them.

Meaningfulness in learning mathematics can build entrepreneurial spirit when teachers observant and sensitive to the content of learning materials that can be used to build the entrepreneurial spirit of students. Such as playing a role in the buying and selling, profit and loss, calculate prices, tare, gross, predict the size based approach, predict events based on probability. All the material will not be difficult to understand the students, if the teachers are able to make a real sample questions and engage students actively in the learning process of mathematics.

Actually, in all the learning process with any subject, must be a provision for the independence of student life later in life, when students face this life with family and forced to live alone. If later the students have to face his own difficulties, usually automatically as humans begin to think "Can I do something?" Then in their mind are everything that is memorable. What are memorable for students, certainly all the activities that have been done, especially when with their teachers.

Environment that is meaningful not just happen, but it requires effort from parents and educators in the community [1]. Teachers need to think about the requirement of students for the provision of independent living, so they could create a meaningful learning environment. Furthermore, it can be observed that from any side of mathematics is actually very useful as the provision of student life so that teachers must be willing and should not be upset if suppose there is a saying that "there is an error on the teachers, if there are students who do not like math". Is it true that when students expressed dissatisfaction with the math, it means that there is an indication that the teachers have not been able to teach mathematics significantly?

How to teach meaningful mathematics for students? What the entrepreneurial spirit is? Which mathematical material that students can build entrepreneurial spirit?

2. Method

Ex post facto research method is used as one of the types of approaches in research and is often referred to *after the fact* means that research is conducted to determine the causes of the events that have occurred. *Ex post facto* research is a systematic empirical investigation which the researchers did not control the independent variables directly as the embodiment of these variables has occurred [2]. The independent variable in *ex post facto* research is the variable that cannot be manipulated as a method of teaching or learning process that has occurred. *Ex post facto* research methodically also testing the hypothesis as well as experimental research but did not provide specific treatments.

This study is used to reveal what causes 6th grade students still complain and do not like math. How the way of teachers teach math? Have the teachers associate teaching mathematics to build entrepreneurial spirit? If anyone was ever do, like what? Symptoms or behaviors of students who are displeased with the subjects of mathematics, observed and obtained through observations and interviews with students and teachers after the learning process occurs.

Excess *Ex Post Facto* research methods will yield useful information about the nature of a phenomenon; can be used repair technique, the existing control programs [3]. In this study obtained information that turned out to students

who are displeased about the math lesson never or less actively involved in the learning of mathematics. Example of questions that are given, test questions and homework are less associated with problems of daily life, making it less attractive to students.

Lack of *Ex Post Facto* research methods, there is difficulty in determining the factors of the relevant causes; there is main weaknesses of research designs *Ex Post Facto* in the absence of control over the independent variables; difficult to determine the cause and effect relationship between two variables when it has been revealed [3]. Despite the weakness in the results, but there are weaknesses that can be utilized for the development of further research.

By interviews, students do not like math, it was found an answer that "math is hard and not fun". When the lack of significance of the mathematics study, it is certain there will be boredom students towards mathematics courses. Penchant for mathematics learning will not occur if the students do not understand the benefits of what is being studied. Based on *ex post facto* research with observations of mathematics during the first semester of study, it was found that not many teachers who are able to make the learning of mathematics in elementary school, junior high school and high school, it becomes a fun activity that can build entrepreneurial spirit.

It is required instruction for the teachers to apply mathematics learning that is meaningful and fun for the useful life of the students and be able to build entrepreneurial spirit.

3. Results and discussion

The results of this *ex post facto* study, it was found the cause of why the students are displeased about the math: first, most students do not realize that every day in this life we are always using mathematics. Starting from simple, we all sleep (how many hours the students to sleep) then how many minutes the students to shower, eat breakfast, and get ready to go to school so as not to be late. Calculating how long hour drive the students to school, for example, must walk, or ride a bike. Calculating how much pocket money received from parents, it has been used to buy anything, and it should still there or has run out. Second, the lack of teachers engage the students actively in the learning process, such as measuring the length and width of an object, counting the money to be paid if the price has been discounted. Third, teachers are aware of the shortcomings and claimed never have thought to build a spirit of entrepreneurship and prepare the students' independence. Teachers prefer to use the sample questions are available in books and admit rarely make own questions related to daily life. Teachers admit never persuade students to play a role as in buying and selling, pay shopping with discounts, counting the money back. Teachers often make questions about the form of numbers without the story first, it contributes about story questions seem difficult.

3.1 Changing Paradigm of Learning Mathematics

The paradigm of "teaching" in our country today still dominates in mathematics learning activities in school. Students are still regarded as objects who do not know anything, clean white paper to be filled posts by teacher, or an empty glass to be filled with water. Otherwise, the teachers are positioning themselves as superhuman who knows everything and the only source of knowledge. Teachers lecture, patronize, and the highest authority in the classroom is in the hands of teachers.

Excessive emphasis on the contents and materials that are curriculum load and taught necessary due to teachers' ability. Materials are provided in the form so that the language of the book uses the language of smart people, so in terms of language students have difficulties, especially its materials. Mastery and students' understanding of mathematical concepts are very weak and not deep, so the learning achievement is low. The knowledge that is accepted passively does not make math meaningful for students. The paradigm of teaching like this should be left in the classroom. It is time for *teaching* paradigm is replaced by the paradigm of *learning* when reside in the class. This is consistent with the theory of constructivism.

In the theory of constructivism, the students are no longer as an object but they are positioned as a subject. The knowledge is no longer as something that is already made, but it is a process that must be researched, well thought out and constructed by students. Thus, the students are expected will actively in learning. It makes students must actively find their knowledge that they want to have. The task of the teachers is no longer transferring knowledge to students, but how to create an atmosphere of learning and plan learning activities that allow students to actively construct knowledge possessed by the students themselves, so it would be more meaningful learning activities for students.

Mathematics learning activities in schools will be effective and meaningful for students if the learning process of students consider the

context. The real context of the students' life includes physical background, family, social, economic, cultural, religious and other living reality. Insight and understanding that brought students when starting learning activities, feelings, attitudes, and values that are believed to students is also a real context. Consequently, to change the direction of mathematics learning constructivist approach or realistic, mathematics learning should be planned and conducted in such a way that every student with a unique context and get a chance to re-construct knowledge with their own strategy.

In the process of learning mathematics, students often have difficulty in learning activities. Therefore, the teachers need to provide support and encouragement to the students in the learning process. The provision of assistance that enables the students to solve problems, perform tasks, or achieve the goals that impossible endeavored by students. If the students are able to connect or relate the information in the possession of knowledge that is said to occur meaningful learning. However, if the students memorize new information without connecting to the existing concept in the cognitive structure is said to occur rote learning

3.2 What is Entrepreneur?

Entrepreneur is a real willingness and ability of an individual, which is derived from themselves, inside as well as outside the organization that exists to discover and create new economic opportunities. [4]. Why do the students need to get supplies entrepreneur?

1) Opportunity

Equip the students to watch their opportunity become future leaders in the business that will be built. Leadership is a main factor become successful entrepreneurs. Dare to be forward facing new something though risky.

In addition, it will get a chance to succeed. The success achieved by the person who has the entrepreneur spirit and makes motivation to continue to reach the success in his life. For them the future is success and success is a beauty that must be achieved in their life.

2) Profit

One of the reasons that excite into someone entrepreneur is a benefit which is obtained. The students need to be prepared to be rich person in business what they do with persistence and tenacity.

3) Independence

Some entrepreneurs are not comfortable when working for someone else. One of the best to be an entrepreneur is the independence to pursue ideals.

4) Challenge

Prepare students' mental dare to face the challenges of the profit and loss of a business. May often read or watch some cases the bankruptcy of a company. Introduce a dynamic life in the company work. The choice depends on the student, if finally the student choose the entrepreneur world.

3.3 What it takes to be an entrepreneur?

1) Self-directed

The students must be discipline and really comfortable being a boss. They later will be responsible for the success or failure.

2) Self-nurturing

The students must believe in their own ideas even when no one else agrees and should be able to recharge themselves.

3) Action-oriented

It is not enough just to have a great business idea, the most important is the burning desire to realize, actualize, and create dreams into reality.

4) Highly energetic

The students must be able to handle the emotional, mental, and physical to work hard in long terms. The employees can have the day off in the weekend, besides entrepreneurs often work seven days a week full and no annual holiday, but most entrepreneurs think it's better than working a long time for someone.

5) Tolerant of uncertainty

The success of entrepreneurs is that they must take into count the risks and able to handle it. Entrepreneurial teams is a collection of experienced people from different business areas to join together to form teams with managerial skills/ expertise required to build, develop and market new products.

3.4 Why Learning Meaningful?

Teaching significantly (meaningful learning) is intended as the way to teach the subject matter that promotes understanding rather than memorizing. Learn significantly more emphasis on the process of products. Mathematical concepts cannot be taught by definition, but should be through relevant example. These examples should involve a certain concept has to be guaranteed that the concept has been formed in the mind of students who are learning.

No human being may grow perfectly, morally or practically. They are heading in that direction. If like that, which became the result is a long business life, both personally and in

society [1]. Effort of long life begins at home and school. From home can be trained to live frugally means not wasteful in the use of money. Excellent schools that have 99% proficient students, teachers often do not bother to form an independent character. Clever students usually have the ability to learn independently and are responsible for chores and schoolwork, but it required the planting concept of how to productive live and not consumptive.

In growing practically, the students are need of guidance and proper exercise through the significance of story questions associated with student life. For example, since in the 3rd grade in elementary school, there is material currency on mathematics, the type of work and the type of market in the Social Sciences, expenditures in Indonesian language, for teachers who "precise" is expected to associate the material in playing a role to build entrepreneurial spirit.

It needs learning planning who acts as a trader, who is the buyer, who become parents. Makes a story that parents give money and order their child to shopping kitchen need. The dialogue is prepared, the media in the form of goods sold given the label price and adjusted to current prices, it can use real money or money clone. On the matter of currency; type of work; types of markets; shopping is a knowledge basic of buying and selling; profit and loss; net, gross; discount, which can be used as the initial formation of entrepreneurial spirit. If developed further and skills associated with the subject, can be thought of what can be made from inexpensive materials, but can be sold and interest many people. Persuade students to think, who know they can find a brilliant idea. Like making handkerchiefs, napkins, tablecloths, seat cushions batik. Invite students calculate the capital and the process of making, propose selling price to make a profit or gain.

In addition to entrepreneurial spirit can also be formed precise character before buying, buying the appropriate capabilities and needs, resist the urge when insufficient finances, saving efforts to fulfill the greater needs. If you look at the performance of teachers like this, how great their services in giving basic of logical thinking, systematic, consistent and comprehensive. Learning to accept and find both of them can be significant when learning new concepts or new information associated with concepts that already exist in the cognitive structure of students. Necessary steps that lead to the activity of meaningful learning for students are as follows:

1) Orientation teach not only in terms of academic achievement, but also directed to develop a consistent attitude and interest in learning as well as the students' base potential, such as counting, measuring and predicting.

2) The topics are selected and studied based on the students' experience. The lesson is not perceived by students as a task or something imposed duties by the teacher, but rather as part of or as a tool needed in students' life.

3) Teaching method that is used should make the students engage in direct activity and fun play.

4) In the process of learning should be prioritized opportunities for the students to play and cooperate with each other.

5) The subject matter that is used should be concrete materials.

6) In assessing the learning outcomes of students, the teachers not only emphasize the cognitive aspects by using a written test, but also should cover all domains of behavior the students relevant to involve a number of assessment tools.

Based on the description above can be concluded that the *ex post facto* research is the research that can explain the cause and effect of the learning which has occurred in the majority of elementary schools, in junior high school, and in high school. In the study was interrelated and influence each other between the attitudes of the students (as a result) the teacher's teaching style that previously experienced by students (as the cause), and can be found how the symptoms or behaviors that occur. The learning process will have an impact on the outcome of in-depth study, both individually and also in groups. Learning about the concept would be more meaningful if adapted with the learning styles of students who take advantage of interactive learning media. It can automatically obtained better learning outcomes and develop interest in entrepreneurship [4].

Meaningful learning is the most dominant factor affecting student interest in entrepreneurship [5]. Symptoms of interest entrepreneur students can be seen from the attitude of interest in the purchase, create works that can be sold, money counting skills, calculate the equity value of money, interpret discount, interpret profit, and so on. Entrepreneurial spirit can be observed through the interest and attitude is a form of student attention as effort pay attention to the lesson, so that they can focus on a specific object. This concern arises because of something that is exciting and impressing of the learning process fun and meaningful.

An entrepreneur is one of who creates a new business in the face of risk and uncertainly for the purpose of achieving profit and growth by identifying opportunities and assembling the necessary resources to capitalize on Reviews

those opportunities [6]. The entrepreneur is a person who is able to manage and dare to risk to create new businesses and business opportunity and be able to appreciate the time and responsibility. Entrepreneurial spirit is a mental attitude, knowledge and thinking and follow someone on a task that is its responsibility to its customers. The ability to create something new and different through creative thinking and innovative action to create opportunities for the challenges of life [7]. By having a consistent mindset and follow the pattern of the spirit, it will always appear feelings of love to learn mathematics.

The results of other research that in learning which uses of constructive collaborative and inquiry-oriented Chemo Entrepreneurship CEP are able to improve learning outcomes and students interest in entrepreneurship [8]. Active learning and creative process, especially in mathematics learning supported by a pleasant atmosphere and actively involve the students will make its learning the impression of depth and will be able to build a spirit of entrepreneurship, later the students can be equip it to live in the community.

4. Conclusion and recommendation

Many students are displeased about the math was caused by a lack of teachers actively engage students in the learning process. Some teachers are not understand about how to enable the students so that mathematics learning becomes meaningful and useful as a provision of life in society. The teachers still need referrals, training on how to teach mathematics and select materials that can be used as the basis to build entrepreneurial spirit for their students.

Through in-depth study of the material can be developed to build entrepreneurial spirit, such as calculating the profit or loss of accuracy about the real story; measure and make questions from the concept of geometry; play a role in the sale and purchase using discount rules. Train the planning of needs, and spending through diligent saving. Make an effort to fulfill the needs through creativity, productivity and not the consumptive. The most important for teachers to be able to equip students to have a strong entrepreneurial spirit for supplies in the future through meaningful mathematics learning.

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THE ROLE OF MADURESE CULTURE IN CHARACTER BUILDING OF ENGLISH DEPARTMENT STUDENTS AT MADURA UNIVERSITY

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Abstract

University is a place to conduct intellectuals' production. It takes its responsibility to build a teaching learning process with no lose to characters. It determines the human recourse products of a nation. Saving the human character is not easy since the influence of globalization. One way to keep the individuals' character is through the recognition of their own culture. Culture can be a filter to the students in the University.

This study aims to investigate the role of madurese culture in character building of English Department students at Madura University. The research population comprised all the students at English Department of Madura University. A sample was established using the proportional stratified random sampling technique. This study is an ex post facto research, using quantitative approach. The data were analyzed by simple regression technique.

The result of the study shows that the role of madurese culture in character building of English department students of Madura University is low (0.224). Madurese culture builds the character of Madura University students. Students of Madura University have greater interaction to madurese culture get more their characters than those who do not interaction to madurese culture.

Keyword: character building, madurese culture

1. Introduction

Culture is the origin of human progress and creativity. It is impossible for human being to mature up without culture. Culture is the identity of somebody. It creates the fundamental building characters in individual personality and in the ties linking to communities. Experiences, beliefs, values, attitudes, meanings, religion, notions of time, roles, spatial relations, concepts of the universe belong to culture. Every community has their own ways of life. Javanese, sundanese, madurese has their own belief and customs.

The race bull is one of madurese culture. This race is known as *Kerapan Sapi*. *Kerapan Sapi* is yearly held in different localities to get togetherness. In addition, it is held to keep the culture of madurese. *Kerapan Sapi* is the characteristics of madurese. Moreover madurese are also characterized as hard workers, inflexible, brave, and truthfulness. Madurese are also known as a spirit man. They are enthusiasm in doing something. It is not an alien and it is legal to say madurese are getting their success wherever they are. They are full of motivation to do something. They think fast, do fast, and act fast. Those are the characteristics of madurese. Nevertheless madurese are recognized as sharpness, anger, remoteness and have doubts about towards strangers. Madurese think that family is important. They usually live in the village to gather with their family.

Culture is considered as the starting point of the mental picture of national building creating a society with good actions, moral, ethics, and good civilization. It enhances the scholar capacity and develops students' potentials with the intention that they become persons filled with human values that are truthful and moral to one, educated, competent, creative, independent, democratic and responsible.

Building the character is not simply up and down the hands. Building character is a progression. According to Jack (2014: 9) character building is about spirit and intension and less about the eventual outcome. People particularly students have to be responsible for the action having been done and move forward to get the progress. They should learn from their mistakes and accountable to the situation.

Building students' character takes a long time and be supposed to be made constantly. One of the efforts to achieve noble character, the students must be provided with particular education bringing the center work of the education character or moral values. Character building is an important part of education performance. Character is the natural in a person. People have love of good value, but if it is not accompanied by the potential for education and socialization.

Developing character is the obligation on people, not least on parents. Komaruddin (2012: 225) states that character is a set of knowledge, attitudes, and motivations, and behavior and skills. Character covers human activities related with God, him/herself, with others, as well as with the environment expressing in the mind, attitudes, feelings, words, and actions based on religious norms, laws, manners, culture, and customs. Character building is also the obligation on teachers or educators.

University is not just about learning concepts. It is a place that can be built for becoming upstanding students. Every university should set a tone of respect, honesty and kindness for students. Lecturers are role models for students and can provide examples of good character. However, character building can also be done proactively through planned actions and activities within the classroom. These classroom activities will encourage students to develop and adopt quality ethical principles and behaviors. Students in the university are going to lead the right thing, not to do the wrong one.

It is believe that education is the central starting place of the people development of a country. Education is having a deliberate position in the delivery of characteristic human resource products. University is able to renovate the quality of societies. Therefore, characteristic education becomes something that should be translated totally in the educational development of the inhabitants

In the present day students of university including students of Madura University is likely to leave their culture and values. They are losing the sense of loving, honesty, and respect, either to their peers, teachers, parents, or to the elders. They put some paints in the classroom, throw rubbish at any inappropriate place, cheat during the exam, to lie to the teachers for saying they are sick, have someone else do their homework, thesis proposal and thesis writing, and do copy-paste for the assignments.

Madura University is a university located in Pamekasan, Madura. Madura University is the oldest university in Madura. The name of Madura University indicates that the university belongs to Madura. It shows that this university love Madura.

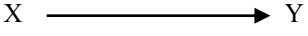
To keep the sense and belief of Madura, Madura University takes some actions such as revising the curriculum. Today English Department of Madura University is not only introducing the western culture but also introducing madure culture to the students through *Pengenalan Budaya Lokal*. This subject is talking about Madura and its custom, belief, local wisdom, etc. moreover, it helps the Madura University students keeping their feet in the ground of madurese culture. It is important to discuss more about the role of madurese cuture in students' character building of English Department of Madura University. This study aims to examine the amount of madurese culture in character building of English Department Students at Madura University.

2. Discussion

The study is categorized into a quantitative approach. The data in this study is in numbers and a statistical analysis used in it. This study is an ex post facto research. This research is teasing out possible previous circumstances of the role of madurese culture in students' character building at English Department of Madura University that have happened and cannot be controlled and manipulated.

There are two variables in this study that are independent and dependent variables. The independents variable is madurese culture (X) and the dependent variable is the character building (Y). The following figure is the design on the relationship between independent and dependent variables.

Figure 2.1. Research Design



Explanation:
X : Madurese Culture
Y : Character Building

The population of the study is all of the students at English Department of Madura University that consist of 130 students.

Table 2.1. Population

No	Group	Amount
1	2011/2012	47
2	2012/2013	46
3	2013/2014	37
Total		130

Because the population consist of three groups, so *proportional stratified random sampling* as sampling technique.

Table 2.2. Sampling

Group		
2011/2012	47/130 x 95 = 34	= 34
2012/2013	46/130 x 95 = 34	= 34
2013/2014	37/130 x 95 = 27	= 27
Total	95	=

In collecting the data, questioners and attitude scale were used as the main data. The observations and documentations were the supporting data. Then, the data was analyzed by simple regression technique by a computer program *SPSS version 16 for Windows*. This study predicted the amount or values of character building of English Department students of Madura University from madurese culture. Undertaking simple regression, normality and linearity tests were undertaken.

Test of normality used was to know whether the data in normal distribution. If the test is non-significant ($P > .05$) it tells that the distribution of sample is normal, but if the test in significant ($P < .05$) it indicates that the distribution of sample is non-normal. Table 2.3. Tells the result of the normality test.

Table 2.3.`The Result of Normality Test

One-Sample Kolmogorov-Smirnov Test

		X	Y
N		95	95
Normal Parameters[a,b]	Mean	12.0316	57.8632
	Std. Deviation	1.53299	5.94140
Most Extreme Differences	Absolute	.128	.073
	Positive	.128	.047
	Negative	-.126	-.073
Kolmogorov-Smirnov Z		1.252	.708
Asymp. Sig. (2-tailed)		.087	.698

Linearity test is not linier if the ($P > .05$), but it is linear if ($P > .05$). Table 2.4 tells the summary of linearity test.

Table 2.4. The Summary of Linearity Test

Linierita s Variabel	Probabilita s (p)	Kriteri a	Keteranga n
X – Y	0, 033	0, 05	Linier

The data of madurese culture were gathered by questionnaire in this research. The statistical descriptive results show that the mean is 12,03, median is 12, and standard deviation is 1,532. Students of English Department at Madura University act together to madurese culture can be categorised as in Table 2.5.

Table 2.5. Percentage Criteria of Madurese Culture

		Frequency	Percent
Valid	Seldom (> 7.8 – 10.2)	16	16.8
	Often (> 10.2 – 12.6)	42	44.2
	Very Often (> 12.6 - 15)	37	38.9
	Total	95	100

The output of SPSS program 16 for windows estimation indicate that English Department students of Madura University are often relate to madurese culture.

The data of character building were gathered by attitude scale. The statistical descriptive results show that the mean is 57,86, median is 58, and standard deviation is 5,94. Character building of students at English Department of Madura University can be categorised as in Table 2.6.

Table 2.6 Percentage Criteria of Character Building

		Frequency	Percent
Valid	Seldom (> 32.6 – 49.2)	8	8.4
	Often (> 49.22 – 65.8)	79	83.2
	Very Often (> 65.8 – 82.4)	8	8.4
	Total	95	100

The output of SPSS program 19 for windows estimation indicates that character building of English Department students at

Madura University is good. Most of English Department students at Madura University are disciplined, responsible, open minded, concern for other, etc.

There is a positive and significant role between madurese culture (X) and character building (Y) of English Department students at Madura University. The output of linier/simple regression for the hypothesis is presented as in Table 2.7.

Table 2.7. Summary of Varian Analysis of Linier Regression

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	742.185	1	742.185	26.794	.000[a]
Residual	2576.036	93	27.699		
Total	3318.221	94			

The table 2.7 indicates that sig. (*p*) is significant. So, linier/simple regression proposed estimate the role of madurese culture (X) in character building (Y) of English Department students at Madura University. It can be said that there is a positive and significant role of madurese culture (X) in character building (Y) of English Department students at Madura University.

The estimation of the independent variable is done by looking at coefficients variable as in Table 2.8.

Table 2.8 . The Coefficients' Summary of the Role of Madurese Culture in Character Building

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
Constant	35.810	4.295		8.338	.000
Maduerse in character	1.833	.354	.473	5.176	.000

In *unstandardized coefficient* of Table 2.8 shows that constant $b_0 = 35{,}810$ and $b_1 = 1{,}833$. Therefore, regression model that is proposed can be formulated as follow.

$\hat{Y} = 35{,}810 + 1{,}833$

As a result, the model proposed is significant, the estimation, prediction, and inferential process can refer to the model. In Table 2.9 as follow *adjusted* R^2 score indicate that the amount of the estimation is showed in R^2 score. The R^2 score is corrected for part of (b_0) in order to get *adjusted* R^2 score. The score shows that the variant of madurese culture in character building of English Department Students at Madura University, but the rest 78,5% (100% - 21,5%) relate to another factor.

Table 2.9. The Coefficients' Determination of the Role of Madurese Culture in Character Building

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.473a	.224	.215	5.26301

Statistical descriptive analysis in madurese culture says that 16.8% students of English Department at Madura University seldom interact to madurese culture. 44.2% English Department students of Madura University are often in madurese culture dealings. Moreover, 38.9% students of English Department at Madura University are very often communicating with madurese culture.

Related to character building, statistical descriptive analysis shows that 8.4% students of English Department at Madura University are seldom to be disciplined, responsible, open minded, concern for other. 83.2% English Department students of Madura University are often to be disciplined, responsible, open minded, concern for other. Furthermore, 8.4% students of English Department at Madura University are very often disciplined, responsible, open minded, concern for other.

Pesantren, *Kyai*, and *Santri* are three essentials of Madura. Madurese come to *pesantren* to get knowledge of *Islam*. Most of madurese are *santri* of Pondok *Pesantren*. *Pesantren* is lead by *kyai*, Islamic leader. The majorities of madurese are *santri*. *Kyai* is the main actor in Madura especially for their *santri*. *Kyai* especially in *pesantren* tells *santri* about freedom from violence, honesty, kindness, tolerance, doing something good, desire to do something good, feeling's one heart, etc. It can be said that madurese are religious. The study of Pribadi (2013) studying about religious network in Madura asserts that madurese custom, belief, tradition, etc are rooted to religions.

Madurese people are quick-minded, hard-working, honesty, and adaptable. In addition, they are frightful friend. The cultures of madurese culture around the students of English Department at Madura University form their

character. The culture of madurese has an effect on the students' character building of English Department at Madura University interacting to madurese culture. This study is relevant to the study of Character Education Partnership (CEP) (2010) that discuss about developing and assessing school culture. This study says that students' achievement and character are shaped by the culture around them

UNESCO-IBE (2011) discussing about the principles and general objectives of education in Indonesia also states that the national education whose values based on *Pancasila*, rooted in the religious values, and national cultures of Indonesia develop the character of learners. In the study of Kamaruddin (2012) investigating the character education and students behaviour also states that the culture exits in the society establish good moral values of the society. Madurese culture functions to build up the character of students. Students of English Department at Madura University are persons filled with the quality of human values with noble character, honest, brave, polite, self discipline, and not selfish persons who only think their own advantage.

Madura University is a tool to make over the character of students. Students of English Department at Madura University are able to keep madurese culture such as honest, polite, etc. Madurese culture takes the students especially students of English Department at Madura University into good character. The study of Suhaidi (2013) discussing the character education trough Madura local wisdom at University asserts that the main key to save the notion is largely determined by values of strong national character. It indicates that madurese calture causing the students of English Department at Madura University getting change in their character. they are getting moving to noble character. Language and culture intertwine. Someone who are learning language, she or he learns the culture of the language as well. Mother tongue is important to English Department Students of Madura University. Although they are speaking English to their friends, teachers, etc, they keep their madurese. They stay in values of madurese.

3. Conclusion

Based on the result and explanation of the research, it can be concluded that there is a positive and significant role of madurese culture in character building of English Department Students at Madura University and the amount of the role of the variable is not high, 0,224 (22,4%).

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THE INVESTIGATION OF STUDENTS' PERSONALITY AND THEIR LEARNING STYLE IN AN EFL CLASSROOM

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Abstract

Most of Indonesian EFL teachers face a large class composed of individual differences and needs. Confronting those problems, teachers should have an appropriate method and technique in their teaching learning process. Investigating students' learning style and personality are one of the ways to help teachers in selecting appropriate teaching method. This study investigated students' learning style and personality in one of the senior high schools in Bandung. This study used a qualitative case study with 42 EFL students as participants. MBTI utilized to investigate students' personality, while VARK used to investigate the students' learning style. This study focused on introvert and extrovert for personality aspects. The data showed that 31 (73.8%) students were extroversions while (16 students, 38.1%) where auditory learning style. Teacher developed the findings as resources to create a better teaching learning process. For them who intend to do similar research, try to treat students with an appropriate method or technique based on their personality and learning style.

Keywords: Personality type, Learning style, Introvert, Extrovert

1. Introduction

In recent years, Indonesian teachers have been dealing with new curriculum 2013. They confronted the ever-changing government's policy with pros and cons responses. One of the features of this curriculum is increasing the quality of affective, knowledge, and skill. At the end of a learning process, it will create a productive, creative, innovative, and affective graduate [1]. However, confronting a large class is one of the difficulties usually faced by the teachers. Investigating students' personality types and their learning style are the purposes of this study. By knowing students personality types and learning styles, teachers will be helped in facing students' individual differences. Although the dividing number of students will be difficult to do, teachers are able to solve this difficult by applying an appropriate strategy based students' personality and their learning styles. Teachers have to start thinking about students individual differences if they want frequently teach the group as whole [2]. Every student has many individual language learner differences in learning and understanding language. Reference [3] says that, there are three broad variables that contribute to individual differences; cognitive, affective and personality. Regarding to the issue, the research questions were formulated as follows:

4. What the personality types of the students are and which one is dominant?
5. What the learning styles of the students are and which one is dominant?
6. What are dominant learning styles possessed by introverts and extroverts students?

2. Theoretical Review

2.1 Personality

Personality is one of the factors that contribute to individual differences. According to [4] personality is a person discernment of the self, it builds up a relationship with significant numbers in the environment. Reference [5] says that personality is a dynamic system inside the individual of psychological system that establish a unique adjustment to the environment. He also reference [6] and reference [7] vote similar discussion. Reference [8] defines that there are two main components in personality. Those are the function of the soul and the attitude of soul. The function of the soul means that psychological activity which is unchanging in many varied environments. Every individual has different ways of exploring the environment around

them. Jung distinguished it into two domains, introvert and extrovert.

Introverts tend to selfish, quite, do not like talking and, only have a few friends [6]. In contrast, extroverts tend to interact with many people, active, like talking, visiting, meeting with a new friends, and do not like something ordinary or monotonous [9]. Comprehending the students' personality for the teachers will help them to have a good relationship with students. According to reference [8] there are many advantages for teachers to know the students' personality. First, knowing the students' personality will make a good relation between teachers and students. Second, teachers are able to guide students about students' difficulties, in learning for example. Third, teachers are able to prevent students in doing a bad thing. Fourth, guide them to be good students who have a good motivation in learning and in the end, they will be good graduates, which have a good affective, knowledge, and skill. Fifth, help a teacher to avoid a conflict between students. It means that the teacher should be a model for student. As we know that mostly, the more they respect the teacher, the more they respect a subject.

2.2 Learning Style

According to Reid in Reference [10] learning style is an individual habit, natural, and the ideal tactic of interesting, dealing, and keeping new information. Moreover, learners have their different learning styles and they apply their differences in their academic strengths, weaknesses, skills, and interest [11]. In line with this, there is a relationship between theoretical students' different learning styles and their personality types [10]. Reference [12] classifies students learning style into four categories: Visual, Auditory, Read/write, and Kinaestheic (VARK). In other side this model called 'VAKOG' which stand for Visual (leaner look and see), Auditory (learner hears and listen, Kinaesthetic (learner felt externally, internally or thorough movement [2].

Visual learners operate the information with the image, such as graphs, charts, color, or diagrams. They also learn well from seeing what teachers write on the white/blackboard. In contrast to visual, auditory learners will learn their best on hearing words spoken and oral explanation. Actually, they will read aloud when they get and learn new information. Speaking and listening are the main ways for them in getting or processing the information. In other side, there are learners who will learn well by reading the information by themselves. They will spend time as best as they can to read many sources. Sometimes they will write what the teacher talk in the classroom. Lastly, kinesthetic learners enjoy learning by doing activity. They could not stay long in their seat, and they will learn in their best when they do a task or project in a group.

3. Methodology

This study is a qualitative case study with 42 EFL students as participants. This study employed the open ended as well as close ended questionnaire and interview to collect the data. To accomplish the objectives of this research, two kinds of questionnaires were administered to the participant. First is Myers-Briggs-Type-Indicator (MBTI). The MBTI is a test from Carl Gustav Jung (1921-1971) developed by Katharine C. Briggs & Isabel Briggs Myers in Wikipedia [13].This MBTI adapted from [14]. The instrument initially conceptualized personality as Introvert - Extrovert, Sensing - Intuition, Thinking - Feeling, Judging - Perceiving. There are 60 questions, which compare two different expressions, students asked to choose one of two expressions based on their own self.

Second is Visual-Auditory-Read/Write-Kinesthetic (VARK) test was administrated to the students. Students rated the items of the VARK using five point Likert-scale, with strongly agree, agree, undecided, disagree, and strongly disagree. This questionnaire, consist of 32 expressions and students chose one from five points according to their behavior in learning. After categorizing learners based on learning style from Flemings' model, to validate the data from the questionnaire this study utilized interview. Four students consist of one student from Visual, Auditory, Read/write, and Kinesthetic has taken for doing an interview.

4. Findings and Discussion

4.1 Students' personality

First is investigating the first question. To the first question, the researcher is going to know what student personality types are and which one is dominant. The students will be categorized into introverts and extroverts students. The following table displays that categorization.

Table 1. The results of MBTI questionnaire

	Introverts	Extroverts
Students	#6, #11, #21, #23, #26, #27, #32, #36, #39, #41, #42	#1, #2, #3, #4, #5, #7, #8, #9 ,#10, #12, #13, #14, #15, #16, #17, #18, #19, #20, #22, #24, #25, #28, #29, #30, #31, #33, #34, #35, #37, #38, #40.
Total	11 students	31 students
%	26.2	73.8

As it is shown in the previous table, the test was administrated to a group of 42 EFL learners in one of the senior high schools in Bandung to

homogenize of the study. Based on the MBTI, 11 (26.2%) learners were introversion, and (73.8%) learners were extroversion. It means that extrovert learners are dominant in this study. According to the results, the researcher should be able to facilitate more classroom activity for extroversion. As mentioned in the previous, extrovert is active students. On the other hand, the extrovert needs time to talk out loud and interesting activity in or outside the class. The extroverts will appreciate group discussion and the introverts can take their time to process internally.

4.2 Students' learning style

With the second question, the researcher is going to know what are learning styles of students and which one is dominants. Visual, Auditory, Read Kinesthetic (VARK) model as used as a proficiency test for selecting the students learning style. The table below describes the result of VARK questionnaire:

Table 2. The results of VARK questionnaire

No.	Learning styles	Students	Total	%
1.	Visual	#2, #6, #12, #15, #21, #22, #23, #24, #28, #32, #33, #39, #42	13	30.9
2.	Auditory	#1, #3, #5, #7, #8, #13, #14, #16, #19, #29, #31, #34, #35, #36, #38, #41	16	38.1
3.	Read/Write	#4, #10, #11, #25, #26, #27, #40	7	16.7
4.	Kinesthetic	#9, #17, #18, #20, #30, #37	6	14.3
Total		42		100

Based on the results from previous table 13 (30.9%) learners were visual style, 16 (38.1%) learners were auditory style, 7 (16.7%) learners were read/write style, and 6 (14.3%) learners where kinesthetic style. In this study, all learning styles were stuffed with learners. However, auditory styles were dominant in this study. The results tend to unpredictable because most of the students had auditory learners. As define before that auditory learners learn in their best when they listening to teachers or friend's explanation. They benefit from hearing audio tapes, lectures, conversation and class discussion. When we face auditory learners, there are two perceptions of English teacher. First, it makes them passive, because they enjoy in listening teacher's explanation. Second, listening skill will help them to improve their speaking skill. Students who had kinesthetic learners were only 6 students. It means that only few learners, which like learning by, experience. Especially in learning English, in this study learners prefer listening to the teacher experience than doing something in the classroom.

4.3 Students' personality type influences their learning style

As researcher mentioned before, this study only focuses on Jung's personality types; introverts and extroverts. Here are the results:

Table 3. Comparing introverts and extroverts learning style

No.	Learning styles	Introverts		Extroverts		Total	%
		Male	Female	Male	Female		
1.	Visual	2	4	3	4	13	30.9
2.	Auditory	-	2	4	10	16	38.1
3.	Read/write	-	3	-	4	7	16.7
4.	Kinesthetic	-	-	2	4	6	14.3
Total		2	9	9	22	42	100
%		4.8	21.4	21.4	52.4	100	

We can see from the table, that there are 2 (4.8%) introverts male and 9 (21.4%) extroverts female. It means that an introvert female is more dominant than introverts male. From 11 introverts male and female, no one of them who has kinesthetic learning style. There are 6 introverts who have a visual learning style, 2 introverts who have auditory learning style, and 3 introverts who have read /write learning style. In other side, there are 9 (21.4%) extroverts male and 22 (52.4%) extroverts female. There are 7 extroverts who have a visual learning style, 14 extroverts who have auditory learning style, 7 extroverts who have read/write learning style, and 6 extroverts who have kinesthetic learning style. Unfortunately, no one extroverts male who have read/write learning style. Extroverts' male who is an auditory learning style, dominant in this study.

5. Conclusion

Based on the findings in this study, extroversions are the most frequent of personality in this study. There are 31 (73.8%) from 42 learners who have extrovert personality, and 7 learners (26.2%) who have introvert personality. In other side, 13 learners (30.9%) have a visual learning style, 16 learners (38.1%) for auditory learning style, 7 learners (16.7%) for read/write learning style, and 6 learners (14.3%) for kinesthetic learning style. Auditory learning style is the most frequently used learning styles of extrovert learners. The researcher sure that investigating students' personality and their

learning style will help teachers create appropriate teaching learning process. Investigating students learning style also gives an advantage for the teacher, at least in selecting teaching technique or media to make our students learn in their best. Especially for the researcher itself, this study plays as bridging to select an appropriate method or technique for the students in teaching learning process.

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CHARACTER EDUCATION FOR IMPROVING STUDENTS SKILLS AND ATTITUDES IN PAPUA HOPE SCHOOL

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Abstract

Background of this paper based on researchers concern against a challenge in the world of education ahead of the 21st century. Researchers realize that to enter the 21st century, teachers must improve the quality of their teaching in implementing the curriculum in class especially about how to give a holislic educational through character education. Currently, Indonesia has implemented use curriculum 2013. Curriculum 2013 emphasizes the holistic learning in the classroom where learning is not only focus on the academic aspect but also to improve student's character. Hence, this study aims to describe and review research in implementing the model of character education for improving student skills and attitudes in Papua Hope School. Through this study, researchers want to review of what the models of character education for improving student skills and attitudes in Papua Hope School that is not focus only on the final result but rather than, based on the learning process that has been traversed by the students. Based on the review of research obtained that character education able to improve skills and attitudes of students. Teachers can make the result of character education as a result of achievement reflection of the holistic learning so as to the skills and attitudes of students could be improved through the result of character education.

Key words: Character Education, Improving Students Skils and Attitudes

1. Introduction

Challenges in education today is how the teachers through the school can produce quality students holistically. Holistic which meant that the quality and success of the students which can be measured from various aspects, both academic and non academic. At present, the teachers have the challenge to prepare the students become the generation that is not only excellent in the cognitive but also excellent in terms of character. Many schools, both public and private schools started to apply the values of character formation in the school curriculum either implicitly or explicitly through in then class.

The Implementation of curriculum 2013 in Indonesia is present as a form of new challenges for teachers. Until now, the implementation of the curriculum 2013 continues to be evaluated by the government. One philosophy contained in the curriculum 2013 that teachers need to prepare students holistically, including that of the character education. Indonesian government realize that when students have the academic quality and good character then this will ensure the future success of the nation.

Through a review research of this paper, the authors would like to introduce and discuss about the character education model that has been applied in Papua Hope School. Papua Hope School which has the slogan CASH (Character, Attitudes, Skills, and Habits) have been present as one of the schools that uphold the character education as the key to the success of students in achieving the expectations that have been set. Character education in Papua Hope School subjects through CB (Character Building) applied since students are in kindergarten. Papua Hope School believes that the implementation of character education from an early age will make it easier for teachers to achieve maximum results in the formation of student character.

As for the question that the formulation problem on the review research of this paper are: (1) How the character education through character building process subject held in Papua Hope School? (2) How Impacts or influence from character education through building character subject of improving students skills and attitudes?

2. Literature review

2.1 Character Education

In the present context, character education is very relevant to address the moral crisis in enhancing the character and attitude of the students. According to Lickona, Chracter related to the concept of moral, attitude and behavior. Based on these three components can be stated that the characters are well supported by the knowledge of the good, the desire to do good, and do good deeds. In Simply Lickona define character education as all the effort that can be done to influence the character of the students. Character education is the deliberate attempt to help someone so that he can understand, pay attention, and do ethical values. (Lickona, 2004).

The development of a person's character education can be done by the community or individuals as part of the environment through environmental factors engineering. Environmental factors in character education has a very important role because of changes in the behavior of students as a result of the process of character education is determined by environmental factors. In other words, the formation and environmental engineering covers the physical and cultural environment of the school, school management, curriculum, educators and teaching methods. Strategy character formation through environmental factors engineering: a) exemplary; b) intervention; c) habituation done consistently; and d) strengthening. Development and formation requires the development of exemplary character is transmitted, through the intervention of the learning process, training, habituation continuously in the long run is done consistently and should be accompanied by strengthening and noble values. (Lickona, 2004).

The purpose of character education is to form the nation's character is a tough, competitive, noble, moral, tolerant, cooperate, patriotic spirit, developing dynamic, oriented science and technology which are all animated by faith and piety to God Almighty based on Pancasila. Character education serves to: 1) develop the potential of the base in order to be good, good thoughts and good behavior; 2) strengthen and build the behavior of a multicultural nation; 3) improving the competitive civilization in the association world.

Education units actually far has been developing and implementing the values forming the character through the operational programs of each educational unit. This is a precondition character education in the educational unit. Value preconditions meant, among other things: piety, clean, tidy, comfortable and well mannered. In order to strengthen the implementation of character education, there are 18 values derived from religion, culture, Pancasila and national education goals: honesty, tolerance, discipline, hard work, creative, independent, democratic, curiosity, the spirit of nationalism, patriotism, respect achievements, friends / communicative, love peace, love reading, care for the environment, social care, responsibility and religious.

Although the artifacts have 18 values forming the character of the nation, but the education unit can determine its development priorities by continuing value preconditions reinforced with some priority value of 18 values above. In the implementation, the number and types of characters that can be chosen would vary from one region or one school to another. It depends on the interests and conditions of each educational unit among the various values that are developed, the implementation can be started from the essential value, simple and easily implemented in accordance with the conditions of each school.

2.2 Improvement of Students Skills and attitudes

One way to develop skill and attitude of students is to create an atmosphere of class and school that optimally support. Grades are patterns of relationships developed in the process of interaction or activity in class regarding socio-emotional atmosphere that developed and experienced by members of the class, especially when students participating in learning activities. The relations that are created in the classroom teacher will determine the interaction of the atmosphere experienced by the students. In terms of the development of a conducive classroom atmosphere and fun for students, DeVries and Zan (1994) offers an atmosphere concept sociomoral according to the Views of kontuktivis.

An atmosphere of sociomoral Kontuktivis starts with the attitude of teachers towards students' appreciation is expressed in class organization, the activities, the teacher interaction with students. To create a classroom atmosphere conducive to developing aspects of the attitudes and skills of students, efforts are needed to create an atmosphere of larger schools. In a sense, the major characteristics of social moral atmosphere in the school is to instill democratic and involvement of all citizens of the school.

3. Reserch finding and duscussion

3.1 Character Education Through Character Building Subject In *Papua Hope School (SPH)*

Character Building (CB) is one of the course which applied in SPH. Through CB course, SPH intends to actualized its vision to establish students characters in school. CB course is conducted once in a week (two hours session). The content of CB course is divided in several mutual themes, which divided from kindergarten to six grade by means of different details and profundities. The foundation of CB course is Christian perspective, considering that this school is a Christian private school.

Christian values which underlies in CB course are divided in four main aspects: (1) Creation: what is God purpose for this particular area of creation or culture we are studying? (2) Fall: how has God's purpose been distorted by the effects of human disobedience? How have humans deviated from God's original intents? (3) Redemption: how does God want us to respond? Are the ways in which we can restore, at least in part, the love righteousness, and justice God intended for the world? (4) Fulfillment: how can we instill our students with a sense of hope, strength, and courage despite the many problems and struggles they face? How can we develop a deeper commitment to a Christian way of life in our students? Through the approach of Christian values which have been categorized in four aspects above, then the teachers will be able to teach and educate students to become a good person with good personalities.

As for the themes which will be applied in one academic year are: Attentiveness, Joyfulness, Contentment, Generosity, Respect, Self-Control, and Wisdom. The first three themes will be learned in first semester, and the other four in the next semester. Here is the example of the CB theme at grade 5:

Theme : Respect

1 . TO KNOW (Content focus; facts, concepts, principles): It is expected that students will….

1.1 Explain that God deserves our respect
1.2 Identify the meaning of respect.
1.3 Explain the meaning of Romans 12:10
1.4 Analyze the example how Jesus respect others.

2. TO DO (Skill and Strategy focus): It is expected that students will….

2.1 Explain the meaning of respect according to their own understanding
2.2 Name the people to whom they show respect.
2.3 Give example of action that show respect.
2.4 Explain why they have to respect others.
2.5 Draw a picture that represent themselves and list their likeness and dis-likeness (Self analysis).
2.6 Compare their self analysis in pair.
2.7 Write feedback for friends in the self analysis
2.8 Role play of respect.
2.9 Sing a song: "I was made for You, Lord"

3. TO VALUE (Affective and Expressive): It is expected that students will….

3.1 Respect God, self, others, and their belongings.

3.2 Appreciate differences: cultures, beliefs, opinions, appearance, and customs

Categorizing the four aspects of christian values in the themes is:

(1) Creation : (a) Romans 12:10 = Be devoted to one another in brotherly love. Honor one another above your self; (b) God created us uniquely; (c) God shows His love to us, so as His creation we should respect God in return; (d) God is holy and deserves our respect; (e) God created us according to His image, so we need to respect ourselves and His creation.

(2) Fall: (a) Human being wants to be like God; (b) Human being thinks and decides that they don't need God ; (c) Human rejects the salvation through Christ that God provided.

(3) Redemption: (a) Jesus Christ shows His love through His death on the cross to bring us back to God's love; (b) He shows us how to love and respect each other; (c) Pray and have devotion everyday.

(d) Join chapel with a full heart and respect full attitude; (e) Respect selves; (f) Respect others and their belongings.

(4) Fulfillment: (a) Show reference or respect to God in everything we do, such as praying, praise, and worship; (b) Show respect in words and action to others; (c) Show respect to self by controlling minds, words, and action to be holy and right.

CB course in SPH uses descriptive evaluation. SPH uses this methods based on its philosophy reason that a perseon character cannot be measured with numbers. Besides, it is

not about the result but it is all about the learning process.

In addition to its purpose to bring out holistic quality students through CB course, it is also purposed to improve students capability in skills and behaviour. CB course activitiy in SPH involves parents' role to watch the development of students' character. Without parents' involvements, the main purpose of CB course could not be reahed.

For example, SPH involves parents through CB course worksheet. This worksheet could be one or two months CB project, such as checklist about how students practice "respect" around neighbourhood.

3.2 Skills and behaviour improvement

Character education which applied through CB in SPH, brings out significant impact on the improvement of students ' skills and behaviour. A researcher whom was work in SPH as a teacher could notice its improvement. Students are started to understand every theme that has been taught through daily practice in class.

This improvement could also be noticed by the parents through their testimonis in routine meetings between teachers and parents. This significant improvements could also reflected through their academic achievements in class. When their CB is improving, then its academic result will also improve.

SPH is constantly apply this CB course. For that, the parents' trust to school improved by the result their children achieved. The benefit that the parents gain through CB course is that their children could have good skills and behaviour.

SPH not only emphasizes the improvement of skills and behaviour in school, but it also expects that these Christian values could also be practiced at home and around the neighbourhood.

4. Conclusion and suggestion

4.1 Conclusion

Character education is the most important element in order to success a nation life through their young generation with holistic quality. Curriculum 2013 which has been applied in Indonesia has given one new challenge to the educators to improve their students qualities in holistic way, especially in character buildeing.

About this matter, SPH is aware about the importance of applying character education in school learning activities. Through CB course, SPH is able to improve students' behaviour and skills. This is also succeded because of the commitment in every teacher and parents involvment to build a better character for students.

Every purpose and details of CB course must be properly prepared. So that the teachers could apply it in class as prepared.

4.2 Suggestion

In its process, the teachers need to have creativity in their teaching methods, especially when preparing students worksheet and project. Thus, to achieve the purpose to bring out holistic quality students through skills and behaviour improvement, it will need commitments from teacher and parents in every learning process.

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IMPROVING THE PRACTICE OF ISLAMIC RELIGION AND ACHIEVEMENT THROUGH CONTEXTUAL TEACHING AND LEARNING (CTL)

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Abstract

The background of this research is that there is a problem in the practice of religion and achievement of Islamic Education to class VIII of SMP Negeri 2 Gedangsari, Gunungkidul. To solve the problem, replace the teacher teaching methods that still use conventional teaching methods with innovative learning methods, namely Contextual Teaching and Learning (CTL) with the help of media power point. The purpose of this study is to use the CTL method with the help of a power point for improving the practice of religion and achievement of students of class VIII E on the subjects of Islamic Education. Research which is the Classroom Action Research (CAR) model and Taggart Kemmis using 2 cycles of planning, implementation as well are observation, and reflection. The data collected by the observation of religious practice, questionnaires, and triangulation both, while learning outcome data collected through the test. Planning was conducted on the preparation of the planning, power point, preparing props (text dramas, talk shows, and food), as well as the preparation of evaluation tools. Implementation of the action begins with the presentation of contextual issues, discussion groups to analyze problems and find solutions, and group presentations. Based on the results of the reflection cycle 1, it was found that the practice of religion and achievement have improved, but the research does not meet the criteria of success. While the results of cycle 2 were found that both variables have increase according to criteria of success.

Keywords: CTL, Power point, achievement the practice of religion

1. Introduction

Islamic Education (Pendidikan Agama Islam) as one of the subjects taught in junior high school (SMP) has a variety of purposes. According BSNP (2006), Islamic Education is expected to produce a man who is always working to improve the faith, piety, and morals, and actively build civilizations and harmony of life, particularly in advancing civilization dignified nation. Such people are expected resilient in the face of challenges, obstacles, and the changes occurring in the association community, both in the scope of local, national, regional and global.

In order to achieve these objectives, according BSNP, PAI competencies standards need to be developed with characteristics: (1) More emphasize the achievement of competence in their entirety in addition to domination of matter; (2) Accommodate diversity of needs and educational resources available; (3) Provide greater freedom to educators in the field to develop strategies and learning programs according to the needs and the availability of educational resources.

One of the important points of the three things above that is characteristic of subjects PAI is the achievement of competency as a whole and not just mastery of the material. Briefly, PAI learning success is characterized by good achievement and the practice of religious values are also good for students.

The fact that encountered in class VIII E SMP Negeri 2 Gedangsari indicate conditions that do not conform to the ideals of the BSNP. In terms of the value of religious practice, the students of class VIII E tend not to practice religion well. The results showed that there are some students who eat their snacks with walking, standing, and as he spoke. In addition, when asked about the teachers fault them (for example, when students are late to school), students tend to give answers that are not honest. Those things

are certainly contrary to the teachings of religion. While the results of the E class VIII student is still not as expected. The average value of the student is under the 73.55 Minimum Criteria for completeness of 75, while in terms of completeness, of the 33 students who completed were only 19 people and 14 students do not complete (under KKM).

In order to obtain a solution to these problems, need to be done in-depth study of the problems of the second theme. Both of these are religious teaching practice and achievement.

There are various definitions of religion proposed by the experts. Etymologically, the word religion comes from *a* and *gamma*, which means no mess. The word religion is sometimes used interchangeably with faith or belief system sometimes set a task [1]. According to Shouler, religion is an organized collection of beliefs, cultural systems, and worldviews that connect people with the order/order of life [2]. Based on the various definitions, it appears that there is a religion in the rules that need to be carried out.

Associated with the development of religious practice among students, Amin summarizes the opinion of some experts as follows [3]: (1) Rumke found new confidence in God child grows freely after the bond between father-child feeling liberated, or the start of puberty; (2) Waterink say that the 6-year-old child does not have sin, age 6 to 7 years have focused on the religious sense of character, age 7 till 11 years have the power to understand the religious life. And at this period a new understanding of religious meaning when he contacted (connected) through feelings (emotions), through stories; (3) Cassimir states that children aged 12 to 14 years have been formed in her religious life.

Based on summary, it appears that the junior high school students as a child aged over 12 years have had formed in her religious life. Therefore, students in junior high school have had the awareness to practice the teachings of the religious affiliation.

In addition to religious practice, the variables in this study are the impact of achievement. One definition of achievement expressed by Nasution, who stated that the achievement are achieved perfection someone in thinking, feeling, and doing [4]. Achievement is as changes in behavior which covers the areas of cognitive, affective, and psychomotor owned by the students after receiving a learning experience [5]. Both this sense seems relevant to PAI, because the achievement are not always indicated with test scores, but also deeds. However, many cases where students who get good test scores do not always do well by the rules religion. Therefore, achievement will continue to refer to the value of the test, while the act into separate variables discussed above, namely the practice of religion. Thus, understanding the achievement relevant to this study is that the achievement are expected outcomes can be achieved after one learns [6].

Achievement are influenced by various factors. According Roestiyah, factors that affect achievement include internal factors (factors that arise in the students themselves, such as health, security, intelligence, mental, feelings, and so on) and external factors (factors that come or arising from outside the student, such as cleaning the house, hot air, environmental, social, and so on). Based on the list of these factors, the teacher teaching methods can be categorized as external factors [7].

Both of these problems (poor religious practice and poor achievement) is possible as a result of the ineffectiveness of the learning process is performed. This is the impact of the learning methods used by teachers, where teachers still teach with conventional methods. Students became less attentive, and underestimate the religious teachings presented by the teacher.

Starting from these conditions, it is strategic if learning method that has been used modified. Based on the studies conducted, both theoretically and empirically, the most suitable learning methods to improve the practice of religion and achievement PAI is a method of Contextual Teaching and Learning (CTL). So that learning becomes more attractive, then these methods will be taught with the aid of a power point.

Contextual Teaching and Learning (CTL) is a holistic educational process and aims to motivate students to understand the meaning of the subject matter learned by relating the material to the context of their daily lives (personal context, social, and cultural) so that students have the knowledge/skills which can flexibly applied (transferred) from one problem/context to the issues/other context [8].

Furthermore, Gafur mentions that the curriculum and contextual learning should be based on principles as follows [9]: (1) Linkages, relevance (relations). The learning process should be of relevance to the stock of knowledge (prerequisite knowledge) that has existed on students; (2) Direct experience (experiencing). Direct experience can be gained through exploration, discovery (discovery), inventory, investigation, research and so on. Experiencing regarded as the heart of contextual learning. The

learning process will be quick if students are given the opportunity to manipulate the equipment, take advantage of learning resources, and conduct other forms of other research activities actively; (3) Application (applying). Applying the facts, concepts, principles and procedures learned in the teacher, the students with sources, solve problems and tasks together constitute the basic learning strategies in contextual learning; (4) Transfer of knowledge (transferring). Contextual learning emphasis on the ability of the students to transfer situations and other contexts is a high-level learning, is more than just memorized; (5) Cooperation (cooperating). Cooperation in the context of the mutual is exchange of ideas, asking and answering questions, interactive communication among fellow students, between students; (6) Knowledge, skills, values and attitudes that have been held in other situations.

Based on the description, it seems that the components can be developed with contextual method not only achievement, but also direct experience. In the case of PAI learning, hands-on experience is very important, so this method is considered suitable by PAI learning, and is expected to increase religious practice and student achievement.

CTL learning the syntax is: (1) Students work in groups to solve the problems posed by the teacher; (2) Representative of the group presented the results of the settlement and the reasons for the proposed answer to the problems of teachers; (3) Students in the group completing the proposed teacher worksheets. Teachers around to observe, motivate, and facilitate cooperation; (4) Student representatives presented the results of the working group and the other groups respond to the work of the group that was given the job; (5) With reference to the answer to the students, through questions and answers, the teacher and students discuss the proper way of solving problems; (6) Master held reflection by asking students about the things that students perceived that the material is not well understood, impressions and messages during the study.

Based on the background that has been put forward, there are two formulations of this research problem. The first formulation of the problem is whether the use of learning methods with the help of a power point CTL can improve achievement PAI in class VIII E SMP Negeri 2 Gedangsari? While the formulation of the second problem is whether the use of learning methods with the help of a power point CTL can increase Islamic religious practice in class VIII E SMP Negeri 2 Gedangsari?

In accordance with the formulation of research problems, there are two research objectives. The first research goal is to improve achievement PAI E in class VIII E of SMP Negeri 2 Gedangsari through the use of learning methods CTL with the help of a power point. While the purpose of the research is to improve the practice of the Islamic religion class VIII E Junior High School 2 Gedangsari through the use of learning methods CTL with the help of a power point.

This research is useful for students, teachers, and schools. The benefits for students are to improve the practice of religion, as well as PAI improve student achievement. While the benefits for teachers is to add alternative method of teaching teachers, increase the creativity of teachers, and establish innovative teacher. A benefit for schools is as a reference conducting innovative learning.

Based on the theories that have been presented, can be described framework of this study. Frame starts from the initial condition, action, and the final condition (condition after the action).

At the initial condition (before the action executed), teachers are still using conventional teaching methods. This has an impact on the ineffectiveness of the learning process (students tend to be serious, the students feel no need PAI lesson because it teaches things that they already know, and finally students underestimate religious teachings presented by the teacher). This learning process is not effective impact on the poor and low religious practice achievement PAI.

To overcome this problem, the teacher intended to replace conventional learning methods with methods of CTL. When implemented actions, become more effective learning is evident from the seriousness of the students follow the lessons, the emergence of the need to study the PAI, and appreciate the religious teachings delivered.

At the end of the conditions (after action), the variable impacted of the research to be better than the initial condition. Implemented effective learning impacted on improving the practice of religion and increasing achievement. In more compact, framework is illustrated in Figure 1 below.

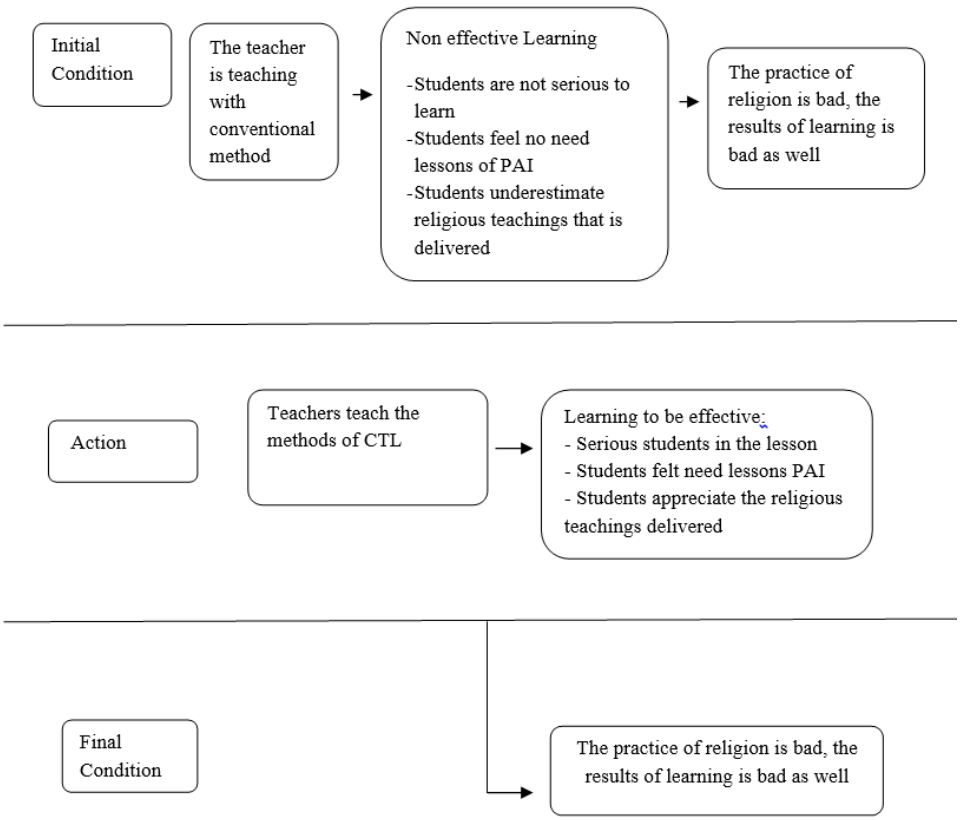

Figure 1. Research Frame Work

2. Research Methods

This study is a Class Action Research (CAR). CAR is implemented in class VIII E SMP Negeri 2 Gedangsari the second semester of the school year 2014/2015. SMP Negeri 2 Gedangsari is the most northerly of the district school of mountains which is approximately 50 km from the district capital and Klaten Regency. This school is located in the village Tegalrejo, Gedangsari, Gunung. To the south of this school and the mountains in the north area is subdistrict Bayat, Klaten district. SMP Negeri 2 Gedangsari has 18 classrooms with their respective grade levels 6 and the average student is 32 students. When the research was conducted, using the SMP Negeri 2 Gedangsari Education Unit Level Curriculum (SBC), so that the material being taught is the material in the content standards of SBC. The number of students who became the object of study is 33 people who are all Muslims, so that all students follow the lessons of PAI.

CAR models used are Kemmis and Taggart. In this model, each cycle consisting of planning, implementation as well observation, and reflection. Therefore, in order to carry out this study, the teacher will be assisted by an observer who is also a teacher of PAI in another class. This study was conducted in two cycles each for teaching about *revenge and hypocritical*, as well as material about table manners. This study is successful if more than 90% of students completed the KKM.

Data was collected through observation, questionnaires, and tests. Observations are used to collect data on the effectiveness of learning undertaken and data on religious practice that includes honesty and the way students eat. While the questionnaire is a data collection tool religious practice, especially as a tool for data validation results of observation. Data on the observation triangulated with questionnaire data. If the data is contained in the questionnaire together with the data of observation, it is assumed that students are honest and the test is used to collect the data of student achievement. Before use, test instruments tested in class VIII D to determine the validity, reliability, and the difficulty level. Only valid items are used to record the distribution of difficulty tends to flatten.

The collected data were analyzed descriptively. Data Calculation religious practice performed by finding the average, highest value, lowest value, and the percentage increased from cycle 1 to cycle 2, while learning the outcome

data calculated the average, highest value, lowest value, the percentage increased from cycle 1 to cycle 2, and the level of student mastery after cycle 1 and 2.

3. Results and Discussion

This chapter will present the successive implementation of the research (planning, implementation, observation, and reflection both in cycle 1 and cycle 2), the description of the variable impact of research (religious practice and achievement), and discussion of research results.

The activities carried out in first cycle lesson plan include: (1) Developing a Lesson Plan (RPP) on revenge and hypocritical to 3 meetings (2 meetings for learning, and the first meeting for the evaluation); (2) Develop a group of students; (3) Develop assessment tools that include evaluation test results of a theoretical study, questionnaires honesty, religious practice guidelines for observation, and observation guide the implementation of learning; (5) Develop socio drama text of "life plus revenge is so tormented" and talk show about "the Commission and the Police, who is a hypocrite?"; (6) Providing supporting tools of learning, such as microphones and loudspeakers, cameras, laptops, LCD, power point, and video.

An action activity undertaken in cycle 1 is lifted material on revenge and hypocritical. The orders of the implementation of learning are as follows: (1) Open the lesson, say Bismilah and sang Asmaul Husna (1 meeting), and Wektu aku isih bayi (2 meetings); (2) Explain SK, KD, and learning objectives; (3) Explain the theoretical material about revenge and hypocritical with Power Point and video. Delivered with varied of lecture method; (4) Referring students to contribute to the socio drama and talk shows and give the opportunity to practice. Students who are appointed are students who tend to be crowded and not serious when learning. While the students to practice, the teacher split the other students in groups, and divide the honesty questionnaire to be filled immediately; (5) Serving the problem in the form of socio-drama (first meeting), and talk shows (second meeting); (6) The group discusses, analyze problems and find solutions; (7) The group presented the results of the analysis and their solutions; (8) Students provide an assessment to another group associated with their presentations; (9) The best group to get a gift from the teacher; (10) Evaluation of the theoretical with the test (third meeting).

According to the model of CAR proposed by Kemmis and Taggart, observation of activities performed in conjunction with the implementation of the action. Therefore, the observation made by an observer. Some components are observed are: (1) seriousness in learning; (2) The need for students to be learning PAI; (3) Respect the religious teachings presented by the teacher.

Reflections performed after completion of learning. The shape of this reflection is the Focus Group Discussion (FGD). The parties involved in this FGD are a teacher, observer, and 2 representatives of the students. Reflection is done to see the weakness of learning is done, look for learning improvement solutions including variable discuss developments in the research impact of this class action. All parties in the FGD agreed to jointly observe religious practice when the students outside the classroom.

The activities carried out in lesson planning cycle 2 are: (1) Developing a Lesson Plan (RPP) on table manners to 3 meetings (2 meetings for learning, and the first meeting for the evaluation); (2) Develop a group of students; (3) Develop assessment tools that include evaluation test results of a theoretical study, questionnaires table manners, religious practice guidelines for observation, and observation guide the implementation of learning; (5) Develop scenarios based on the proposition naqli eating practices; (6) Providing supporting tools of learning, such as microphones and loudspeakers, cameras, laptops, LCD, power point, video, and food (as a practical means to eat).

Action activities undertaken in cycle 2 are lifted material on table manners. The order of the implementation of learning is as follows: (1) Open the lesson, say Bismilah and sang Limang Perkoro (1 meeting), and Bersyukur kepada Allah (2 meetings); (2) Explain SK, KD, and learning objectives; (3) Explain the theoretical material about table manners with Power Point and video. Delivered with varied lecture method; (4) Appoint a representative of students who will Practicing table manners. Students who are appointed are students who tend to be crowded and not serious when learning; (5) The teacher divides the other students in groups, and split table manners questionnaire to be filled immediately; (6) Serving the problem in the form of eating practices of student representatives; (7) The group discusses, analyze problems and find solutions; (8) The group presented the results of the analysis and their solutions; (9) Students provide an assessment to another group associated with their presentations; (10) The group's best to get a gift from the teacher; (11)

Evaluation of the theoretical with the test (third meeting).

Some components are observed in cycle 2 is similar to that observed in the cycle component 1, namely: (1) seriousness in learning; (2) The need for students to be learning PAI; (3) Respect the religious teachings presented by the teacher.

Reflection is done in cycles 2 is the same as the reflection in cycle 1. The difference is the absence of religious practice observation plan when the students outside the classroom, because learning has been completed in this second cycle.

Prior to action research, teaching and learning process PAI did not go well. Not effective learning of students who tend to look not serious, the students felt it did not take lessons PAI because it teaches things that they already know, and finally students underestimate religious teachings presented by the teacher. The impact of this is the lack of religious practice and achievement PAI. Furthermore, data from this study can be seen pre cycle in Table 1.

Cycle 1 is the first time the teacher tried to implement this method of learning CTL. This method is innovative, and directly managed to improve the practice of religion and achievement. Although teachers have tried innovative teaching methods, but the practice of religion and achievement have not reached the expected target. Observations show students how to eat according to the teachings Proposition still Naqli as shown in Table 2. In addition, students are still low honesty. It is apparent from the number of data differences between the results of observations with the student questionnaire answers. In terms of achievement, the average increase in value only slightly and there is an additional 1 new student who completed the KKM. This is shown in Table 1. Therefore, the result of reflection decided that learning will continue in the second cycle.

Implementation of the second cycle showed a success, due to improvements in planning, and their experience in students and teachers associated with the adoption of this CTL. The results of the actions impact on improving the practice of religion and achievement that go beyond the expected target. How to eat the student has been improved, as well as in terms of honesty. The difference between the results of observation and questionnaires of students is not significant. Moreover, linked to achievement, 100% of students scored above the KKM. To that end, the result of reflection shows that this research can be terminated.

Table 1. The improvement of Achievement

Component	Pre Cycle	Cycle 1	Cycle 2
Average	73,55	75,73	96,9
Maximum	90	87	100
Minimum	45	65	80
Total completeness	19	20	33
Completed Percentage	57,5%	60,6%	100%
Total of incomplete	14	13	0
Incomplete Percentage	42,4%	39,4%	0%

Tabel 2. Increase of religious practice of Adab Makan and Honesty

Component	Cycle 1	Cycle 2
Pray before eating	3,9	4,59
Pray after eating	3,18	4,06
Pray when forgot to pray	2,37	2,68
Eating while seating	4,37	4,5
Eating with the right hand	4,87	4,71
Eating without noise	3,25	3,75
Eating without walking	3,62	4,18
Adab Makan	3,65	4,07
Honesty	3,55	4,02

The results of the study need to be addressed and discussed with the relevant theories. In this case, the theory proposed by Gafur of the principles of curriculum and contextual learning is the most appropriate theory. Contextual learning principles that are directly related to this research are the relationship (relevance), direct experience (experiencing), and application (applying). Linkages related to the stock of knowledge of students (prerequisite knowledge) that need to be developed. Therefore, logically contextual learning can improve achievement as the result of this research. While the direct experience and application related to the practice of religion. The knowledge students should be applied in real life. This is accommodated in contextual learning, so logically contextual learning can improve the practice of religion as the results of this study. In other words, the results of this study are a confirmation of the theory proposed by Gafur.

4. Conclusions and Recomendations

Based on the research results, it was concluded that the use of CTL can make PAI learning becomes more effective, and attractive. Students tend to be serious in following the lesson, feel the need lessons PAI, and appreciate the religious teachings presented by the teacher. In addition, also obtained the answer of this research problem statements as follows: (1) The use of learning methods with the help of a power point CTL can improve achievement PAI in class VIIIE SMP Negeri 2 Gedangsari. (2) The use of learning methods with the help of a power point CTL can increase the practice of the Islamic religion class VIII E SMP Negeri 2 Gedangsari.

Based on this conclusion, it can be suggested to the parties included in the benefits of the study as follows: (1) for students, are expected to learn from the things that are contextual to be able to behave well and get good achievement. (2) For the teacher, it is recommended to use the CTL method if you want to increase religious practice and student achievement, as well as the repair of learning becomes more attractive, creative and innovative. For schools, the results of this study suggested to be used as a reference conducting innovative learning.

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A RESEARCH EVALUATION: THE LESSON PLAN FOR SCIENTIFIC APPROACH AND AUTHENTIC ASSESSMENT IN RELIGION AND CHARACTER EDUCATION

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Abstract

This research is an evaluation research which concerned in the planning of religion and character education lesson with scientific approach and authentic assessment. The purpose of this research is to know the quality of the religion and character education lesson plans with scientific approach and authentic assessment. This evaluation was held in SMA N 3 Yogyakarta as one of the K13 pilot project schools, especially in the second grade classes.

This evaluation research was done by analyzing the teacher lesson plans during the first semester. There are six lesson plans which are rated by three raters who are expert in religion education. The rate was start from 1 to 4. The achieved score was being categorized based on evaluation criteria by considering the average score and standard deviation of the data.

The analysis covered 13 indicators of lesson plan with scientific approach and authentic assessment. Although, there are 4 indicators included in the not appropriate category, the entire result shows that the quality of the Lesson Plan with Scientific Approach and Authentic Assessment used in SMA N 3 Yogyakarta is appropriate. The conclusion is proven by the average score of entire lesson plan that successfully reach 3,53.

Keywords: scientific approach, authentic assessment, lesson Plan

1. Introduction

In 2013, Indonesia sought to improve its education system by triggering *Kurikulum 2013*. The triggering aims to respond the internal and external challenges. The internal challenge is related to the eight national education standards and population growth, especially for the productive age. The great number of the population can be an extraordinary asset if they are competence and skillful. The external challenges for the world of education are the future challenges, future competences needed, social perception, the development of knowledge and pedagogy, and the raising of negative phenomenon [1].

Kurikulum 2013 is designed for creating good skilled individu, religious, productive, creative, innovative and effective person who are able to contribute in their social life, nation, and the universe [2]. This great purpose will be achieved when the goverment and all the citizen especially the teachers are trying to implement *kurikulum 2013* as good as possible. The success of the implementation of the curriculum highly depend on teachers' readiness and school units in preparing the facilities related to the implementation of the new curriculum. There four essential changing in *Kurukulum 2013*, i.e [3]:

1. Alumnus Competences. The alumnus is designed to be competence. The competency is comes from the vertically and horizontally holistic and supportive construction of the material and subject matters.
2. Learning Materials. The learning material which is based on the competencies that fullfil the adequacy and suitability aspects, also accomodate local, national and international content.
3. Learning Process. The change in the learning process are:

a. Competence characteristic oriented that covers the attitude domain of Krathwohl, (receiving, responding, valuing, organizing, and characterizing), skill domain of Dyers (observing, asking, experimenting, reasoning, presenting, and creating), knowledge domain of Blomm & Anderson (knowing, understanding, applying, analyzing, evaluating and creating).
b. The using of scientific approach that appropriate with the level of competences characteristic.
c. Focused on the discovery learning and project based learning.

4. Assessment. The assessment is based on test and non test techniques. The assessment for process and output are using authentic assessment. The report is consist of quantitative assessment for cognitive domain and qualitative descriptive for affective and psychomotorycs domain.

This evaluation research focused on one of the curriculum changes, i.e lesson plan. Lesson plan is one of the parts of the learning standard process. Lesson plan is a plan of activity for one meeting or more. It developed from the syllabus to direct student's learning activity in order to achieve the basic competences (KD). Teachers are compulsory for arrangeing the lesson plan completely and systematically, so that the students can learn in the interactive, inspiring, fun, challenging, efficient, and full of motivation climate. The lesson plan also arranged in order to give the students enough space for initiative, creativity and autonomy that suitable to their talent and development. Lesson plans constructed based on the basic competences (KD) or subtema for one meeting or more.

In order to create a good lesson, the teacher shall to prepare lesson plans before performing the learning process.The components of the good lesson plans are covers [4]:

1. School identity and the name of educational unit.
2. Subject identity or the theme / subtheme of the materials.
3. Class / Semesters.
4. Subject matter.
5. Time allocation which is considering the need to achieve basic competences and content.
6. Learning objectives which are using the operational verbs that can be observed, measured, and cover cognitive, affective, and psycomotoryc domains.
7. The basic competences and the indicators of the learning achievement.
8. Subject material that containing facts, concepts, principles and relevant procedures that writen according to the indicator of achieving competence.
9. Learning methods which is going to use by the teachers for creating the good atmosphere in learning process so that the students can mastered the basic competence.
10. Learning media is a tool to help the learning process to deliver the subject materials.
11. Learning sources, it can be in a form of book and electronic media, natural environment, or the other relevant learning sources.
12. Learning steps that consist of introduction, main and closing activitities.
13. Learning result assessment.

There are two components in the lesson plan that should be adapted to the *kurikulum 2013*.i.e. scientific approach as the lerning method and authentic assessment for evaluating learning achievement.

Scientific approach is a process to make and answer the question by the specific procedures. The aims of the scientific approach in learning are to improve students intellectual ability, specially their high order thinking capability; to form the ability to solve the problems systematically; to create the condition where the students feel that learning is a need; to achieve the high leaning outcomes; to habituate the students to communicate their ideas specially in a form of scientific articles; to develop students characters. The process can be used as the orientation to create the meaningful and holistic learning experiences for the students. By ordering the students to follow the steps of scientific approach, the teacher can help them to construct their conceptual knowledge [5]. Gelman and Brememan stated that the steps of scientific approach represent varieties skills to gain any kind of information and concepts [6].

The scientific approach covers the following steps, they are observing, questioning, making hypothesis and predicting, testing the hypothesis, summarizing or analyzing, discussing and identifying new questions (Gerde, Schachter, & Wasik, 2013). The scientific approaches in learning process consist of five main activities to gain the learning experiences, they are [7]:

1. Observing *(Mengamati)*

This step focused on the meaningful learning where the students provide the object to be learnt realistically.

2. Questioning *(Menanya)*

   Questioning is where the students ask some questions related to the unclear information based on the earlier step, observation. The question can be the factual or hypothesis questions.

3. Gaining Information/ Experiment *(Mencoba / Mengumpulkan Informasi)*

   This activity covers the activity to gain any information by doing experiment, reading any kind of learning sources, observing phenomenon, interviewing, etc.

4. Associating / Analyzing the Information *(Menalar)*

   Associating refers to the ability to classify the ideas, associate them with facts and keep the concept in a memory.

5. Communicating *(Mengkomunikasikan)*

Communicating means delivers the result of the observation and the conclusion based on the analysis by presentation (orally), writings, or media. The competency and characters developed by this step are honesty, tolerance, systematic thinking, and using the language clearly, essentially, and well.

Besides, the scientific approach, another thing which is interesting from the new curriculum is the authentic assessment. Assessment is the activities that cannot be separated from the learning process. Generally, the definition of assessment is any systematic procedure for collecting information that can be used to make inferences about the characteristic of people [8]. The definition of the authentic assessment is more detail and specific than assessment itself. Authentic assessment correlates the systematic procedures of assessment and the demand of *Kurikulum 2013* to combine students' competencies so that they are able to apply the competencies in their real life [9]. The principles and techniques of the authentic assessment are [10]:

1. The principles of authentic assessment.
   a. The assessment process is not separated from the learning process.
   b. The assessment represents the real life problems.
   c. The assessment uses varieties scales, methods, criteria which are appropriate to the competencies assessed.
   d. The assessment covers students' attitude, knowledge and skill.
2. The suggested techniques and instrument of authentic assessment.
   a. In assessing attitude, the government suggests the teacher to use observation; self-assessment; peer assessment; and journal technique, the techniques while the instrument are check list, notes, and rating scale.
   b. In assessing knowledge the teacher may uses multiple choices test, essay, oral test, and assignments.
   c. In assessing skill, the suggested techniques are practical test, project, and portfolios.

2. Methods

This research is evaluation research through descriptive quantitative approach. The model of the evaluation is discrepancies from Provus which is concern in the differences between the reality and the criteria. The evaluation held in SMA N 3 Yogyakarta, one of the pilot project schools in Yogyakarta, especially in Islamic Religion and Character subject matters. The discrepancies that the researchers are looking for is the discrepancies between the lesson plan made by the teacher and the criteria of the good lesson plan.

The 13 indicators measured in this research are (1) Lesson Plan identity, it represents the combinations of school identity, subject identity, class, material, and time allocation. (2) Indicators formulation. It requires the lesson plan to covers all of the domains which students are need to be mastered and its appropriateness to the basic competences and the operational verbs. (3) Learning Objectives Formulation is the indicator that measure whether the objectives on the lesson plan are appropriate to the basic competences and able to covers attitude, knowledge and skill domain. (4) Choosing Subject Material, this indicator will measure how teachers choose the suitable material related to the leaning domain, basic competences, and students' characteristic. (5) Choosing the Learning Sources tries to look for the appropriateness of the learning sources used by teacher to the students' characteristic, learning domain and scientific approach. (6) Choosing Learning Media answer the question about the fit of the media used by the teacher to the learning objectives, material, scientific approach, and students' characteristic. (7) So is the previous indicator, Choosing Learning Model is the indicator that measure the appropriateness of the model to the learning objectives, material, scientific approach, and students' characteristic. (8) Learning Scenario try to know how the teacher conduct the learning process. (9)

Conducting Scientific Approach is the indicator that tries to find out whether all the five activities of scientific procedures planned well. (10) Learning assessment planning analyzes the using of criterion referenced and the appropriateness of the indicators assessed to the technique. (11) Characteristic of the assessment is the indicator that is look for the fit of the assessment planning made by the teacher to the characteristics of assessment such completeness, varieties, authentic and continuous. (12) Authentic Assessment principles covers the question whether the assessment made by the teacher follow the principle of authentic assessment, (13) the last indicator is the appropriateness of the assessment technique to measure student's attitude, knowledge and skill domain.

The instrument used to assess the quality of the teachers' lesson plan was the rating sheets developed by the researchers consist of 13 indicators extracted and combined from the Education and Culture Minister of Indonesia. The sheet filled by the rates who are experts in Islamic Religion and Characters subject matter. The data collected is in a form of score which is categorized based on the table of criteria below [11]:

Table 1. Evaluation Category Table

No	Score	Category
1.	$X \geq \bar{X} + 1\ SBx$	Very Appropriate
2.	$\bar{X} + 1\ SBx > X \geq \bar{X}$	Appropriate
3.	$\bar{X} > X \geq \bar{X} - 1\ SBx$	Less Appropriate
4.	$X < \bar{X} - 1\ SBx$	Not Appropriate

Note :
$\bar{X}$: Average Score
SBx : Standard Deviation
X : Score from the Raters

3. Result and discussion

After passing all of the research steps, the result of the analysis shows that the subject identity included in a very appropriate category, with the score that reached 3.94. It means that the subject identity in the most of the lesson plans is almost perfect. The constrains can be seen from the descriptor that rarely appear in the lesson plans, i.e. the existence of program identity. The second indicator measured is the indicators of the successful learning. The descriptors considered in this indicator are the appropriateness of the indicators formulated to the basic competence, scope of indicators that is including attitude, knowledge and skill domain, the appropriateness of the operational verb to the domain measured and also the using of operational and measurable verb. The analysis shows that the second indicator includes in a very appropriate category, with the score that reached 3.83. Based on the analysis the main problem for teacher related to this indicator is the appropriateness of the oprational verb to measure the each kinds of domain. As all known, based Krathwohl theory, the operational verbs for affective domain are such as receiving, responding, valuing, organizing, and characterizing. Dyers stated that the operational verbs that people may use for psychomotor domain are observing, asking, experimenting, reasoning, presenting, and creating, while knowledge domain of Blomm & Anderson suggests the operational verbs such knowing, understanding, applying, analyzing, evaluating and creating [3]. So do the second indicators, the third indicator namely the formulation of the learning objectives also included in a very appropriate category, with the score up to 3.61. In means that teacher capability in formulating the learning objectives is good. The only barrier is how it covers the skill domain. As all known that the learning objectives should entering the activity of skill domain such as observing, asking, experimenting, reasoning, presenting and creating [7]. The problem related to this indicator is that there are no learning objectives related to the development of student skill.

The fourth important indicator of the good lesson plan is how the teacher chooses the subject material. This indicator is only able to reach 3.11 point, so it included as not appropriate category. The problems are that the teacher is not prepared the material well; it is proven by the material that is not including both the attitude and skill domain. Similar with the last indicator, the fifth indicator called learning sources also included in the not appropriate category and only able to reach 2.89 point. The barrier found is the appropriateness of the learning sources to the scientific approach. The learning source for scientific approach should be varieties such using a book, news paper, electronic media, nature, or the other relevant learning sources. The idea is that the material should not be monotone and have to adapt to the characteristic of the material and the student itself [4]. Another indicator that is included in the not appropriate category with

the score achieved is 3,00 is the sixth indicator, learning media. The constrains is the appropriateness of the learning media to the scientific approach. The learning media should help the teacher to conduct the scientific approach.

Against the sixth indicator, the seventh indicator that measured how the teacher chooses learning model included in the very appropriate category. It reached 3,83. The weakness is only in how the teacher chooses the appropriate model to the student's characteristic. The suitable model to student characteristic is the model that is able to notice how the earlier student's ability, background, social status, and differences are. The eighth indicator namely learning scenario successfully reach the perfect score, 4,00. That is why this descriptor included in the very appropriate category. This results shows that the teacher capability in constructing learning scenario is perfect.

Besides the completeness of the lesson plan components, scientific approach is the other focus of this research. The scientific approach measures by indicator number nine. It covers how the teacher construct the learning process based on the activities represent scientific approach explained before, i.e Observing, Questioning, Gaining Information/ Experiment, Associating / Analyzing the Information and Communicating. Based on the analysis, the ninth indicator perfectly included the very appropriate category. The result shows, that there is no barriers related to the administrative implementation of scientific approach.

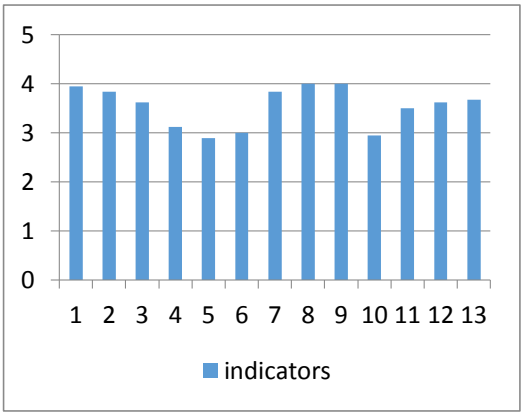

Figure 1 The Result of the Analysis

Related to the teacher's assessment plan, they are two indicators that included in the not appropriate category and the two other indicators about the authentic assessment included in the very appropriate category. Tenth indicator namely assessment plan only reached 2.94. The barriers are the absence of the fit assessment to the indicator is going to asses and the using of criterion referenced assessment. The researchers also found the monotone assessment instrument and material in the most lesson plan even the indicators that should be reached is different. For example, the indicator says that student should pronounce *surah An-nisa* with the *tajwid,* but there is no match instrument for assess the indicator, like the oral test. The second indicator related to the assessment plan is the characteristic of assessment. This indicator reached 3,50 point. The analysis found that there are some descriptor that are not appear on the lesson plan, i.e. continues assessment, it's mean that teacher not asses the student ability continuously and the using of criterion referenced assessment. The next indicator is the appropriateness of the assessment plan to the authentic assessment principles. This indicator is included in the very appropriate category with the score up to 3,61. The weakness is in how the teacher measures the student's ability. The last indicator called the appropriateness of the assessment plan to the authentic assessment techniques. It closed the analysis with the score achieved 3,67. It means that the indicator is included the very appropriate category. The challenge is in how the teacher chooses the appropriate technique to measure student's attitude and skill domains.

The holistic result of the analysis is that the entire quality of the lesson plan included in the appropriate category. Whole score reached up to 3,53 point. It means that holistically, based on the measurement of 13 indicators of the good lesson plan, the teacher in SMA N 3 Yogyakarta has the good capability in constructing the lesson plan according to the demand of *Kurikulum 2013*. Teacher has been understand about how to held the learning process based on the scientific approach and how to measure students' attitude, knowledge and skill domains based on the requirements of authentic assessment.

4. Conclusion and recommendations

The conclusion of the research is that the quality of the teacher's lesson plan in SMA N 3 Yogyakarta is included in appropriate category compared to the indicators of the good lesson plan considering the demand of *Kurikulum 2013*, i.e scientific approach and authentic assessment. The holistic score successfully reached 3,53. There is the 0,47 discrepancies point between the achieved score and the perfect score. The discrepancies shows that the quality in how the teacher construct the scientific approach in

learning covering the 5 activities and how the teacher plan the assessment based on the authentic principles and techniques are great, but there teacher is less care about the other components, they are (1) introducing the identity of the lesson plan, especially the program; (2) choosing the suitable operational verb for each kinds of domain; (3) formulating objectives that are represents the attitude, knowledge and skill domains; (4) choosing the material, sources, media and model for the learning which are appropriate to the scientific approach and students characteristic; (5) choosing the match and varieties assessment using criterion referenced assessment.

Based on the weaknesses above, there are some recommendations that the teachers may consider:

1. Teacher should be more careful in identifying lesson plan identity, especially which program covered by the lesson plan.
2. Teachers have to be more selective in choosing the operational verbs to measure the certain competences.
3. In formulating the learning objectives, teacher has to not only concern in one of the domain, but also integrating all the domains.
4. Teachers need to be more careful and selective in choosing the learning materials, sources, media and model. Besides, they have to fit to the students' characteristic, varieties and interesting, it has to be suitable to the demand of scientific approach.
5. Teachers have to improve their knowledge and references about kinds of assessment techniques and how to construct the good instruments. Besides, teachers have to be focused on the appropriateness of the assessment techniques to the indicators measured.

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LECTURER ETHICAL BEHAVIORS: DESCRIPTION OF SURVEY ON SEVERAL PRIVATE UNIVERSITIES IN BOGOR, INDONESIA

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Abstract

Indonesia's major expectations at the university in order to become an actor in the creation of competitiveness depend on the quality of lecturers. One quality indicator in this case is that the lecturer should behave ethically, i.e. what he/she does and says is always consistent with and based on moral values. This study aims to describe the lecturer ethical behavior based on the survey conducted at some private universities in Bogor. The population of this research was 707 lecturers of Pakuan University, Nusa Bangsa University, Djuanda University and Ibnu Khaldun University. The questionnaires of this research were distributed to the 30 lecturers. Therefore, by proportional random sampling, the sample of this research was 130 lecturers who were selected proportionally and randomly. The results of this study reveal that there are several issues of lecturer ethical behavior that should obtain public's attention, among others are: (1) the courage of lecturers to report academic violation; (2) tolerance towards diversity; (3) the efforts to improve the wealth of the lecturers; and (4) the efforts to retain the academic freedom.

Keywords: ethical behavior, academic community, excellent service

1. Introduction

Prior to 1996, the research on employer behavior mostly focused on positive behaviors such as employee satisfaction, organizational commitment, organizational citizenship behavior, and employee performance. Whereas, research on employer negative behaviors in the organization such as deviant behaviors, anti-social behaviors, counter-productive behaviors and unethical behaviors performed by employees began to attract researchers' attention after 1996, but there was more after 2000 (Trevino and Brown: 2004). Post several incidents taking place in American Companies such as Enron, Tyco and WorldCom, research concerned with the roots of unethical behaviors grows in number (Kreitner and Kinicki:2010).

This trend of unethical behavior went to the next level for several reasons. First, the

ations, *accessory to unethical acts, ethical dilemmas.*

This research attempts to identify and describe the ethical behaviors of lecturers. This study was conducted based on the observation that there are some indications of lecturer unethical behaviors which include plagiarism committed by lecturers and students, various organizations are to face different cultures and societies in the framework of Globalization era. Second, the organizations incur the hardships of harsh and uncertain economy condition that they put some efforts to survive the crises and reap the ultimate profit. Third, those, with power at hand, suffer *Bathsheba syndrome*- a tendency to seize others' possession in unethical manner (Reynold : 2015).

It is undeniable that unethical behaviors in organizations result in collapse and bankruptcy like what happened to Enron and WorldCom (Besterfield: 2003). Nelson and Quick (2006) describes various unethical behaviors as follow: *stealing*, *lying, fraud and deceit, conflict of interest and influence buying, hiding versus divulging information, cheating, personal decadence, interpersonal abuse, organizational abuse, rule viol*

forms of cheating behaviors, sexual harassment committed by lecturers and students during the course and afterwards, the abuse of power, and sexual gratification, bribery, and gifts for grades (Enrich: 2012).

The requirement for skillful workforce and human capital has been greater due to the economic and social development in this 21st

century. The wealth of a nation is enabled by competitive human capital, competence in the research field at global level, and ability to disseminate science to the people. Universities in the context of life above come to be a critical factor. Thus, universities play an important role as the source of innovation and the development of human resources (Tremblay et.al: 2012).

Soedijarto (2000) states that up to this moment, higher education institutions in Indonesia have concentrated more in preparing the graduates for professional carriers, whereas the function of higher education as the manufacture of science to free Indonesia from import activities of science and technology is still out of order.

Development and improvement of lecturer ethical behavior need to be done in public universities (PTN) and private ones (PTS), but the PTS should receive more attention. 70 percent of Indonesian students study in the PTS (Elfindri Kompas.com, 23 March 2013, accesses on 8 March 2014) and there are 476 PTS in West Java. However, it is evident that only 20-30 percent of which considered healthy. Therefore, the majority or 70 percent is not in proper condition (Halim in Republican.co.id, 17 March 2014, accessed on 1 April 2014).

Ethical Behavior

The ethical behaviors show conducts which are based on or consistent with the personal, organizational, and social values. This means that a person is said to behave ethically if his behavior indicates conformity with the values upheld by a person, organization and society. This is in line with the argument of Nelson and Quick (2006) that '*ethical behavior is acting in ways consistent with one's personal values and the commonly held values of the organization and society'*.

Noe et.al (2011) defines that *ethical behavior is behavior that is consistent with those principles*. The ethical principles intended by Noe et al, are closely related to the proper behavior and improper behavior avoidance. Noe et.al. explicitly argues that *ethics refers to fundamental principles of right and wrong* Noe et.al (2011).

Ethical behavior is human-related behaviors associated with truth and goodness. Therefore, someone who behaves ethically will be considered true and well behaved. Instead, someone who behaves unethically will be called wrong and badly behaved. This is in accordance with the argument of Johnson (2012) that '*ethical behavior is recognized as the mark of a good and decent person*".

Ethical behavior is the benchmark of the conformity of one's behavior and the behaviors subject to the society's expectation. This means that ethical behavior is the preferred behavior or in line with the values that exist in society. This is in line with the concept of ethical behavior expressed by Saat, Jamal and Othman (2004) that *ethical behavior explains conducts of an individual who deemed appropriate by society*.

Ethical behavior is closely related to moral values and moral conduct. This means that the behavior that is incompatible with the moral values can be referred to as unethical behavior. This is in line with the concept of ethical behavior of Nelson and Quick (2006) which states that ethical behavior is in relation to *moral values and moral behavior.*

The idea of ethical behavior is closely related to the ethical deeds that one does. This is in line with the concept of ethical behavior proposed by Mitchell and Schaeffer (2005) that *ethical behavior is acting ethically*. Both explain that ethical behavior needs to be understood and given clear directions so that employees are able to perform the correct ethical behavior, such as keeping confidential matter of the company, proper behaviors, as well as the avoidance of unethical behavior and conflicts of interest.

Ethical behavior is one's attitude when facing all the challenges and dilemmas of everyday life with his/her consistency and ethical standards. This is in line with the concept of ethical behavior expressed by Danley (2005) "*we must be consistent in our responses to everyday events as well as to dilemmas and challenges and base our actions on the standard of ethics that we have developed"*. The ethical standards that should be possessed among others are *truthfulness, justice, generosity, courage, honesty, fairness,* and *empathy*. These values when applied consistently shall make one be said to behave ethically.

Ethical behavior is the behavior of accepting the norms prevailing for public or even world community. This is in accordance with the argument of Reynolds (2015) that *ethical behavior conforms to generally accepted norms---many of which are almost universal*.

On the other hand, the norms or values that should be acknowledged and implemented among others are (1) operating with honesty and integrity, staying to organizational principles; (2) operating according to standards of ethical conduct, in word and action; (3) treating colleagues, customers, and consumers with respect; (4) striving to be the best at what matters most to the organization; (5) valuing diversity;

and (6) making decisions based on facts and principles (Reynolds (2015).

How should whether someone is behaving ethically or not be measured? According to Noe et.al. (2012), to measure one's ethical behaviors, 3 standards of reference may be used: (1) *greatest good for largest number of people* (2) *respect for human right* , and (3) *treating employees and customers equitably and fairly*.

McShane and Von Glinow (2010) mention three principles to measure the ethical behavior, namely: (1) *utilitarianism,* i.e. the principle that the highest deed is when one is able to provide kindness to most of the people; (2) *individual rights,* i.e. the principle that every human being has the right to do things in their own way as long as they do not conflict with the rights of other individuals; (3) *distributive justice,* i.e. the principle that every human being who donated the same thing should receive the same benefits and burdens as well.

According to Spector (2007), a person is said to behave ethically in professional practice, such as being a psychologist, if he/she meets the six principles: (1) competence, that work should be done by those who have the competence, (2) the integrity, that work should be done based on honesty, fairness and professionalism, (3) *professional and scientific responsibility,* that the work should done to a high standard and professional behavior, (4) respect for and honor of the dignity and human rights, (5) concern for or attention to the other party's development, and (6) social responsibility, that the work is done for the benefit of the wider community.

According to Bolman and Deal (2003), a person can be said to behave ethically if he is able to practice the values of *excellence*, *caring, justice*, and *faith*. Kent Hodgson in Kreitner and Kinicki (2010) describes 7 moral principles that form the ethical behavior, namely: (1) The *dignity of human life* (paying respect for human life, never let any action directly and intentionally cause harm or kill humans), (2) *autonomy* (acting upon the principle that every human being is valuable, respectable, and has the right to freely make decision), (3) *honesty* (being honest, speak and act according to the reality), (4) *loyalty* (keeping loyalty, maintaining public trust, acting civilized, qualified, and committed, acting on the basis of fair laws and policies), (5) *fairness* (treating others fairly, showing tolerance towards diversity), (6) *humaneness* (doing good and avoiding badness), (7) *the common good* (doing good for people).

Ethics in Lecturing

Law of the Republic of Indonesia No. 20 of 2003 on National Education System Article 39 paragraph 1 states that the lecturers are professional educators and scientists, with the main task of transforming, developing, and disseminating science, technology, and the arts through education, research, and community service.

Lecturers, in carrying out their responsibilities, have obligations under the Act No. 14/2005 Article 40 paragraph 2, which are to: (1) create an atmosphere of meaningful, fun, creative, dynamic, and dialogical education, (2) have a professional commitment to improve the quality of education; and (3) become the role model and keep the goodwill of the institution, the profession, and the position in accordance with the trust given to them.

In order to carry out their obligations, the lecturers must meet the minimum qualifications according to the provisions of Law No. 14/2005 which are to have pedagogic competence, professional competence, personal competence and social competence required in the practice of teaching, research, and community service.

One thing that is important for the lecturers is to do research that upholds the ethics of research. Creswel (2012) describes several matters related to the ethics of research: (1) *institutional review board*; (2) *professional association*; (3) *ethical practices throughout the research process;* (4) *ethics in data collection*; and (5) *ethics in data reporting.*

The lecturers have to make themselves the reflection of ethics which according to Ehrich, et.al (2012) includes *professional ethics*, *ethics of care and institutional ethics*). As professionals, the lecturers should be professional that they have *responsibility for scholarly competence; holding students to ethical standards; evaluating students in a way that reflects their worth; treating colleagues in a fair and respectful manner; and promoting conditions of free inquiry and promoting understanding of academic freedom*. Enrich, et.al (2012) provides examples of the ethics of lecturers in Australia: *respect for the law and the system of government; respect for persons; integrity; diligence; and economy and efficiency.*

Lecturers as the source of learning should have the ethics of personal interest to the students. Some quotations from the research result of Enrich, et.al (2012) states that the ethics of personal interest are to : *be focused on relationships, fore grounding love, care and sensitivity towards others, put relationships at the heart of decisions, honesty, respect and care*

in their dealings with students, truthfulness and fairness with 'a personal commitment to be fair and just'.

The lecturers as part of the educational institution should make decision by considering the ethics. Thus, based on institutional ethics, according to Enrich et.al the lecturers should transform the institution to the more ethical one. Heading to that direction, the lecturers are required to be aware of the importance of *ethical* power *(*Ehrich: 2012).

2. Methodology

This research in general aims to obtain the empirical description of lecturer ethical behaviors in several private universities in Bogor that include Pakuan University, Juanda University, University of Ibn Khaldun, and Nusa Bangsa University. The method applied was a survey since this study is to describe or explain the phenomenon. The population in this study is permanent lecturers who have National Lecturer Identification Number (NIDN) which amounts to 707 lecturers. 130 samples in this study were collected by means of *simple random sampling*. The instrument used has been tested for its validity and reliability.

The operational concept of ethical behaviors is the act of faculty lecturers, when performing their tasks and functions, which is consistent with their values and moral principles indicated by the followings: setting the priority to benefit the academic community, upholding human rights in the academic community, providing excellent service to the academic community, upholding the self-integrity as lecturers, and being professional. This study only describes the lecturer ethical behaviors on a scale of 1 to 5 with the following provision of meaning: the average value of 1 to 1.5 means very low, the average value of 1.6 to 2.5 means low, average value of 2.6 to 3.5 means medium, the average value of 3.6 to 4.5 means high, and the average value of 4.6 to 5 means very high.

3. The Result Of The Research

The participants of this study were male and female lecturers at the percentage of 40 and 60 respectively. The lecturers engaged in this study are of qualification in S1 (2%), S3 (94%) and S3 (4%). In terms of lecturer functional position, this research engaged Instructor of 30 percent, Assistant Professor of 50% and Associate Professor of 20%.

The ethical behavior reflected when the faculty lecturers set priority to the benefit of the academic community obtains an average value of 3.98, which means high of value. The details of the lecturer ethical behavior in the priority to the benefit of the academic community are described in Table 1.

Based on the table above, the lowest average was shown by three statements namely: (1) To struggle to maintain the academic freedom at all costs.; (2) To voice the interests of the academic community wherever the lecturer is; and (3) To submit a proposal for the improvement of student services in a variety of occasions. Even though considered high, those three statements should obtain public concern. The public would not want to see the behavior of the lecturers who do not give priority to the quality of the academic community.

The lecturer ethical behavior that is reflected when upholding human rights in the academic community obtains an average value of 3.75, which means high of value. The Indicators of lecturer behavior when upholding human rights in the academic community can be seen in

Table 2.Table 1. The Priority to the Benefit of Academic Community

No	Statement	Mean	Meaning
1	To set priority to the improvement of education quality of academic community over others.	4,20	High
2	To struggle to maintain the academic freedom at all costs.	3,63	High
3	To use the latest references in my lectures.	4,27	High
4	To submit a proposal for the improvement of student services in a variety of occasions.	3,98	High
5	To voice the interests of the academic community wherever I am	3,76	High
6	To dedicate most of my life to the progress the academic community.	4,02	High
	Total	3,98	High

Table 2. To uphold the human rights in the Academic Environment

No	Statement	Mean	Meaning
1	To congratulate the members of academic community having different faith from mine on their religious events.	3,10	Medium
2	To encourage the academic community to be active in the organization.	3,97	High
3	To uphold the privacy of academic community members	4,35	High
4	To put some effort in delivering opinions in the academic community environment.	3,87	High
5	To struggle for the economic rights of academics community that it is to be filled by the university.	3,45	Medium
	Total	3,75	High

Based on the table above, there are three statements which has low average value relative to others, i.e.: (1) Tolerant expression when congratulating the mem-bers of academic community having different faith from mine on their religious events, (2) Attitude of struggling for the economic rights of academics community that it is to be filled by the university; and (3) The freedom of expression in the form of putting some effort in delivering opinions in the academic community environment.

The lecturer ethical behavior that is reflected when providing excellence services to the academic community obtains an average value of 3.66, which means high of value. The indicators of providing excellent service to the academic community can be seen in Table 3 below:

Table 3. To provide Excellent Service to the Academic Community

No	Statement	Mean	Meaning
1	To implement the process of student academic counseling which is above the minimum standard of service applicable to all universities.	4,07	High
2	To ask for input from other lecturers to improve the learning process that I perform.	3,80	High
3	To guide the students in their process of writing scientific papers even though they are administratively not my responsibility.	3,44	Medium
4	To help find the sources of scholarships for lecturers and students even though it's not part of the job.	3,10	Medium
5	To allocate special time for additional academic advising on the students' request.	4,03	High
6	To present the most actual issues in my lectures.	4,19	High
7	To provide the public with objective information on the academic quality of my university.	3,92	High
8	To make an oral and written report on the violation of rules taking place in the university which is committed by my supervisor.	2,76	Medium
	Total	3,66	High

Based on the table above, there are 3 statements which are of the lowest value related to the excellent services for academic community provided by lecturers, namely: (1) The courage of the lecturers to report the violation of rules taking place in the university where they work; (2) The commitment to assist the lecturers and the students to find source of scholarships for the lecturers and students; and (3) the Assistance for the students in writing good scientific papers even though administratively they are not under the lecturer's supervision.

The lecturer ethical behavior reflected in upholding the self-integrity as lecturers obtain the average value of 4.36 which is high of value. The indicators of lecturers upholding the self-integrity as lecturers can be observed in the table 4 as follow:

Table 4. To uphold integrity

No	Statement	Mean	Meaning
1	To reject giving scores to the students evidenced to commit plagiarism.	4,24	High
2	To show loyalty to what has been decided in the academic community meeting.	4,55	High
3	To describe an event along with the supporting facts.	4,22	High
4	To reject any gifts from the students which might influence my decision.	4,42	High
	Total	4,36	High

Based on the data above, all indicators in relation to the lecturers' integrity show high value on average. However, there is one statement shows lower value on average than those of the others i.e. the statement of how the lecturer can explain an event that is accompanied by the supporting facts.

The lecturer ethical behavior reflected in their professional attitude obtains an average value of 4,34 which means high of value. The

indicators of lecturers' professional attitude can be observed in the table 5 as follows:

Table 5. Professional Attitude

No	Statement	Mean	Meaning
1	To improve my academic competence that I may provide my best contribution in the academic field.	4,40	High
2	To improve the communication skills that I may communicate at my best effectively with the academic community.	4,35	High
3	Before the lectures, I prepare lesson plan as required in the syllabus.	4,53	High
4	To perform reflection on my achievement when improving my performance in this university.	4,26	High
5	To implement Three Pillars of Tertiary Education in accordance with the applicable provisions	4,45	High
6	To collaborate with those who have the same scientific profession as mine.	4,23	High
7	I can account for the scientific truth of the materials which I convey to students.	4,60	High
8	I can carry out the duties and functions as a lecturer to the fullest without being distracted with my personal problems.	4,43	High
9	I put some effort to extend my scientific knowledge that supports my profession as a lecturer.	4,57	High
10	To the fullest of my working as a lecturer, I am active in the organization of the education profession.	3,60	High
	Total	4,34	High

Based on the table above, the all statements related to the lecturer professional attitudes obtain high scores on average. However, there are 3 statements that obtain low value compared to others, namely: (1) the lecturers' involvement in their professional organizations; (2) the cooperation between the lecturers who administer the same subjects; and (3) the reflection on what has been done to improve the performance of lecturers.

In general, the lecturer ethical behavior in the 4 indicators of this study has been categorized as being on the right track. Table 6 above describes the indicators of the lecturer ethical behaviors in several private universities in Bogor, West Java.

Table 6. Lecturer Ethical Behavior

No.	Indicator	Mean	Meaning
1.	To set the priority to the benefits for the academic community	3,98	High
2	To uphold the human rights in the academic environment	3,75	High
3	To provide excellent service to the academic community	3,66	High
4	To uphold the self-integrity as lecturers	4,36	High
5	To be professional	4,34	High

Based on the table above, the ethical behavior indicators which obtain the lowest value on average are the lecturers' provision of excellent service to the academic community, the lecturers' upholding of the human rights, and the lecturers' priority setting to the benefits for the academic community.

4. Discussion

Ethical behaviors in organizations are very important because unethical behaviors bring detrimental effect to the organization. Josephson Institute (2013) explains the implications of unethical behaviors in an organization which among others are: (1) the decline in sales, (2) the decline in company's stock price, (3) the increase of fraud in the organization, (4) the increase in various scandals, (5) the decrease in productivity, (6) the poor communication, (7) the difficulty in recruiting new employees and retaining the old ones, (8) the declining performance of highly skillful employees, (9) the worsening rate of absenteeism.

The lecturer ethical behavior is very important. Observation on the progress of ethical behavior lecturers can be done by measuring whether the lecturer did increase consistency in providing the maximum benefit for the academic community, uphold human rights in the academic community, provide excellent service in the academic community, uphold the self-integrity as a lecturer, and improve the professionalism of lecturers.

Based on this research, the lecturer ethical behaviors in several private universities in Bogor, West Java are categorized as those of high or good. But there are several things that need to be examined more profoundly, especially in three issues: First, the lecturer's provision of excellent service in the academic community; Second, the lecturer's upholding of human rights

in the campus; and Third, lecturers' behavior in promoting the campus.

First, excellent service is the part that must be provided by lecturers in the higher education. This is consistent with the opinion of Bolman and Deal (2003) stating that a person can be said to behave ethically if he/she is able to practice the values of *excellence* and *caring*. This is in line with Ehrich, et.al (2012) that lecturers should *treat their colleagues in a fair and respectful manner.*

Lecturers should perform excellent service on campus which is a compulsory requirement. Modern organizations should orient themselves towards the customer needs. Excellent service provided by the lecturers originates from their own motivation and skills to do so. The lecturer behavior of performing service excellence is a direct consequence of attention to people. On the other hand, customer satisfaction and loyalty are the consequence of excellence in a series of encounters between lecturer and the customer.

This study identifies the needs of improvement in terms of lecturers' service excellence, which come to be: (1) The courage of the lecturers in reporting the violation against the rules that occur in the university where they work; (2) A commitment to help the lecturers and students in finding sources of scholarships; and (3) Assistance for the students in writing good scientific papers even though administratively they are not under the lecturer's supervision.

The lecturers' courage to expose violations in the university needs to get attention. In the future, there will be many tolerated violations if lecturers do not have any courage to report violations taking place in their institution. Undoubtedly, this will be harmful for the future of the university.

The commitment of the lecturers to help fellow lecturers and students, particularly in finding scholarships, needs to be improved. The positive impact of this helping behavior is that it will generate mutual trust among fellow lecturers. Improving the quality of lecturers and students is compulsory that they should be given a solution to continue their education to a higher level.

The quality of graduates depends on how far the lecturers guide the students that they are able to understand and apply the research skills. Therefore the lecturers' commitment to help the students make the quality paper needs to be improved. The existence of quality research will bring this nation to a culture of scientific point a view. Therefore, the behavior of the lecturers in helping students to conduct research should be cultivated.

Second, the behavior of the lecturers in upholding the human rights on campus needs to be improved. Upholding the human rights in the campus environment is important and is part of ethical behavior. This is in line with the opinion of Noe et al, (2011) that there is a positive correlation between a person's ethical behavior and *his respect of human rights.* Kent Hodgson in Kreitner and Kinicki (2010) also said that the ethical behavior of a person is measured by observing to what extent this person is performing *dignity of human life,* namely to respect for human life, that is to never let any action directly and intentionally cause harm or kill humans.

Based on the findings of this study, there are three issues that should be improved regarding respects for human rights, namely: improving the attitude of tolerance in the campus in the form of congratulating the members of academic community having different faith on their religious events, attitude of struggling for the economic rights of academics community that it is to be filled by the university; and socialization of improving the freedom to express opinion at campus.

Improving tolerant attitudes to people of different religions should be performed by the lecturers. In the future, Indonesia is facing globalization where ideas, people, goods, services and cultural are to be exchanged between nations. So if the lecturers act exclusively in their attitude, particularly in terms of religious matters, Indonesia will have difficulty in adapting to the future.

Improving the welfare of the lecturers is a must. Prosperous lecturers are a part of the fulfillment of human rights. Many lecturers of private universities complain about their welfare, however, they do not have any courage to fight for their economic rights. Lecturers who are less prosperous may bring damage to the higher education, for instance, they are not working with high performance standards. The phenomenon of side-jobbed lectures is commonly found. This is pathetic. What is more concerning is that the lecturers are powerless to demand their rights for having a more prosperous life.

The next topic is the increase of freedom to express opinion at campus. The freedom of expression is guaranteed by the constitution in Indonesia. The academic environment would be conducive if the freedom of speech is well maintained. When the lecturers perform less courage in struggling for freedom of speech among the lecturers and the students, this will negatively influence the future. Therefore, the

phenomenon of lecturers' lack of enthusiasm to develop the freedom of speech at campus needs to be questioned.

The third is the lecturers' commitment to provide benefits to the academic community- a lecturer behavior that should provide the maximum benefit to the campus. This is in line with the opinion of Noe et.al., (2012) that the measurement of a person's ethical behavior should be based on the principle of *greatest good for largest number of people* whereas Mc Shane and Von Glinow (2010) call this with the principle of *utilitarianism,* stating that the highest deed is when one is able to provide kindness to most of the people.

This study finds that the weakest behavior of the lecturers is in the indicators of providing benefits to the campus: the lecturers' struggle to maintain the academic freedom at all costs, the lecturers' struggle to articulate the interests of the academic community, and the lecturers' struggle to deliver the service improvement proposals for the students. The lecturers' weakness in struggling for the three issues above should obtain public's attention. Lecturers' weak struggle for those three would bring negative influence for the future of higher education. Therefore, lecturers should be encouraged to perform attitudes which enable the academic community to obtain the maximum interest.

5. Conclusion

The Lecturers' ethical behaviors of some private universities in Bogor which are reflected in five indicators, i.e. the provision of maximum benefit for the academic community, upholding human rights in the academic environment, providing excellent service to the academic community, upholding integrity, and improving the professionalism, have obtained the value of high or good.

There are several findings from this study that need to be observed by the public as it is negatively influence the future of higher education, which among others are: (1) the courage of lecturers in reporting violations against the rules that occur at the university where the lecturers work; (2) the tolerance towards diversity, among others is congratulating the members of academic community having different faith on their religious events; (3) the attitudes in struggling for the welfare of lecturers; and (4) the lecturers' struggle to maintain the academic freedom at all costs.

By observing the research findings above, the researchers suggest that some research regarding lecturer ethical behaviors be conducted in other universities to get a more convincing conclusion that the condition of lecturer ethical behavior could be improved. Through the improvement of lecturer ethical behavior, it is expected that the quality of higher education in Indonesia may improve that it is able to compete in the era of globalization.

EXPRESSION OF GRATITUDE

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THE IMPLEMENTATION OF MARKET DAY PROGRAM IN MINIMIZING THE CONSUMPTIVE LIFESTYLE AND DEVELOPING ENTERPRENEURSHIP OF STUDENTS OF SDIT INTERNASIONAL LUQMAN AL-HAKIM

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Abstract

This research aims to describe and perceive the implementation of market day program in developing entrepreneurship and minimize the consumptive lifestyle of students of SD IT Internasional Luqman Al Hakim. The method used in this research is qualitative with descriptive methods. The subjects of this research are headmaster, coordinators of market day program, teachers, and students of SDIT LHI. The object of this study is the implementation of market day program. The instruments used for data collecting are interview, documentation and observation while the data analysis is using reduction, data presentation, and verification. Testing the data validity is using triangulation techniques. The result of this research shows that: (1) the implementation of market day program in developing the entrepreneurship of students of SDIT Internasional Luqman Al Hakim i.e. market day program in SDIT Internasional Luqman Al Hakim has a positive impact in developing the entrepreneurship of the students. Dominant characteristics owned by the student after participating in market day program self-confidence, hard working nature, the nature of Achievement, the instrumental nature; (2) the implementation of market day program in minimize the consumptive lifestyle of students of SD IT Internasional Luqman Al Hakim i.e. the participants of market day program are still having average consumptive culture, such as 1) Buying product for the lure of the prize; 2) Buying product for the good packaging; 3) Buying more than two similar product with different brands, whereas the non dominant indicators of consumptive for students are 1) Buying product for appearance and pride; 2) Buying product with price consideration instead of benefit consideration; 3) The assumption that higher price brings higher pride.

Keyword: the implementation of market day, minimizing the consumptive culture, developing entrepreneurship

1. Introduction

Technology and society are two interrelated things. The facility given by technology affects the life of our society and sometimes shapes new cultures such as consumptive culture in adults, youths, and children life. One of the ways to minimize the consumptive lifestyle is by applying productive lifestyle by entrepreneurship.

The amount of natural resources in Indonesia should be able to bring the amount of entrepreneurs in Indonesia to the higher number. In fact, the amount of entrepreneurs in Indonesia is not as much as expected because of the lack of understanding of entreprene urship. Besides inhibiting the growth of the number of entrepreneurs in Indonesia, the lack of understanding of entrepreneurship also contributes in increasing consumptive lifestyle and decreasing the ability of emerging the potential of our human resources that needs to be fixed especially in implanting the understanding of being productive individuals. Such efforts can be done starting from the primary education, because of its ability to develop the main potential of the learners. Children can be equipped with entrepreneurial education in accordance with the level of the development so they have the ability to entrepreneurship and help improving prolific culture in Indonesia. The facts show that, nowadays, elementary school students are widely served with a variety of snacks. This is certainly going to attract the attention of the students to consume more and more. Over time these habits will become a new culture, culture of

consumption among elementary school students. Market day program was developed to overcome that kind of situation. In this study, researchers are interested to make the implementation of market day program in SDIT LHI Yogyakarta as the topic of research. This research is expected to be able to give reference for other school to implement market day program to create productive lifestyle and reduce the consumptive culture. Based on the background of the problem that has been stated above, the problem is focused on how the implementation of the Market Day program as an effort to foster an entrepreneurial spirit and minimize consumptive lifestyle earlier on students of SDIT Lukman Al-Hakim. The purpose of this study was to determine and describe the implementation of the Market Day program as an effort to foster an entrepreneurial spirit and minimize consumptive lifestyle early on students of SD IT Luqman Al Hakim.

This study is expected to be useful for studies on the same theme or relevant so as to contribute to all the schools to build entrepreneurial spirit in students from an early age.

2. Literature review

2.1 Market Day program in SDIT LHI

Market day is the combination of two words, market and day. Market has another word that is marketing (William J. Stanton. Y Lamarto, 200: 7). In other words, market day is a day where the participant of the program can conduct price planning, promoting and selling something. According to Budiman, the coordinator of market day program in SDIT LHI, market day is a school activity that involves all students in first grade to sixth grade.

2.2 Consumptive behavior

Consumptive behavior is the behavior or lifestyle when ones like to spend their money without careful consideration. Consumer behavior can bring positive and negative effects for consumers as well as others (Waluyo, 2008: 202). The positive impact of, among others, to give satisfaction to the consumer, provide benefits for producers and other economic activities, increasing the velocity of the economy, while the negative impacts include wastage, inflicting social inequality, and cause inflation (Waluyo, 2008: 202-203). The negative impact of consumer behavior, among others: the occurrence of waste, causing social inequalities, and menuimbulkan inflation.

2.3 Indicators of Consumtive Behavior

According Sumartono (2002), indicators that influence consumer behavior are: (1) Buy products because of the lure of prizes, (2) Buy products for attractive packaging, (3) Buy products in order to maintain the appearance of self and pride, (4) Buy products upon consideration of the price (not on the basis of benefit or usefulness), (5) buy products just maintain a status symbol, (6) the emergence of assessment that buy products at high prices will lead to a high confidence, (7) Tried more than two products similar (different brand), Cross and Cross (in Hurlock, 1997).

2.4 Entrepreneurship

Mardiyatmo entrepreneurship is the process of creating something else to use your time and activities with risk capital and services, as well as receive remuneration, satisfaction and personal freedom (Mardiyatmo, 2008: 2). According Windya Novita way foster entrepreneurship in children include: 1) Instill confidence in ourselves that the Lord will open the business 9 of 10 pinttu sustenance; 2) tepis and remove the assumption that the business person is the second group after another job; 3) Remove the assumption that the business poses many risks (Windya Novita, 2008: 9-10).

2.5 The Natures of Entrepreneur

Entrepreneurship expert named Sukardi infers general characteristic owned by entrepreneur into nine types, such as the nature of instrumental, nature of achievement nature, nature of associate flexibility , nature of hard working, nature of self-confidence, nature of calculated risk taker, nature of self-guiding, nature of innovative, and nature of self-contained (Directorate of Courses and Institutions, 2010: 10- 11).

2.6 The Characteristics of Elementary School Students

Piaget in Mulyani Sumantri (2006:1.17) infers that children at age 7 to 11 is in concrete operational stage when children are able to think systematically to solve their problems. Elementary school students also need a bridge to help them connecting between something

abstract and the concrete one. The characteristics of education at this stage include: a) Stimulated by the game because children love to play; b) Learning facilitate children to move because the child can not stand if kept silent; c) facilitate the child's learning to work in groups; d) learning will be more meaningful if, children feel or meragakan something directly (Mulyani Sumantri 2006: 17).

3. Research methods

This study is a descriptive-qualitative research. Syaodih Sukmadinata (2011: 60) states qualitative research is a study aimed to describing and analyzing phenomena, events, social activities, beliefs, perceptions, and thoughts of people individually or in groups, do not hold a descriptive study of manipulation or alteration of variables free, but describes the condition is.

This research was conducted at the SDIT International Luqman Al-Hakim is located at Jl. Karanglo, Jogoragan, Banguntapan, Bantul, Yogyakarta, whereas the time of the research is in October 2014. The subjects of this research are headmaster, coordinators of market day program, teachers, and students of SDIT LHI.

The instruments used for data collecting are interview, documentation and observation while the data analysis is using reduction, data presentation, and verification.

Testing the data validity in qualitative research is including creadibility test (internal validity), transferability (external validity), dependability (reliability), and confirmability (objectivity) (Sugiyono, 2012: 121). Data analizing in this study is using data reduction, data presentation , and conclusion.

4. Results and discussion

The Implementation of market day program in developing the entrepreneurship of students of SD IT Internasional Luqman Al Hakim

Market day program aims to stimulate the entrepreneurship of students of SDIT Lukman AL-Hakim. There are three activities done in the entrepreneur activities, such as production process, distribution process, and consumption process.

The implementation of market day program in developing the entrepreneurship of students of SD IT Internasional Luqman Al Hakim seen from some indicators i.e: 1) The emerging of entrepeneurship, 2) The increasing of well-communicating ability 3) Mastering in specific subject.

This is consistent with the results of interviews with program coordinator that the program will be beneficial to students especially in increasing their entrepreneurship, communication skill, and their ability in simple calculating. In addition, it can be seen from the observation result and data analysis that students' entrepreneurship is good. Students have shown their attitude when they are in the position as a seller as perceptive to chances and opportunities represented by a sixth-grade student, crispy potatoes seller, and fifth-grsde student, children's toy seller, and not giving up do the job is finished indicated by the first-grade students who did not lose his spirit though they don't have much buyers.

Researcher: "Do you want to try to work harder to sell merchandise?

Nnty: "Yes, I want, because this is profitable" (Interview Results).

Those characteristics raised by the students are in line with the opinion of an expert entrepreneurshiph named Sukardi. Entrepreneurial spirit that should exist in students as an indicator to see the student market day program participants are: 1) the nature of instrumental, the nature where one responses the chances and opportunities; 2) the nature of achievement, always trying to improve performance; 3) the nature of associate flexibility, always get along with anyone, active in developing relations; 4) the nature of hard work, always trying to be involved in the work situation; 5) the nature of self-confidence, always full of optimism that their work will be succed; 6) the nature of calculated risk takers, have no doubt and worry of the any situation they will face in the business; 7) the nature of self-guiding, that really determines what to do and be responsible for himself; 8) the nature of innovative, always working hard to find new ways to improve performance. (Directorate of Courses and Institutions, 2010: 10- 11). Dominant natures that has been owned by the student after participating the market day program include: 1). The nature of confidence, means that students already have these nature proven by their self-confidence when selling their product; 2). The nature of hard working, means that students already have these properties proven by their trying to work hard, especially when market day activities is taking place; 3). The nature of achievement, means that students already have these properties proven by their willing to take challenges and achieve ne achievements; 4) the nature of instrumental,

means that students already have these properties proven by their responsiveness to opportunities in many respects, especially learning entrepreneurship through market day and trying to improve their work

In addition, it has been known that the implementation of market day is able to improve well-communication skill.

Researcher: "How can you be creative in offering products? "

HK: "I took the initiative to manage my own products. "

Researcher: "Do you dare to offer your products? "

Hk: "At first I offer my product to my friends, but now I don't do it anymore."

As seen from the interview above, market day may not be able to improve the ability to communicate, it depends on each individual.

Here is the footage of an interview between researchers with market day participant:

Researcher: "Do you use proper language in offering your products?"

HK: "Yes, I always use proper language to attract people to buy my products."

Researcher: "What do you do to do well calculation?"

Hk: "By selling product I also learn math. Because I calculate the results of selling my product ".

From the interviews above can be concluded that by participating in the market day program, students learn mathematics and Bahasa unconsciously and also able to link the subjects in the learning process with selling activities during market day program.

The Implementation of market day program in minimizing the consumptive lifestyle in early age of students of SD IT Internasional Luqman Al Hakim

The purpose of market day program is not only to foster the entrepreneurial spirit but also to minimize consumptive lifestyle for the participants. Consumptive lifestyle that have to be minimized for students, such as: (1) students buy the product because of the lure of the prize; (2) students buy the product because of the packaging; (3) students buy the product to maintain their self appearance and self prestige; (4) students buy the product in consideration of the price (not on the basis of benefit or utility); (5) the emergence of student assessment that buying products at high prices will lead to a high confidence and prestige; (6) students buy more than two product with different brands. Here are the results of interviews between researcher with the subject:

Researcher: "Do you buy snacks that are not good even if the snacks you do not want or need it?"

Nnty: "No, I don't like buying things that has no good"

Researcher: " Do you buy snacks that are not good even if the snacks you do not want or need it?"

HK: "No, I only buy usefull things"

Based on the data above, it can be concluded that the student are able to minimizing their consumptive lifestyle by participating in the program market day. The results above is inline with the statement infered by Sumartono (2002), (1) buying the product because of the lure of the prize; (2) buying products because of the attractive packaging, consumer (market day program participants) are very easily persuaded to buy products wrapped in a neat packaging and decorated with attractive colors; (3) Buying products in order to maintain the appearance of self and pride, consumers (market day program participants) have a high desire to buy something; (4) buying products in consideration of the price (not on the basis of benefit or usefulness); (5) the emergence of assessment that buying products at high prices will lead to a high confidence and prestige; 6) buying more than two product with different brands.

At the beginning of the study, according to testimony by a teacher (BN) said that before this program is held students tend to buy snack out. Considering the entrepreneurial attitude is essential for embedded and consumtive culture is very necessary to be minimized, then school implements the market day program and researchers are very interested in learning more about the results of this program. According to the observation of students of SDIT LHI, students still have medium consumtive culture, it is characterized above that there are some indicators that are still attached to the student of SD IT LHI which include: 1) buying the product because of the lure of the prize; 2) buying products because of the attractive packaging; 3) the assumption that higher price brings higher pride, while the non-dominant indicator of market day participants are: 1) buying products in order to maintain the appearance of self and pride; 2) buying products in consideration of the price (not on the basis of benefit or utility); 3) the emergence of assessment that buying products at high prices will lead to a high confidence and prestige.

5. Closing

5.1 Conclisions

Based on the results of the research that has been done, this research can be summarized as follows:

The results of market day program implementation as an effort to foster entrepreneurship in SDIT LH are: The application of market day program had a positive impact growing an entrepreneurial spirit in students' attitudes.

It can be seen from dominant natures that has been owned by the student after participating the market day program include: 1). The nature of confidence, means that students already have these nature proven by their self-confidence when selling their product; 2). The nature of hard working, means that students already have these properties proven by their trying to work hard, especially when market day activities is taking place; 3). The nature of achievement, means that students already have these properties proven by their willing to take challenges and achieve ne achievements; 4) the nature of instrumental, means that students already have these properties proven by their responsiveness to opportunities in many respects, especially learning entrepreneurship through market day and trying to improve their work

The results of Mark te Day p org am implementation in minimizing the consumptive lifestyle of students of SDIT LHI are; students still have medium consumtive culture, it is characterized above that there are some indicators that are still attached to the student of SD IT LHI which include: 1) buying the product because of the lure of the prize; 2) buying products because of the attractive packaging; 3) the assumption that higher price brings higher pride, while the non-dominant indicator of market day participants are: 1) buying products in order to maintain the appearance of self and pride; 2) buying products in consideration of the price (not on the basis of benefit or utility); 3) the emergence of assessment that buying products at high prices will lead to a high confidence and prestige.

5.2 Suggestion

Based on the conclusion above, the advice given by researchers are as follows:

a. For education authorities, the authorities should develop a model of market day program in accordance with the concept created by SDIT Luqman Al-Hakim International, because this program has been shown to foster the entrepreneurial spirit at primary school students, so that later when the students get older, they are motivated to become an entrepreneur, so the number of entrepreneurs in Indonesia will be higher, which may create new job opportunities.

b. For school, SDIT Luqman Al-Hakim should held periodical evaluation of market day program, so the improvement will be created. Schools also have to keep an eye the product sold by the students that will guarantee the quality of the products. To increase students' motivation in fostering the entrepreneurial spirit, the cordinator can also bring a successful businessman that then motivate students, even though it seemed impossible but it worth trying.

c. For parents, parents should give more suppo rt in the form of moral and material for the students so the student would have more passion and more motivated in participating in market day program.

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THE APPLICATION OF THE PROJECT BASED LEARNING MODELS ON THE ATTITUDE TO MATHEMATICS STUDENTS OF THE FOURTH GRADE OF ELEMENTARY SCHOOL KARANGWUNI 1 IN THE IMPLEMENTATION OF CURRICULUM 2013

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Abstract

This research aimed to describe the effect of project-based learning models on the attitude to mathematics of the fourth grade elementary school students of Karangwuni 1.

This research was a pre experimental design using one group pretest posttest conducted in one group without comparison groups. The population was 13 students of the fourth grade elementary school students of Karangwuni 1. To colect

The results of this research showed the value of pretest before the applied project-based learning model suggested students was on the category B^+ and A^+. The category B^+ as much as 10 students or with the value of 76,92% while the rest was on category A^+ as much as 3 students or with the value of 23,07%. These results indicated the success student learning had been occurred. The result of posttest showed all the students was on the category B^+ , A^+, and A. The category B^+ and A only one student or with the value of 7,69% each category while the category A^+ or with the value of 84,01%. This percentage value exceeded the standards established 80% of students was success student learning standards was defined in the research. The results of the research using the t-test earned data $t_{val} > t_{tab}$ or 22,60 > 2,179. Accordingly, the model of project-based learning had a positive and significant effect on the attitude to mathematics of the fourth grade elementary school students of Karangwuni 1.

Keywords: project-based learning & attitude to mathematics students

1. Introduction

Change curriculum in education shows that the Government is aware of the importance of character education. Character education is built by teacher in learning process. It process follow competencies in curriculum 2013. In curriculum 2013, students can develop two attitude aspects such as social attitudes and religious attitudes.

Change curriculum have also positive and negative effect for education in our country because, it is together with ASEAN community isues. The phenomena of ASEAN community gives an indication for the young generation to actualize their competention. It properly can be improved by teaching and learning process. The teaching and learning process is one of the aspects in the implementation of the curriculum to develop potency of all students that considering attitude aspects. Because, the implementation of curriculum 2013 is the carrying out the practical application of a scientific approach. Using scientific approach in teaching and learning process have five step, such as: observing, questioning, trying, reasoning, and communicating. All steps always involve social attitudes and religious attitudes students, including to study mathematics.

Social attitudes and religious attitudes of students have been applying in teaching and learning mathematic process. It is believed can increase aware students about the situation Indonesia now and students can prepare their self facing ASEAN community. Facing ASEAN community gives all students chance to join in competition and to read opportunities and challenge in the ASEAN community. Therefore, learning mathematics is one of methods to increase aware students about social attitudes and religious attitudes. it can train consistence

students to take conclusion and to defend their statements. It is applied by teacher in mathematics process by project based learning models. Using models in learning can increase awareness for students to study mathematics, because social attitudes and religious attitudes be related to reasoning abilities mathematics.

The necessity of good social attitudes and religious attitudes was apparently in the elementary school of Karangwuni 1. It was known in observationally in fourth grade. Some problems were found in observation: 1) most of students answering the question from teacher not shown serriously to accept the lesson; 2) Most of them was also not interested and no spirit to study mathematics; 3) The attitude of the students in the form of curiosity in learning mathematics was not yet be developed by teachers; 4) The strategy applied by the teachers had not been fullest in improving the attitude of students in learning mathematics; dan 5) Teachers were not yet using a learning model that varied and fun in the learning of mathematics. So the attitude of students in mathematics yet to be a serious concern.

It certainly showed that learning activities seem to have increasing the ability of attitude students of mathematics. This problems of course related to learn model applied by the teachers. The teacher had not yet implemented the maximum approach in the process of learning. This condition can be changed to be better by applying project based learning models in learning mathematics process. It was done through the study of mathematics in thematic integratif. Learning mathematics was the learned that can be associated with a variety of other subject matter.

Based on the description, researcher want to examine about mathematical learning in the fourth grade on the theme of various jobs using project-based learning model for to increase the attitude to mathematics students.

Therefore, the problem in this research is "how

math learning themes of various jobs using project-based learning model increase students attitude to mathematics in the fourth grade of elementary school Karangwuni 1?"

The purpose of this research was to describe the mathematical learning themes of various jobs using project-based learning models to increase students attitudes to mathematics in the fourth grade of elementary school Karangwuni 1. Muresan (2014: 304) said that "project-based learning is a student-centered learning model, ensuring the development of knowledge and skills in a specific area or several areas, through extensive work tasks that promote inquiry and authentic demonstrations of result oriented learning". Hârtescu (2014: 224) said also "project based learning organizes learning around projects and involves the students in authentic situations where they can explore and apply the subject matter to problems that are complex and relevant to the professional practice for which they are preparing. Students work independently, to a variable extent, and are encouraged to plan their actions, make their own decisions, and work together in order to produce the desired outcome. According to Bell, project-based learning supports the development of skills relevant to being a professional in the 21st century, such as accountability, independent learning, and collaboration. The curriculum 2013 describes the steps of project based learning model in figure 1:

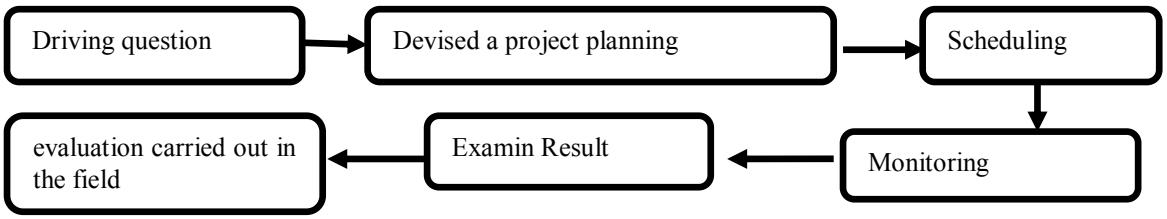

Figure 1. Designing project based learning in curriculum 2013

This was related to the implementation of a scientific approach in the curriculum of 2013. The study of mathematics curriculum in 2013 may be taught through project-based learning. Project-based learning models was chosen because according to the steps in the scientific approach.

The essential components of designing project based learning as ilustrated below (Satrianawati, 2014):

a) The determination of fundamental question is the driving question. This question determines the direction and purpose to do

learners to generate the work or the result of learning as learning products.
b) Devised a project planning or devise a plan. The plan is structured to facilitate settlement or resolution.
c) Scheduling. The schedule drawn up by the consideration that everything will be done must be determined so that all its execution time is right on target.
d) Monitor is undertaken when machining process of the project.
e) Examine result is performed after the product or the work has been completed by students.
f) If the evaluation carried out in the field or apply in a different place with a focus on the same issues so obtained eligibility, careless says there was profanation needs to be revised or returned products that have been created.

Westwood (2008: 33-34) said advantages of project based learning are:
a) The project approach can be applied in almost all areas of the curriculum.
b) Projects have a 'real world' orientation and promote meaningful learning by connecting new information to students' past experiences and prior knowledge.
c) Students learn valuable processes and skills for gathering and analysing data.
d) Students are responsible for their own learning, thus increasing self direction and motivation.
e) The learning process encourages various modes of communication and representation.
f) The approach encourages use of higher-order thinking as well as acquistion of facts.
g) The approach developes deeper knowledge of subject matter.
h) The approach also increases team-working and cooperative learning skills.

Westwood (2008: 34) also said difficulties with project-based learning are:
a) Some students lack adequate skills for researching and collating information.
b) Some students may give the impression of productive involvement in the work, but may in fact be learning and contributing very little.
c) Where projects involve the production of posters, models, charts, recordings, photographs and written reports on display, there is a danger that these are actually 'window dressing' that hides a fairly shallow investigation and a week understanding of the topic.
d) When different aspects of a topic are given to different group members to research, there is a danger that individual members never really gain an overall understanding of the whole topic.

Nitko & Brookhart (2007: 448) "attitude is a positive or negative feeling about a physical object, a type of people, a particular pearson, a government or other social institution's policy, ideas, or the like". Azwar (2013: 15) said that "attitude is the evaluation process giving response individual is positive-negative, well-unwell, pleasant-unpleasant the attitude to object and the structure of attitudes consists of:
1) Cognitive component represents what is believed by the individual owner's attitude.
2) Affective component is the feelings regarding emotional aspects or the feeling of belonging to a person against something.
3) Konatif component is a specific aspect to behave in accordance with the attitude belonged to someone or react to something in a particular way.

Nenty & Ogwu (2009: 81-92) said that "Affective component measures the degree of emotions or feelings towards an attitude object, while cognitive components accounts for the beliefs about the characteristics of the attitude object. This degree of emotional attraction and beliefs based on attitude determine the general feelings such as interest, liking/disliking of school subjects in the curriculum as well as its usefulness. A positive attitude toward mathematics is an important educational outcome. It is believed that students who feel very positive about mathematics will achieve at a higher level than a student who has a negative attitude towards mathematics. Attitude influences students' level of class participation in a subject. Nevertheless, usefulness of mathematics is an important factor in determining whether students will elect or take mathematics class or desire for mathematics related career. Students vary on how they view mathematics both for their current needs and for the future".

More specifically the learning attitude to mathematics can be described as a sudents response to learn mathematics through a favorable and which contains the components of the cognitive, affective and konatif. The cognitive component relates to the knowledge or students to belief their activities in learning mathematis, affective component relates to emotions looking with respect to learning mathematics and konatif component relates to habit of activities students in learning mathematics.

Etuk, Afangideh, & Uya (2013) bahwa "When the students' perception of their teachers' characteristics is low, students' attitude towards mathematics tends to be negative". The same statement with Gonzalez-Mena, (2011: 64) "the emotional environment deeply affects how children develop and impacts their ability to learn". Montague, (1987: 254) said also "a teacher can make the classroom a pleasant, businesslike, and enjoyable pleace in which to learn. Failure to manage a classroom adequately can result in confusion, misbehavior, antagonism, anger and unpleasantness".

Based on description, there are three points in this research explaining students attitude to mathematics. Three point consist of: 1) cognitive component relates mathematics, learning mathematics, and teaching mathematics; 2) affective component relates mathematics, learning mathematics, and teaching mathematics; 3) konatif component relates mathematics, learning mathematics, and teaching mathematics.

2. Methods

Type of this research was quantitative description using the research method of experimental design pre form one group pretest posttest that experiments conducted in one group without comparison groups. Design research was done twice: before the experiment and after the experiments. Tests were conducted before treatment and after treatment called pretest posttest called. Desain research was used:

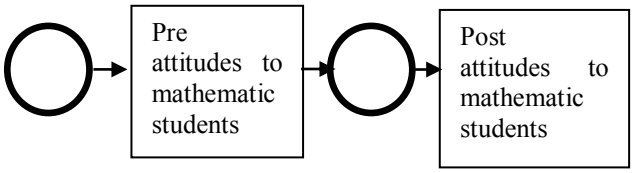

Figure 2. Design pre experimental (one Group pretest posttest)

Note:

X_1: class experiments before treatment (pretest)

X_2: class experiments after treatment (posttest)

Research was carried out in the elementary school of Karangwuni 1 Depok Sleman Yogyakarta, in November 3rd – 22th, 2014/2015 in odd semester. Population and sample of the study was fourth grade of elementary school Karangwuni 1 in Yogyakarta. The technique of data collection was carried out with two stages were the pra research and the research process. To collect data in pra research was used interview and observation, and to collect data in research process were:

a) completing the research instrument.

b) Asking lecturers to validate research instruments.

c) doing pretest to each treatment group class.

d) conducting research together with teacher.

e) doing the posttest after treatment.

The instrument used in this research was an anket. Anket was used to measure the attitude to mathematics students undertaken in writing of anket as much as twenty first statements. Pretest statements the cognitive, affective, and conatif components have seven statements.

Table 1. The Score of attitude students to Mathematics

No	The Attitude of Statements
1.	I can count the number of my allowance each day after learning of mathematics.
2.	I have difficulties learning mathematics than other subjects.
3.	I am working on another lesson easier after learning of mathematics.
4.	I have difficulties learning mathematics if the numbers are too big/many.
5.	I do not like reading books of mathematics.
6.	I am not interested to work mathematics task.
7.	I ask for help, parents, teachers, and friends if I have difficulties learning mathematics.
8.	I can count how many my savings after learning of mathematics
9.	I only studied mathematics with doing mathematics task
10.	I enjoy learning mathematics in school.
11.	I am tired of learning mathematics.
12	I am sitting in the back while seat of learning math.
13.	I accomplished methematics task was given.
14	I am not afraid of asking a friend when having difficulty in learning mathematics.
15	I am glad the teacher provides guidance in learning mathematics.
16	I am glad it when the teacher gives the chance to ask.
17.	I never ask if the teacher giving chances to ask about mathematics.
18.	I notice the teacher explaining the subject matter of mathematics.
19.	I do not notice the teacher explaining the subject matter of mathematics link another subject.
20.	I am afraid to ask the teacher when teaching mathematics.
21.	I accomplish task mathematics given by the teacher.

The total score was combination set to number 1 – 21 = 105. The high score of each number was five. This statement consist of positif and negative statements. The maximum

score for a pretest and posttest was 105. To give score test the research used the t-test (Sugiyono, 2013: 138) with the formula:

$$t = \frac{\bar{x}_2 - \bar{x}_1}{\sqrt{\frac{S_1{}^2}{n_1} + \sqrt{\frac{S_2{}^2}{n_2}}}}$$

Success learning classical was defined in this study if students get the value of B 80% or with the value 3.00. The formula to measure of success learning in classical was:

Success learning in classical =

$$\frac{The\ number\ of\ student\ to\ get\ B\ value}{The\ number\ all\ students} x\ 100$$

Scoring gave pretest and posttest instrument that students did refers to government article No. 104 in 2014 about assessment of learning results was used by Educators in elementary education and secondary education. Thus, the formula for the value was:

Students Score =

$$\frac{total\ score\ each\ question\ that\ students\ get}{score\ \max} x\ 4$$

Table 2. the Score of attitude students to Mathematics

The attitude students to Mathematics			
Predicate	Modus	Range	Value
4,00	SB (excellent)	3,85 – 4,00	A
		3,51 – 3,84	A^+
3,00	B (Good)	3,18 – 3,50	B^+
		2,85 – 3,17	B
		2,51 – 2,84	B^-
2,00	C (Average)	2,18 – 2,50	C^+
		1,85 – 2,17	C
		1,51 – 1,84	C^-
1,00	K (Below Average)	1,18 – 1,50	D
		1,00 – 1,17	D^+

3. Result and Discussion

Based on result in this research, obtained the data attitude students to mathematics through two phases were pretest and posttest. The data of pretest and posttest attitude students to mathematics carried out on the experimental class. Student pretest and posttest data description in table 4:

Table 4. Pretest and Posttest Data

No.	Name	PRETEST			POSTTEST		
		Score	Value		Score	Value	
1	Anggar	96	3,657	A^+	98	3,7333	A^+
2	Ayu W	96	3,657	A^+	100	3,8095	A
3	Dytha	90	3,429	B^+	96	3,6571	A^+
4	Farhan	85	3,238	B^+	92	3,5048	B^+
5	Fira	84	3,2	B^+	95	3,619	A^+
6	Lilis Ismaliah Sulaiman	87	3,314	B^+	95	3,619	A^+
7	Ozy	85	3,238	B^+	88	3,3524	A^+
8	Rafiq	90	3,429	B^+	97	3,6952	A^+
9	Rina	85	3,238	B^+	93	3,5429	A^+
10	S. Putri H	91	3,467	B^+	95	3,619	A^+
11	Vania Ardelia Septiana	88	3,352	A^+	93	3,5429	A^+
12	Yoga	84	3,2	B^+	93	3,5429	A^+
13	Yusuf	89	3,39	B^+	98	3,7333	A^+
	Average		3,37			3,61	
	Standar Deviation		0,157			0,119	

The results of this research showed the value of pretest before the applied project-based learning model suggested students was on the category B^+ and A^+. The category B^+ as much as 10 students or with the value of 76,92% while the rest was on category A^+ as much as 3 students or with the value of 23,07%. These results indicated the success student learning had been occurred.

Pretest results indicated that all students had high score. I resist to continue my research although all students had high score. Because, I want to apply project based learning models. The model have effect or uneffect to improve the attitude students to mathematics. Pretest results showed that all the students were on grade A^+ and B^+ category. Pretest results indicated that students were learning of succes learning clasical had 100% completely. This percentage value exceeds the standards established that 80% of succes learning classical standards had been achieved in this research.

The result of posttest showed all the students was on the category B^+ , A^+, and A. The category B^+ and A only one student or with the value of 7,69% each category while the category A^+ or with the value of 84,01%. The results of the research using the t-test earned data $t_{val} > t_{tab}$ or 22,60 > 2,179. Accordingly the result of research, there was a difference of influence model of project-based learning before treatment and after treatment. The model of project-based learning had a positive and significant effect on the attitude to mathematics of the fourth grade elementary school students of Karangwuni 1.

4. Conclution and Suggest

Based on results, the application of the project based learning models can enhance the attitude students to mathematics. This was in accordance with the percentage of success learning in classical 100% which means that more than 80% of the standard was applied. Thus, suggestion taken in this research:

1. for teachers to expect improve the quality of mathematics learning in elementary schools can use project-based learning models. it can make students enhance not only the capabilities of his thought, critical thinking, creative and innovative but also the attitude students to mathematics, social attitudes, and religious attitude.
2. for the other researchers were expected to make this research as a reference for advanced research when applying project-based learning models.

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STUDENTS' CHARACTER BUILDING THROUGH THE USE OF REFLECTIVE ACTIVITIES IN VALUE LEARNING IN THE CONSUMER EDUCATION COURSE

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Abstract

This study aims to: (1) identify results of students' reflection on moral/life values in the learning of consumer education, (2) investigate the actualization of moral/life values in consumer education by the students as character building manifestation, and (3) investigate the effectiveness of the use of the reflective activity method in value learning as a dimension of character building in the consumer education course. The study was a survey ex post facto in nature which employed the reflective evaluation activity method to reveal meanings of the contents of each course material by the students of the Study Programs of Clothing Technology Education and Clothing Technology taking the Consumer Education Course. The sampling technique was the purposive sampling technique. One intervention class was selected for the learning that employed the reflective activity method for the process of internalizing life values as a dimension of character building in the consumer education course and one class was selected for the learning without intervention of the reflective activity method to compare the process of students' character building. A descriptive analysis was conducted to reveal the students' reflection on obtaining life values and the importance of possessing such values. To investigate the effectiveness of the reflective activity method in character building, a t-test was conducted and the result was used for explanation. The research findings are as follows. (1) Each learning objective contains moral/life values, namely self-awareness, responsibility, thriftiness, wisdom, objective orientation, carefulness, information search, social tolerance, sensitivity, being critical, care, justice, simplicity, environment awareness, productivity, financial appreciation, nationalism, discipline, courage, and self-confidence. (2) The students' character building is good. Of 81 students, 72 students (89%) are good at manifesting consumer life values, 7 students (9%) tend to be moderate, 1 (1%) student tends to be rather poor, and 1 student (1%) tends to be low. (3) The results of the result of the t-test shows $t = 2.725$, $p<0.05$. Therefore, it can be concluded that there is a difference in the character building effect. The results of the study show that there is effectiveness in the use of the reflective activity method in value learning in the consumer education course in the intervention class (with a mean sore of 162.78) in comparison with the class without intervention of the reflective activity method (with a mean score of 161.51). The attainment of the manifestation of consumer life values is higher in the intervention class.

Keywords: *reflective activities, character Building*

1. Introduction

To face the world economic change which is no longer considered as the countries' boundary, it is important improving the quality of human resources in order to make them more ready, responsive, strong and creative, able to compete, but still have good character. It can be realized if those human resources obtain the provision or guidance from others or educational institution that facilitate humans' basic skills accordingly. Educational programs can be focused on anticipating the changes in several aspects of human's life in the future by making more innovative policies.

In order to prepare human resources which possess good quality and acquired character, it is needed to form *character building* which is based on moral values of humanity in the community, including individual or groups. Sturdy moral values and strong standard ethics are necessary for individuals and community to face the character education in the process of education. To face the challenges of the future in order to build a good character community, then,

schools and universities have to be explicitly planned, focused and comprehensive. The quality of education is important to support the creation of people who are intelligent, character, educated, possessed peaceful life, open minded, independent, and able to openly compete the era of globalization, so they are able to increase the welfare of all Indonesian citizens.

Unfortunately, the research data show that there are still many problems to face in the efforts of improving the quality of human resources. Ratna Megawangi, the executive director of Indonesian Heritage Foundation (IHF), believes that there is something wrong with the educational system applied in this country for all this time. The national educational system has failed to inculcate the good character for students. The character is the principal key for a nation to develop. Indonesia, which is rich of natural resources, will not be able to develop if its human resources are characterless, dishonest, irresponsible, and not independent.

Being a person who possesses a good character requires a long process. Lickona (1992: 87) states that having knowledge of moral values is not enough to be a human who has a good character. Moral values must be accompanied with moral characters. Specifically, there are three elements that must be fulfilled in the model of a character education. The first one is *knowing the good.* To build a good character, knowing the good things is not enough, it is important to understand the reasons behind those good things. Up till now, students only educate to know which one is good or bad, without knowing the reasons why it is. Next the second one is *feeling the good.* This concept tries to evoke children's sense of love in doing something good. Children are trained to feel the effects of good action they have done. If the *feeling the good* is already embedded, it would be a "machine" or extraordinary power from within to do the good things and avoid the negative things. The last one is, *acting the good.* At this step, children are trained to do the noble or precious things. Without doing what is already known or felt, it will be meaningless. Until now, it is only an appeal, whereas to do something right must be trained so it becomes a part of everyday life. Those three factors must be trained continually so it will become a habit. Therefore, the concept that is built is *habit of the mind, habit of the heart*, *and habit of the hands*. The tickling question is whether the purpose of current learning has contributed an important role to build the students' characters with the development of value system adapted to the need of global life development.

Based on those problems, education, especially college must be able to find a solution. In the major of Education of Food Engineering and Wardrobe, Faculty of Engineering, State University of Yogyakarta, the curriculum has equipped the students by providing Consumer Education course that contributes to the development of the character building. The learning process is designed to develop the character building, using the method of reflective evaluation activity in every course by interpreting and internalizing values within them.

Knapp (1991) defines Consumer Education as the process of gaining the knowledge and skills needed in managing consumer resources and taking actions to influence the factors roommates affect consumer decisions. The other almost similar definition is also expressed by Bannister (1996), that Consumer Education is the process of gaining the knowledge and skills to manage personal resources and to participate in social, political and economic decisions that affect individual well-being and the public good. Based on these definitions, it can be said that Consumer Education is a process of acquiring knowledge and skills in managing personal financial resources, to take action against the factors that influence consumer decisions, and be a good citizen. Through this course, the students are expected to be wise consumers because they are given the provisions of knowledge and skills in managing personal finances, making wise decisions in buying something, and participating to become good citizens.

It is because Consumer Education not only teaches students to use the money well, but in fact it also contains lots of values. The values integrated in Consumer Education are important to be acculturated gradually and continuously in order to develop the awareness the public/student consumers to have a good character, which is reflected in the values system that are believed. Therefore, educational activities as a civilizing process should be full of educational values. The values become the foundation of principles and norms that guide the attitudes and behavior of people in life. The person's quality is determined by the values that guide his or her attitudes and behavior. The person's character and personality are shaped by the values which are selected, afforded, and consistently translated into actions.

Community empowerment through Consumer Education is expected to lead the civilizing process that can shape the consumers' good characters in the community, so that it can be used as an action agenda for Indonesian education. It is urgent to apply because Consumer Education does not only offer

knowledge and skills, but also improve the ability of critical thinking, problem solving, and actions which are the traits of a good character individual. As the implications of this position, then externally, the process of teaching and learning created by universities is expected to develop a class management culture and learning management climate which are meaningful, creative and dynamic, passionate, and dialogic, so it can be fun for students as said in the Act of National Education System (Act No. 20 of 2003 Article 40 paragraph 2 a). Then, the question arises is that whether all courses given to the students have been able to shape their characters to be independent scholars? Based on this question, it is reasonable to conduct a study by implementing the elements in the model of character education into the learning process of Consumer Education courses.

A study which is designed to develop learning activities to find the classroom effectiveness by reflecting the problem is called as reflective learning. Reflective learning is usually applied to improve the quality of students. According to Andrew Pollard (2002), reflective learning has several characteristics: a) implies an active attention, b) applied in a cycle where teachers monitor, evaluate, and revise their own learning continuously, c) requires the evidence to support the progressive development, d) requires the behavior of open-minded and responsibility.

Reflective learning is applied in a cyclical process in which teachers/lecturers plan the learning, make provision with reflective evaluation of the activity design, act, monitor, collect the data, analyze, evaluate, and revise their own learning continuously. These steps are applied to support the progressive development of better learning standards. Besides, the learners can deeply interpret what they have learned and help them to internalize the values embodied based on their interpretation. In designing reflective evaluation activities, there are three important things to concern; those are a) the purpose or intention of reflection which is applied, b) the evidence and reflection, and c) extension.

The objectives of this research are: (1) to identify student's reflection outcomes on moral values/life which are integrated in Consumer Education learning, (2) to determine the practice of moral values/life in Consumer Education by the students as the form of character building, and (3) to determine the effectiveness of the use of reflective learning activity as the dimension to form characters on Consumer Education courses.

Thus, to determine the role of the school/college as a media of character building through the study of values, as well as to support and expand the National Character Education program that has been initiated, it is necessary to study this matter more deeply.

2. Research method

This research was conducted to reveal the values of life as a dimension to build character through the value learning of Consumer Education courses. In accordance with its objectives, this research was conducted as a survey research by using reflective evaluation activities method in collecting the data. The collected data were interpreted and understood. The process of learning in interpreting these values used the stages of the elements in the character education with reflective evaluation activities method. The ex-post facto comparative model used as the research approach was aimed to implement the intervention of the use of reflective evaluation activities method in exploring moral values/life contained in Consumer Education courses. The participants of this study were students of Education of Clothing Engineering and Clothing Engineering Program at the Department of PTBB FT UNY who are taking courses in the second semester of Consumer Education from February to August.

The research instruments prepared and developed as the device of reflective evaluation activities were as follow: 1) reflective evaluation activities instrument to explore the learning objectives on Consumer Education courses (concept classification of Consumer Education), 2) reflective evaluation activities instrument to explore the moral values/life contained in the learning objectives, 3) reflective evaluation instrument of the linkage system of the value of life which has been explored by the dimensions of the character building, 4) reflective evaluation instrument about the importance of having the values of consumers' life according to students' opinions, 5) draft of instrument development of the character building based on the extracting the values of life as a result of students' reflective evaluation.

The data collected in this study were analyzed qualitatively based on the purposes of the research. The data were the results of reflective analysis which were related to the elements of character education stages by using a reflective activity sheets. Quantitative data were analyzed by using descriptive and t-test to determine the effectiveness of the use of reflective activity.

3. Result and discussion

Sequentially, the explanation of the analysis results of the research data that has been obtained is begun by describing the context of values education based on the results of the reflective activities evaluation through structured interviews and questionnaires.

3.1 Students' Reflection of Moral Values/Life Integrated in Consumer Education Learning

Educational values cannot be ignored because it is believed to play an important role to build character. The emergence of values, such as hedonism and drugs which are increasingly widespread in teenagers' lives, shows the failure of education in shaping the teenagers' character. It causes the anxiety of education in Indonesia. Then, it is a challenge because the high competence requires knowledge, as well as it demands high human values. To ward the negative influences of society development, such as the rapid flow of free market competition with the emergence the shopping centers that create consumptive behavior and the falling of some adolescents to drugs, the values learning should be directed closely to the people's lives by experiencing the values of life which develop in the aspects of building noble character. These efforts require synergistic cooperation between the educational centers roles (family, school/college, community), so character education through integrating values can be implemented effectively. One way to make the public ready is to give the provision of Consumer Education courses at the universities, especially in the Department of Education of Engineering Food and Cloth. Consumer Education contains many values of life that can shape the character of a wise consumer. The following is the general overview of the reflective analysis results of students' opinions, whose learning implementation used the reflective activity method, about the goal of Consumer Education learning and moral values/life integrated in the concept classification of Consumer Education.

In the opinion of students based on the interview, the values integrated in the Consumer Education are the ethical values (good-bad) associated with morals. According to them, the nature of good and bad already fused in action, it is closely related to social responsibility which is tested directly. In their opinion, moral values integrated in Consumer Education learning can help to shape the consumers' attitudes and behaviors to be wise that lead to the character building. Attitude, according to students, contains opinion of the self, while the behavior is a manifestation of actions that reflects the basic attitude. Completing one another, attitude becomes the basic to act while actions express it. The analysis results of students' reflections find 37 learning goals and moral values integrated in Consumer Education learning which are found from the concept classification of Consumer Education. After exploring deeper, there are several learning objectives contained moral values which almost have the same charge and then simplified into 20 learning objectives and values of life as follows:

Below is the results of students' reflection on moral values/life integrated in the classification of the concept of Consumer Education.

Table 1. Moral Values of Life Integrated in the Classification of the Concept of Consumer Education

Consumer choice in Decision Making	Managing Personal Finance	Citizen Participation in Market Share
1. Wise	1. Self-awareness	1. Social tolerance
2. Aiming	2. Responsible	2. Care
3. Meticulous	3. Economical	3. Fair
4. Sensitive	4. Simple	4. Environmentally conscious
5. Trying to find information	5. Entrepreneurial/productive	5. Nationalist
6. Critical	6. Respect the value of money	
7. Bravery	7. Discipline	
8.Convidence		

The results of student's reflective analysis shows that the course material belonging to the concept of consumer choice in making purchasing decisions contains 8 learning objectives and 8 moral values/life as dimensions of character building. Based on the results of their analysis as well, there are seven learning goals and moral values/life on the concept of personal financial management. While in the concept of citizen participation in market share, there are five learning goals and moral values/life.

3.2 The Practice of Moral Values/Life in Consumer Education by Students

Educational values initiate one step to take in order to fix the quality of education in shaping the character of human resources. Based on the fact, today corruption and drugs are rampant in everywhere, and consumptive behavior has spreaded into teenagers. The students express their opinions about the importance of having life values through educational values in the Consumer Education learning.

According to the students, the values system of life that has been believed and internalized will be actualized in the form of everyday habitual actions as a reflection of their character building. The data in the field show that students' character building categorized as good. This finding is indicated by the average of research results (162.14) which is classified as good in the range of ideal score with 183 as maximum and 59 as minimum.. Below is the table of classification score of the character building.

Table 2. Classification Score of Character Building

Class	Score	Category
1	152 - 183	Good
2	121 - 151	Enough
3	90 - 120	Less
4	59 - 89	Low

The good category can also be observed from the tendency of overall students' character building. Of the 81 students, 72 of them (89%) are included into good category, 7 people (9%) tend to be categorized as enough, 1 person (1%) is categorized as less, and 1 (1%) tend to be categorized as low. From this information, it can be seen that the students' character building is categorized as good. It means that the level of students' dimension systems of life value which is believed to build the character shows that it has internalized and embodied in the daily actions.

Specifically, the specification of character building that has appeared if it is reviewed based on the dimensions of consumers' life value system can be seen in the following table.

Table 3. The Tendency of Students' Character Building Based on the Dimension of Option Answers

No	System Value of Life	Character Building			
		Intervention		Non intervention	
		Already a Habit	Already Doing	Already a Habit	Already Doing
1	Self-awareness	4%	59%	2%	58%
2	Responsibility	49%	36%	32%	42%
3	Save	14%	57%	13%	70%
4	Wise	32%	40%	30%	43%
5	Aiming	12%	56%	6%	64%
6	Meticulous	38%	40%	35%	47%
7	Looking for information	29%	44%	26%	44%
8	Social Tolerance	31%	60%	11%	51%
9	Sensitive	18%	48%	6%	62%
10	Critical	16%	48%	10%	37%
11	Care	6%	30%	5%	26%
12	Fair	10%	32%	10%	31%
13	Simple	33%	35%	27%	36%
14	Environmentally conscious	3%	38%	1%	36%
15	Productive	9%	57%	6%	71
16	Respect the value of money	48%	16%	42%	52%
17	Nationalism	22%	61%	17%	53%

The above findings illustrate that students' character building through integrating dimensional values system categorized as good. It means that the levels of giving role model and putting the system of life value that is believed to form the students' characters still need to be improved, because if it is observed deeply, the percentage scores on the options "have become a habit" has not showed a high rate yet. By integrating more dimensional value system of character building, students will increasingly internalize those values of life and familiarize themselves to apply them in the economic behavior, especially as a consumer in everyday life. Based on these findings, there are only six dimensions of value system that have been internalized well in order to build students' character, they are **the values dimensions of responsible, wise, meticulous, social tolerance, simple, and respect the value of money.** If it is seen as a whole of percentage scores, it is discovered a class (intervention) which use the

method of reflective learning activities on the value of Consumer Education courses, 24.3% of students have habitually applied the life values of consumers in everyday life, while 45.7% of them have done values of life of consumers. In the nonintervention classes it is found that 17.5% of students have a habitually applied the life values of consumers in everyday life, and 48.5% of them have done the values of consumers' life. The findings indicate that there is still a difference on the improvement between the character building classes which use reflective activities method and classes which do not, , but the difference is not too significant.

3.3 The Effectiveness of Using Reflective Activity Value Learning in Consumer Education Course for Students' Character Building.

The data in the field indicates that students' character building is categorized as good. It is indicated by the average value of research results (162.14) of ideal score classification which put 183 as maximum and 59 as minimum. The good category can also be observed from the tendency of overall students' character building. Out of the 81 students, 72 of them (89%) are included into good category, 7 students (9%) tend to be categorized as enough, 1 person (1%) is categorized as less, and 1 (1%) tend to be categorized as low. It means that the level of students' dimension systems of life value which is believed to build the character shows that it has internalized and embodied in the daily actions

Based on these findings, there are only six dimensions that have been internalized well in shaping students character, those are the **dimensions of responsible, wise, meticulous, social tolerance, simple, and respect the value of money.** If it is seen as a whole of percentage scores, it is discovered a class (intervention) which use the method of reflective learning activities on the value of Consumer Education courses, 24.3% of students have habitually applied the value of the consumer lives in everyday life, while 45.7% of them have done values of consumers' life. In the nonintervention classes found 17.5% of students have habitually applied the value of the lives of consumers in everyday life, 48.5% of them have done the life values of consumers. The findings indicate that there is still a difference on the improvement between the character building classes which use reflective activities method and classes which do not, but the difference is not too significant. The average score of the character building of the group of students who use the method of reflective activity (162, 78) is relatively greater than the average of the character building of the class who do not use it (161. 51). Based on these results, it can be concluded that there is an effectiveness of the uses of the reflective activity learning values methods in the course of the character building; there is an increase of character building in the class that uses reflective learning activity methods. The intervention method of values learning to students provides a significant effect on aspects of their character building.

Continuing or teaching moral values to the individual/children is one of the main obligations that must be executed by all elements of the society, as it will shape the character and becomes an important foundation for the formation of civilized and prosperous society (Ratna Megawangi, 2004). The same thing has been proved by the results of students' study on learning objectives and values of life by using a reflective activity. Based on the results, life values which integrated in Consumer Education course are 22 values of life. According to the students, the values of these findings strongly support for the consumer character building to be a wise consumer as long as these values can be embedded in the hearts of all people in community.

The results of this research are in line with Sudarminta's statement (2002), that the values is a foundation of principles and norms that guide the attitudes and behavior of people in life. People's character and behavior are shaped by the values which are selected, arranged, and consistently integrated into actions. One's values can be shown through their behavior or behavioral outcomes. In this study, students have perceived some important value system of life since it can contribute to fortify the influence of rapid moving information. These values need to be understood and internalized in order to be implemented in everyday life to become a habit. The value must be felt by each people as the advocates or principles to guide the life. Therefore, according to students, it is important to give serious educational values through the schools and community. The students also said that moral values/life integrated in Consumer Education is important to gain since it can make them a wise consumer in this globalization era.

This opinion is strengthened by Kevin Ryan and Thomas Lickona (1992), that the moral force in the society that involve in a action which build or bring a destruction, is not a coincidence. We can influence the society's character by influencing the character of its younger generation. Thus, building moral society becomes the responsibility of all the elements of

society. Children will grow and become good character adults if they can grow up in the society who has good character. It becomes the comprehensive efforts that should be done by all of the elements of the society. In other words, human beings are not naturally or spontaneously grow to be human who have a good moral or become wise. It is the result of individual and community's lifetime efforts (Aristotle, 1987). This is an enormous challenges, so it needs an awareness of all elements that surround and affect the lives of young people, that character education should be applied explicitly (planned), focused and comprehensive, so the building of the society which have good character can be realized.

Based on this approach, character building is not only determined by giving educational values which use the positive written messages, but it also needs the values learning which is packed as real as possible and full of meaning and reflective result. It means that if the combination can be accomplished in harmony, so it will be able to form positive character. In other words, students' character will be well-formed if learning process always invite them to interpret through reflective activities to the teaching material. It means that when every material is always deeply interpreted between learning method and educational messages of values of life, and considered as good to be owned and useful to guide life, then it will result the wise students' character building.

4. Conclusions, implications, and suggestion

1. Consumer Education teaching contains 20 moral values/life: self-awareness, responsible, saving, thoughtful, purposeful, meticulous, looking for information, social tolerance, sensitive, critical, care, fair, simple, environmentally conscious, productive, respect for the value of money, nationalism, discipline, courage, self-confidence.
2. Students' character building is categorized as good. Out of 81 students, 72 of them (89%) are categorized as good, 7 (9%) tend to be categorized as enough, 1 (1%) tends to be categorized as less, and 1 (1%) tends to be categorized as low.
3. There are some differences of effectiveness in the use the methods of reflective activity values learning on Consumer Education courses for students of character building. The average score which use reflective activities is 162.78 while the average score for those who do not use the method is 161.51 on the Consumer Education courses (average 162.78). On the students whose learning uses the method of reflective activity values learning, the change of character building is larger than those who do not use the method. Therefore, it can be concluded that there is an effectiveness of using the reflective activity learning values methods on Consumer Education courses.

5. Suggestion

To improve the quality of character building through the values learning of value system of life's consumer conductively and optimally, it is suggested to do these efforts:

1. Increase the power of teachers/lecturers' self-awareness to always willingly and continuously integrate the educational values by connecting the value orderly with the subject material which is designed in the reference units of learning, without any instruction from the leader.
2. Achieve character education in the school/colleges in the curriculum (specially designed) are not meant to be in the form of subject/courses, but it could be outside of subject/course. Use a deliberate intervention such as the use reflective activity method for meaning values outside the subject/course and give tasks which are designed specifically.
3. Increase the forms of creativity training of teachers/lecturers in order to develop the value learning, including the content, learning strategies and plan learning scenarios that will be integrated through the subject matter so it will be effective and meaningful for students.
4. Design values learning by using collaborative learning strategies, uses students as peer mediation in order to make it effectively interpret the values of life because they are suitable to their characteristics.

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INTENTION TO PLAGIARIZE: THE ACADEMIC SELF-EFFICACY AS ANTECEDENT

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Abstract

Plagiarism is and still one of the problem occuring in the education field until today. Why do the students plagiarize? There are two factors that underlie the act of plagiarism, which is external and internal. The external factor involves *modeling*, means it is the act of copying someone else's behavior by observing and without proper citing. While the internal factor talks about the personality of an individual who plagiarize. This study aims at seeing the role of internal factor to the intention of doing plagiarism, which in this case, the authors specifically investigate about *academic self-efficacy*. *Academic self-efficacy* is the belief of an individual that he or she can achieve a specific academic goal. 97 participants were involved in this study and gathered through accidental sampling. The research shows that *academic self-efficacy* correlates negatively with the intention to plagiarize, r=-.262, $p<0.05$.

Keywords: plagiarism, *academic self-efficacy*, intention

1. Introduction

Students, whether they're still studying in school or beginning a new experience in college, should be familiar with the word "cheating". Some may have done plagiarism, some may just be the witnesses. But, since this is a scientific journal, the authors will change that term into something more scientific, which is 'plagiarism'. The word plagiarism itself means one using other's ideas, quotes, or work as his or her own without using the proper citation (Wong, 2011). Park (in Ogilvie & Stewart, 2011) states there are four types of plagiarism: (a) stealing information from other person and use it as one's own, (b) submitting other person's task as one's own, (c) copying information without using proper documentation, and (d) not giving any citation in a paraphrased information.

In this journal, the authors talk about the relationship between academic self-efficacy and the intention to plagiarize. According to the authors' assumption, academic self-efficacy is assumed to have an impact to the act of plagiarism in the educational field. But first, the definition of self-efficacy will be explained. According to Bandura, it is a belief that one has that he or she can acquire the desired outcome. Bandura also stated that the self-efficacy affects how people motivate themselves to think, feel, and act (Sharma & Nasa, 2011). In addition, he stated individuals with high self-efficacy will see difficult tasks as challenges they have to overcome, not as something to run away from (Ibid, in Barzegar & Khezri, 2012). These are why the authors think the self-efficacy can be applied to academic field.

Chemers, Hu, and Garcia defined academic self-efficacy as a belief that one can succeed in achieving academic goals (Khan, 2013). Using the theories Bandura stated earlier, it is not astonishing that students with low academic self-efficacy are likely to engage in plagiarism. It is because they see difficult assignments as threats and this will causes them to rely on other's abilities rather than their own ability, which ended on plagiarism. Intention can be defined as a decision to act and the effort a person willingly to give to actualize the behavior (Abraham & Sheeran, 2003).

In the research done by Ogilvie and Stewart (2011), they found that students who have low academic self-efficacy are more likely to engage in plagiarism act. Based on this finding, the authors have the purpose to attain knowledge about academic self-efficacy affects the intention to plagiarize. The authors also hope that the result of the research could be used in future development for the authors or other researchers that are willing to explore this topic further.

From the explanation above, the authors has made several frameworks that underlie the phenomena of plagiarism. First, is the reason why students plagiarize. In this case, one of the main reason why students plagiarize is because they have low academic self-efficacy. They are unsure that they can achieve or attain the standard that is required to pass a certain academic standard. This uncertainty later leads

to the intention to plagiarize. The academic self-efficacy theory is an internal factor.

Second, the variables discussed and will be tested in the journal is academic self-efficacy and intention to plagiarize. Third, a formulation of the problem, "Does academic self-efficacy affect intention to plagiarize?" which will be answered later. The authors hypothesize academic self-efficacy affects the intention to plagiarize. Specifically, it goes like this: low academic self-efficacy will result in high intention to plagiarize. It also applies contrarily. In other words, these two variables will correlates negatively.

2. Methods

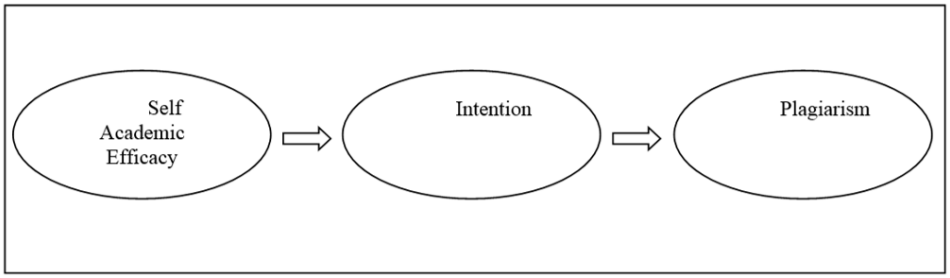

Figure 1. Plagiarism with academic self-efficacy as antecedent.

2.1 Participants

The subjects in the study consist of students (N=97) currently studying in the Faculty of Psychology University of Tarumanagara. The subjects is mostly women with total amount of 84 women subjects, which means the men consists of 13 subjects. Their age range from 18-21 years old and all of the subjects are in the sophomore year. Subjects are considered to understand the basic definition of "plagiarism". Subjects are gathered randomly by using the accidental (incidental) sampling. Data is collected trough the method of questionnaire.

2.2 Measurement

The questionnaire used is based on the academic self-efficacy theory and the "intention" variable is taken from the "Theory of Planned Behavior" questionnaire. To assess the academic self-efficacy, the authors are using "Academic Self-Efficacy and Efficacy for Self-Regulated Learning" questionnaire and the authors assesses 'intention' variable using "Scale Content and Completely Standardized Factor Loadings" questionnaire (only the 'Intention' section).

The "Academic Self-Efficacy and Efficacy for Self-Regulated Learning" questionnaire consists of 19 items, but when the reliability is tested, it ended with 15 items. The items have a Cronbach's Alpha of .887. The "Scale Content and Completely Standardized Factor Loadings" consists of 8 items and ended with 7 items when the reliability is tested, the items have a Cronbach's Alpha of .690. Referring to Ebel's Discrimination Index for Item Analysis, both of the dimensions which reliability are tested show that the items belong to the "Very Good Items" category.

11 items from the "Academic Self-Efficacy and Efficacy for Self-Regulated Learning" questionnaire and 8 items from the "Scale Content and Completely Standardized Factor Loadings" questionnaire use the 5 range Likert scale, ranging from . But there is an exception for the "Scale Content and Completely Standardized Factor Loadings" items. Although it uses the Likert scale, the authors turn it into a 4 scale questionnaire items. The rest of the "Scale Content and Completely Standardized Factor Loadings" (which consists of 8 items) uses the 7 scale. All of the questionnaire items is originally written in English, but adapted into Indonesian language for better assessment, considering the subjects which data are gathered.

2.3 Procedure

The procedure for gathering the data is done by doing several steps. First, the authors find an appropriate measurement item to assess the variables. Then, after finding the matching measurement instruments, which happens to be written in English language, the authors must first translate them into a more understandable language. The authors then revise the translation and do a double-check to ensure that the translation will not confuse the subjects and create a bias. Later, the questionnaire is typed on "Microsoft Powerpoint" program and presented to the subjects using a projector in the classrooms. The subjects write their answers to the questionnaire on a paper distributed by the

authors. Finally, the filled papers are collected and ready to be analyzed by the authors.

The authors targeted around 100 subjects to participate in this study, but the total subjects gathered are 97 subjects. The subjects are not difficult to find because they are found in the Faculty of Psychology and the questionnaire are given before the classes started so it does not take long to gather the subjects. Fortunately, there is no obstacle in gathering the data.

3. Result

The research is a quantitative research with correlation design. The data gathered is analyzed through the usage of Predictive Analytics SoftWare18 (PASW 18). The authors also did a correlation test on the academic self-efficacy as Independent Variable (IV) and intention to plagiarize as Dependent Variable (DV), using the Bivariate Correlation and Spearman's correlation test. The correlation test between the academic self-efficacy and intention shows a negative correlation (r=-.262, p<0.05). Data analysis indicates a result that is suitable to the hypothesis the authors made. It also shows a significant correlation at the 0.01 level (two-tailed).

Table 1. *The Result of Academic Self-Efficacy and Intention Correlation Test*

Variable	Intention	
	r	p
Academic Self-efficacy	-.262	<0.05**

Note: r= Coefficient correlation; p= Significance; **.Correlation is significant at the 0.01 level (two-tailed)

4. Discussion

This was a study based on other studies that have been conducted before. It focuses on academic self-efficacy and intention to plagiarize. The study focuses on whether there is a correlation between the two variables. Just to emphasize, the subjects consist of mostly women and all of the subjects are sophomores.

The study conducted above answers the formulation of problem, "Does academic self-efficacy affect intention to plagiarize?". The answer is academic self-efficacy does affect intention to plagiarize. Students with high academic self-efficacy are likely to have low intention to engage in plagiarism while students with low academic self-efficacy tend to have high intention to engage in plagiarism. They will consider plagiarism as an inefficient strategy to achieve a certain academic standard because they are confident of their own ability.

One study found that individuals with high academic self-efficacy have several traits that distinguish them from the individuals with low academic self-effiacy. Those traits are they believe they have the skills needed to succeed, they can use those skills to succeed, having peers who have high academic self-efficacy, having parent who are involved in their children's academic life, and able to motivate themselves (Wentzel, Barry, & Caldwell; Schunk & Miller, Schunk; Hoover-Dempsey, Bassler, & Brissie, in Maddux and Kleiman, 2015).

Study done by Nora and Zhang (in Barzegar & Khezri, 2012) also has the same finding, which is students with lower academic self-efficacy are likely to engage in plagiarism. It is because they are unsure they can complete tasks or tests given or can fulfill expectations in academic subjects, which causes them to find another strategy that will make them pass the standard. On the contrary, students who have high academic self-efficacy consider plagiarism as an inefficient strategy to reach a certain standard in academic field. There are numbers of other variables (such as age, sex, and other academic major) that can affect the variables tested, but are not explored by the authors.

5. Conclusion

The research puts an emphasis on the correlation of two variables. Based on the study conducted above, it shows a match between the hypothesis stated by the authors and the result of the study. Academic self-efficacy does affect the intention to plagiarize. There are numbers of findings that supports the study conducted, means that they have the same results as the authors' research. The academic self-efficacy as Independent Variable (IV) is effective to examine intention, especially in plagiarizing. Academic self-efficacy is found to be a moderator in engaging an act of plagiarism.

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INCORPORATING CULTURES IN ENGLISH LEARNING MATERIALS TO ENHANCE THE INTERNALIZATION AND ACTUALIZATION OF CULTURE VALUES TOWARD JUNIOR HIGH SCHOOL STUDENTS

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Abstract

The research aimed at: 1) developing English learning materials by incorporating some cultural aspects, 2) enhancing the internalization and actualization of cultural values, and 3) improving English performance and competence of Junior High School Students. The English learning materials were developed based on the students' needs, substantial basic competences of the current curriculum, and the concept of culture both from the perspective of local and target culture.

The research design was an educational research and development and adopted ADDIE (Analysis, Design, Develop, Implement, and Evaluation) which was proposed by Dick, Carrey, and Carrey (2005). The research was conducted in Yogyakarta State Junior High School 7. The respondents were 1 English teacher, 3 students for one-to-one evaluation, 10 students who were the participants of small group evaluation and 34 students as the participants for the field trial. The technique of collecting the data used: evaluation sheets by applying the Likert scale (1-5), observations, questionnaires, and tests. The data were analyzed qualitatively and quantitatively. For quantitative data, it was analyzed by using a descriptive statistic.

The aspects of culture that were incorporated in the English Learning Material included the reading topics, learning activities, culture corners, across cultures, let's play the games, and review. The values that were integrated in the spoken and written texts (in monologues and dialogues) were how to be discipline, honest, responsible, patient, and deserving the values of self achievement. The process of implementation the product was proven successfully to enhance the internalization and actualization of culture values. It was also shown significant improvements toward students' English performance and competence.

Keywords: incorporating, culture, internalization and actualization.

1. Introduction

Richards & Renandya (2003: 65-66) state that teaching materials are a key component in most language programs". It generally serves as the very basic and primary language input for students to receive and practice in the classroom. The appropriateness either printed materials such as books, workbooks, worksheets, or non-printed materials such as, cassette or audio materials, video, computer-based materials, or anything that presents language which can be learned by the students play a very important role in curriculum.

Realizing the importance of teaching materials, teachers usually exploit teaching resources from any publishers either students' textbook or worksheet. Unluckily sometime not all of the teachers get ease to adapt or modify them to match with the content standard of the current Curriculum. Moreover, there are a number of textbooks found in the field which are not fit with the student's level age development. Since they are loaded with a lot of inappropriate contents such as images and texts. The images shown in the textbook do not reflect the positive values as well as the texts contain some negative values.

Dealing with the described problems, now schools teachers are facilitated by using the government textbook. However, not all teachers feel satisfied with textbook contents since some of them are not matched to the students' needs. The students have varying needs. Such as the need for vocabulary, reading text, grammar, speaking and listening materials, and even moral values to support the process of mental development while learning English.

Realizing the problems happen in the English language teaching and learning, on 15 of July

2014, the researcher conducted an interview with some English teachers in Yogyakarta. Having done the interview, the researcher catched some crucial problems which are concerned by the students particularly those who are in the early years of Junior High School. The observable problems such as a low level of student independence, the varying of English language skill provision, a low grammar mastery, as well as a low literacy.

Based on the facts happen in the field, the researcher assumes that another English learning materials which is equipped with culture should be developed. It is aimed as a supplementary textbook which can be used to support the English language teaching and learning process as well as integrating the cultural positive values into language inputs. Therefore, it is believed that developing English materials which are based on the culture values will be useful since they are enriched by positive values. It is in line with the idea proposed by Murphey (1992) as cited by Lorenzutti, (2014:14) that since there are some elements in culture such as social values, human relationship, spiritually, patriotism and dissent and these can be used to train and to grow the students' feeling of empathy, honesty, politeness, wisdom, discipline, caring, loyalty, indeed, it can be practiced as a mediation to build a character.

Moreover, teaching English by using the local cultures as the language input such as reading text, images, or some information, that relate to the students' environment will foster their wisdom sensibility. As Rahyono (2009: 8) states in his book that local wisdoms are perspicacity, comprehensiveness, keenness and cleverness which are created based on the people'experiences until those are possessed together. Since the local wisdom contained a very precious values, it will not be excessive if those are taught integratively in subject matter organized in education system.

In addition, Dewantara (1994) as cited by Susatya (2010: 29) states that people who do not touched by a culture, they are still a natural and they need to be trained and educated to know how their own culture in order to have a cultural sensibility. As a matter of fact, the personality of natural people, there are high ego and lack of empathy feeling toward their surroundings. Whereas the one who has known well their culture will be more mature or reach full of their maturity. It is in line with Peursen's concept (1988) in Susatya (2010: 29) that the characteristics of cultural people, they are able to teach themselves to which is good and which one is not good.

Concluding those described problems and the idealism, developing English learning materials by incorporating the culture both the local cultures and the target cultures as the language inputs are predicted to be beneficial to do. It is expected to give a positive impact toward the English teaching process. Crawford (2003: 82) in her research also states that "without such authenticity, however, it is difficult to provide culturally rich input, or to develop coping strategies that will enable students to take advantage of the extra curricular input which they have access.

Based on the stated problems in the previous parts, this research will attempt to answer the following questions: How to incorporate cultures in English learning materials for Junior High School Students?

1. How is the student' internalization and actualization enhancement toward the cultural values?
2. Is there any Improvement for Students' English performance and competence after learning with the materials?

2. Theoretical Review

Tomlinson (2012: 143) states that materials refer to "anything that can be used to facilitate learning of a language, including course books, videos, graded readers, flash cards, games, and so forth". His opinion can be drawn out that materials may be formed in any kind of models. It can be in the form of textbook or course book, CD, video and so forth. In greater detail, he categorizes the kind of materials into: 1) informative, 2) instructional, 3) experimental, 4) eliciting, and 5) exploratory. For informative materials, they refer to materials that inform the students about the target language. Instructional materials refer to the materials that guide the students to practice the language they learn. For experiential materials, they deal with any attempts to provide the students with some experiences of the language in use. The eliciting materials tend to encourage the students to use the language. The last, for the exploratory materials emphasize on helping students to make discoveries about the language.

Koentharaningrat (1997: 1) through his book entitled Kebudayaan, Mentalitas dan Pembangunan, briefly explains the concept of culture which comprises the whole human activities in their life. He points out that the concept of culture can be understood in a broaden sense. Culture is a reflection of human mind,

their creation and artwork. However, they do not root from their instinct, instead of by means of learning process.

Furthermore he divides the cultural elements into seven groups, they are: 1) religious system and its ceremonial, 2) system and society organization, 3) knowledge system, 4) language, 5) art, 6) employment system, and 7) technology. The seventh of universal elements would still be split into the narrower or sub-elements. Since religious system and its ceremonial are at the highest level, seemingly, it is the most difficult culture component that can be affected. There are, however, some possibilities to change for religious equipment or technology. It is in line with the development of technology in community. On the contrary, cultural elements such as art, employment system, and technology will be very easy to be affected. It depends on how strong the religious or dogma kept or believed by the community.

Since culture is the set of practices, codes and values (Richard & Schmidt, 2002: 138) thus it can be categorized into its group. Koentjaraningrat, (1997: 5-6) briefly codes culture realization into three groups, they are: 1) idea (ideel), 2) social system, and 3) physical culture. Related to the term idea as the first realization, it can be interpreted as an abstract concept. Another term of this concept is norm, mores, or local custom. Since the term "idea" is very abstract, sometime it can be easily observed by understanding their way of thinking and behavior norms. Courteousness is one of the most real examples of culture realization which deals with idea parameter.

Then, in line with the term of social system as the second culture realization, it deals with how people doing an interaction among others. The social system emphasizes on how people as the member of society internalize and actualize the believed norm in their daily life. This second culture realization tends to be more tangible. Sometime it is stated of being felt, having monetary value, real and substantial. The examples to illustrate this culture realization are mutual assistance or Gotong Royong, visiting a sick friend, lowering the voice when making a conversation with older people, bowing when talking with older people, saying thanks to others, talking politely, nicely and courteously and there are so many examples that we can find in our surrounding.

The third culture realization is physical culture. It is supposed to be the most concrete culture that we can observe in the middle of society. Since it is physical features as the results of human activity and creativity, these kind of cultural manifestations are considered to be much more visible. The examples that can be found are temples, mosque, church which are followed by some objects for worship. And then, things related to weapons can also be found such as swords, shields, arrows, wavy double-bladed dagger. We can find a wide range of physical cultural manifestations around us. Other examples that we can find are agricultural equipments, such as hoes, plows, sickles, and so forth. In addition this manifestation are shaped in the traditional games, traditional food and traditional dances that is usually held in several events such as wedding ceremonies or/and in other formal occasions.

Those of cultural manifestations such as idea (ideel), social system, custom, physical cultural manifestation definitely can never be separated from each other. In a greater detail, Koentjraningrat (1997: 6) figures out that the ideel culture and custom control as well as giving a direction toward the human behaviors include their creations. This notion encounters a very large scope such as people' ways of thinking, their ideas, and their daily life actions and their creation such as the fine art, traditional dance, agriculture tool as well as their traditional houses to support their agriculture activities. Those are the human creation as the realization of physical culture.

The first manifestation provides the rules that can be used as a guideline in social life. Its functions are to give a direction to the society in determent the personification in concrete form of their deeds. The following is a summary of the concept, and the embodiment or concrete manifestation of the cultural elements which have been illustrated in the form of charts by the researcher sourced from Koentjaraningrat (1997: 1-8).

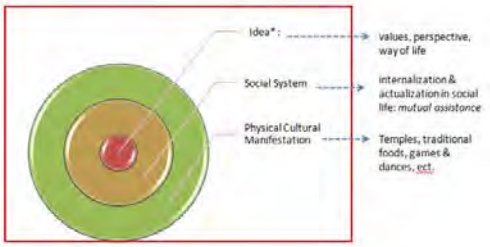

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Fig.1 Ilustration of Cultural Manifestation

3. Model of Research Development

To incorporate cultures in English learning materials in order to enhance the internalization

and actualization of cultural values, the researcher adopted a research model that was called as ADDIE (Analysis, Design, Develop, Implement, and Evaluation) which was proposed by Dick, Carrey, and Carrey (2005). The research was conducted in Yogyakarta State Junior High School 7. The respondents were 1 English teacher, 3 students for one-to-one evaluation, 10 students who were the participants of small group evaluation and 34 students who were the participants for the field trial.

The technique of collecting the data used: evaluation sheets by applying the Likert scale (1-5), observations, questionnaires, and tests. The data were analyzed qualitatively and quantitatively. For quantitative data, it was analyzed by using t-test for a paired sample.

The five steps in incorporating cultures in English learning materials consisted of 1) analysis by conducting needs analysis to the students who were involved in the research, 2) designing the product by preparing the course grid design as the blue print of product development, 3) product development which meant as the development of the first draft of the product before it was evaluated by the content expert judgment, 4) implementation meant the product was ready to implement in the school, and 5) evaluation referred to the process of evaluating the product which divided into three stages: 1) one to one evaluation involved four students, 2) small group evaluation consisted of ten students, and 3) field trials consisted of all students in one class.

During the one-to-one evaluation, it attempted to answer the questions: 1) do the learners understand the learning materials, 2) do the learners know what to do during the practice and test, and 3) can the learners read all the textual materials. There are three main criterions and decision that will be made by the researcher in this stage, they are: 1) clarifying whether the messages or all the presented materials which are being presented clear to individual target. 2) Impact focuses on how the instructional materials impact to the learners' attitudes and their achievement of the learning goal. 3) Feasibility focuses on how the instructional materials give the available resources.

A small-group evaluation aimed to check the effectiveness of the revisions based on the one-to-one data evaluation. In addition the stage was also intended to get the clarification how well the materials material works in the class with more varied learners as well as to see how the learning materials can be applied without the intervention of the researcher. The numbers of learners that will be involved in this stage were ten students.

The field trial aimed at determining the quality of the product since the stage was the best time for the researcher to get the information to revise the planned product. In the stage the researcher will look for the feedback of the product to get the information for revision input. The goal of this evaluation was to get the pinpoint of the specific errors in the product development. These stages needed to use some questionnaires.

Then since the main goal of the field trial was to find out the effectiveness of the product, the researcher used pretest-posttest design. Here is the design that had been applied in the research.

Table 1. Research Design

Pretest	Treatment	Posttest
T_1	X_a	T_2

T1: The early test to know the students' mastery on the English materials.

T_2: The final test to know the students' mastery on the English materials.

The data collecting techniques in this research and development used an evaluation sheet, test and non-test. The type of the test is an alternative test. It was designed as a multiple choice test with four options. The non-test covered questionnaire encompassed the questions related to the indicators to capture the internalization and actualization of cultural values. Then, an observation aimed to collect the information from the classroom situation where the culture English learning material was implemented.

4. Discussion

4.1 The Description of the Product

The English learning material which is equipped with culture both from the local and target culture was a supplementary printed book. It covered 118 pages and had colorful pictures. Learning material was divided into four units. All the units reflected the aspects of local culture as well as the target culture. The body of the learning material was: (1) preface, (2) table of content, (3) pronunciation guide, (4) unit 1 which talked about family, (5) unit 2 which talked about historical building and things, (6) unit 3 which talked about the heroes, and (7) unit 4 which talked about the traditional games.

The aspects of culture that were incorporated in the learning material included the

reading topics, learning activities, culture corners, across cultures, let's play the games, and review. The values that were integrated in the spoken and written texts (in monologues and dialogues) were how to be discipline, honest, responsible, patient, and deserving the values of self achievement.

What was stated in the preface was as the teacher and students guide line. It was about the overall descriptions of the textbook as well as the main goal of the book. The preface was the page for the writer to convey about the message of the book. It was told that the cultures that were integrated in the book were necessary to learn by the students. By reading and understanding the information from the preface both the teacher and students will understand what they should comprehend of the book content.

Table of content was aimed to facilitate the teachers and students to get ease of using the textbook.

In every unit, it consisted: 1) *let's get ready* which gave the student opportunities to acquire some new words. In that part, there were some activities bundled in sort of tasks. 2) *Let's Act* was the primary activities. It consisted of tasks varieties. The task might expose the students by working individually or in a team. The development of the part dealt with some activities. One of the examples was the topic of family developed in the first unit. The family was chosen as the topic of the textbook because the researcher intended to integrate the culture values in the reading text through the characters. Since, values were the very basic things in culture, it was very necessary to present the model of people who had a good personality. Starting from the topic then the following tasks development would be about things relate to family.

3) *Culture Corners* were set in the middle of the activities with the hope that the students would have already got the language inputs. The main purpose of displaying them was aimed at educating the students with the cultures values. 4) *Across Culture* was also developed to help the students to compare the local and target cultures. 5) *Let's play the game* was a part that aimed at refreshing the class condition. The game related to the topic thus the students were able to link what they had learnt and the fun activity. 6) *Let's do review* was the part of evaluation, and then the unit was ended by the last part that was, 7) *reflection* which functioned as the media to communicate between teachers and students responding to all the activities had done in the process of implementing the product.

4.2 The gathered data from the implementation and evaluation

The first validation was done by the content expert Judgment. The instrument of the evaluation sheets for the expert judgments and the teachers consisted of six aspects. The first was about the content aspect. It was assumed to assesses: a) the materials development, b) the curriculum integration, c) the uniformity of the developed material with knowledge, skills, and values to support the process of making communication by using English, d) are the developed materials covered texts and functional language skills, e) are the developed materials able to guide the students to learn the social function, the grammatical features, and the generic structure of the text type, f) are the developed material covered some dialogues related to culture values both Indonesian and western, g) are the developed material guided the students to create dialogues and monologues texts, h) the complexity of materials development, and i) whether the developed material was based on the students' needs.

The second aspect evaluated in the evaluation sheet was language aspect. They consisted of: 1) the simplicity of the language used in the developed material, 2) the language level used in the texts, 3) the diction, 4) the grammatical features, and 5) the language appropriateness in the developed material.

The third aspect evaluated in the evaluation sheets was the learning aspect. They consisted of: 1) the appropriateness between the developed material and the result of the needs analysis, 2) the variety of unit development with the explicit learning steps, 3) the appropriateness between learning activities with the topics so that students found the learning target. 4) Are the developed of learning activities able to motivate the students to learn English collaboratively. 5) Are the developed learning activities able to motivate the students to learn English independently and 6) are the learning activities meaningful. 7) Are the developed learning activities started from the simple into the complex? 8) Are the learning activities able to help the students to learn the positive values from the developed materials, 9) have teachers got an obvious role in the teaching process, and 10) are the games presentation in the material development suitable to the topic and able to motivate students to learn English.

The fourth aspect evaluated in the evaluation sheet was the culture aspect. They consisted of: 1) are the aspects of cultures integrated into the developed materials. 2) Are the pictures as the learning inputs suitable to the

topic and culture, 3) to the students' age, and 4) interesting as well as reflecting the Indonesian characters. 5) Are the presented *culture coner, cross culture,* and *proverb* able to increase the students' understanding toward the social values. 6) Are the pictures as the learning inputs able to support the students in understanding the cultural diversity, 7) are the learning materials able to support the students to understand the concept of culture both from Indonesia and western? 8) Are the developed materials appropriate to the students' needs, 9) are the selected materials able to support the students to increase their perception of global culture, and 10) whether the learning activities will be able to make students understand the culture values.

The fifth aspect evaluated in the evaluation sheet was the presentation. They consisted of: 1) whether the developed material was harmoniously presented among *let's get ready, let's act, let's play the game, let's do reviews,* and *reflection* as well as the learning objectives in every unit. 2) Whether the language inputs presented both in the form of spoken and written texts, learning activities, and pictures are able to support the students' understanding. 3) Whether the presented materials in the instructional materials are able to support the students to make any interactions with their friends, teachers and surrounding. 4) Whether the presented materials are able to support the students to make interaction with surrounding about the culture values, 5) whether the presentation of students' exercise and vocabulary enrichment are appropriate to the context, 6) whether the students supported to make a self reflection, 7) whether the four language skills are properly accomodated to the materials development. 8) Whether the *creating* and *communicating* activities, are started by *guided activity* and ended by *free activities.* 9) Are the learning acvities started by *observing, communicating, collecting the data, analyzing the data, communicating the data* and closed by *communicating* and *creating,* and 10) are the materials completed with vocabulary list to help the students to understand the learning materials.

The sixth aspect evaluated in the evaluation sheet was graphical design that consisted of: 1) materials appearances, 2) attractiveness, 3) suitability, 4) font, 5) space in typing, 6) punctuation, 7) colors, 8) color composition, 9) color and text coordination, and 10) pictures and color composition. Afterward, the data of the product evaluation from the expert judgments and the teachers are shown on the following parts.

Based on the quantitative data accumulated from the content expert judgment, the product gained the total score of 247 with the average of 4.49. Based on the formulated category, the product was assumed to be very good. The following chart was the summary of the quantitative data derived from product evaluation proposed by the content expert judgment. The aspects of being evaluated in the product were the content, language uses, learning, cultures, presentations, and graphical design aspects. All of the aspects consisted of 35 items.

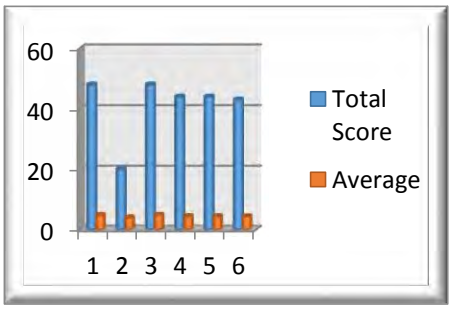

Chart 1. Summary of the Product Evaluation

The second data validation was from the graphical design expert judgment; the product gained the total score of 40 with the average of 4.00. The product was only evaluated based on the graphical design aspects which consisted of ten items. Based on the formulated category the product was assumed to be good. The following chart showed the result of the validation.

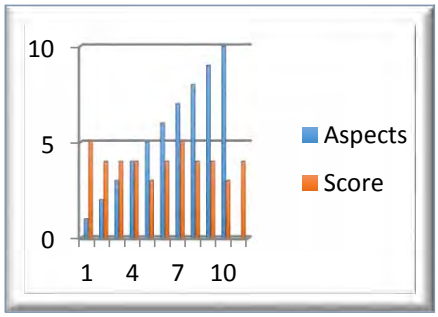

Chart 2. Summary of the Product Evaluation

The third data validation was from the English teacher. The aspects that were evaluated covered the content aspect, language use, the learning, the cultures, the presentation, and the graphical design aspects. The total items in the evaluation sheet were 35 items. Based on the product validation from the teacher, the product was categorized into a very good since it got total score of 228 and its average of 4, 15.

One-to-one Evaluation

The technique to analyze the data from one-to-one evaluation used Likert scale. There were two aspects stated in the evaluation sheet and they consisted of 25 number. The maximum score was 125 with the minimum score of 25. Based on the final score, the product was categorized into a very good. The following table was used to categorize the data from that product evaluation.

Table 2. Score Conversion of Product Evaluation

Aspect	Score Interval	Score
Content Aspects	X > 60,5	A
	48,5<X≤60,5	B
	36,5 <X≤48,5	C
	24.5<X≤36.5	D
	X≤24.5	E
The quality of pictures and texts	X > 40.33	A
	32.33< X ≤ 40.33	B
	24.33< X ≤ 32.33	C
	16.33< X ≤ 24.33	D
	X≤16.33	E

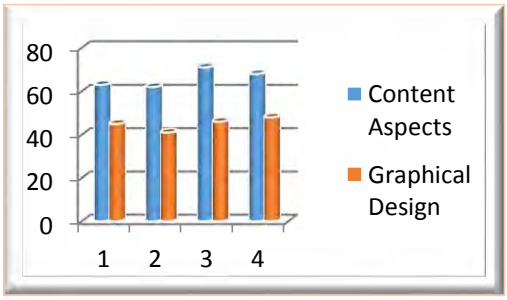

Chart 3.The result of one-to-one evaluation

Small Group Evaluation

The instrument used in the 2nd evaluation was the same with the one in the one-to-one evaluation. The technique to analyze the data used Likert scale. There were ten students who were involved in the evaluation. Since the purpose, the instrument, and the technique to analyze the data was the same with the evaluation in one-to-one evaluation, the researcher only presented the result of the evaluation.

From the data of small group evaluation, it covered two aspects of evaluation; they were the content and the quality of pictures and text. Based on the evaluation, it got 60, 1 for the content aspect evaluation which meant it was very good, while the second aspect got 42, 5 which also meant was a very good. The following chart showed the result of the small group evaluation.

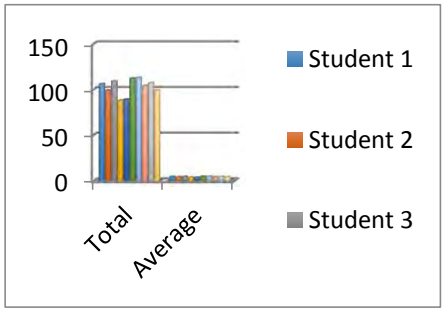

Chart 4. Summary of small group evaluation

Field Trial

Having been evaluated from the one-to-one evaluation, then went to the small group evaluation, the researcher had summarized some information to be used as the product revision. When the product was considered to be fix then the field trial was done. In the field trial there were 34 students who were involved in the evaluation. There were two data gathered in the field trial. They were the students' score in understanding the cultural values and the students' English test score.

a. Internalization and Actualization of Cultural Values

To know the students' level of culture values internalization and actualization was the concern of this research. In order to know them, the researcher used questionnaires to measure them. The questionnaires consisted of 25 items with four scales. They were deserved to be valid since they were validated both from internal and construct validations. The questionnaires consisted of seven factors. They were: 1) deserving the value of achievement, 2) self confidence, 3) creativities, 4) respectful, 5) discipline, 6) nationalism, and 7) tolerance. The measurement used Likert Scale with the option of favorable as the positive respond and unfavorable as the negative respond. The description of the respond comprised: **4** indicated constantly, **3** indicated frequently, **2** indicated infrequently, and **1** indicated never.

For the description category, the maximum score was 100 with 25 as the minimum. The students would be judged to have a very good understanding and manner of acting when their score reached 78 until 100. Then when they got 63 until 77 meant they had a good understanding and manner of acting, while when the score was less than 62 meant that the students needed an intensive guidance.

Based on the gathered data, the students showed their progress in actualize and internalize the culture values. It showed that the class average was before the learning material was implemented 65, 83 (fair) while after they got a treatment their average raised into 74, and 25 (good). It could be concluded that there were progress after the students learnt English by using learning material which was equipped with cultural positive values.

b. The Students' English Achievement

The students' achievement meant the entire things that were achieved by the students. In this context, the students' achievements were all their improvements during the learning process particularly for the cognitive domain. It comprised the students' achievement when they were mastering the English skills.

There were some plans to obtain the students' achievement. The first was by functioning the part of *let's do review*. The students could do the test in the textbook section then discussed the result with their friends. Then the second plan was by designing additional tests. In order to know the students' achievement, the researcher compared the students' previous and current English competences.

For the particular purpose of the research, results of the students' achievement were used to know how much of the students had successfully learned the particular skill from the English learning materials. The achievement tests that were used to obtain the students' English performance and competence based on the students' current progress. The achievement tests were conducted before and after the treatment. The result then was used as a judgment on the effectiveness of the product implementation.

The instructional material was determined to be effective for the average of the English achievement increased. The following table was the result of the students' achievements during the product implementation from the point of statistic view.

To reveal the assumption that there were any significant improvement between the students' English test score before and after learning English material. Based on the statistical calculation analysis, it showed that the p values was -4.574 with its significant was 0, 00. It meant that there was a significant improvement between the students' English test score before and after learning process. In a short line, the English scores were different. The following table showed the result of statistical analysis for Paired Sample T-Test.

Table 3. Descriptive Statistic

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	English Pretest	77.4706	34	15.35881	2.63401
	English Posttest	89.2059	34	6.97953	1.19698

Table 4. Data Correlation

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	English Pretest & English Posttest	34	.284	.104

Table 5. Statistical Analysis of T-test

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	English Pretest - English Posttest	-11.73529	14.99915	2.56647	-16.95478	-6.51580	-4.574	33	.000

5. Conclusion

The conclusion of this research is based on the three points: 1) how to develop English learning materials by incorporating some cultural aspects, 2) how was the enhancement of the internalization and actualization of cultural values, and 3) how was the improvement of students' English performance and competence of Junior High School Students.

The way to develop the product was started by conducting the need analysis; then the result would have been used as the consideration in designing and developing the material. The materials developed in that research product were the local culture and target culture. The cultures were presented in the reading text and dialogues. The ways to integrate the culture were explicitly and implicitly. After the product had been developed then the research started to implement it. The implementation of the product was started by some stages.

The first was product validation that was done by the expert judgments, and the teachers. The first evaluation was one-to-one evaluation was done with four students and the result was 'very good'. Then the small group evaluation was done with ten students and the result was 'very good' for the content aspect while the quality of the text and image was 'good'. Whereas the field trial which involved the students in one class showed there was a progress of students' understanding on cultural values. In addition, the students' English performance and competence was also got its significant improvement.

6. Future Work

It is important to incorporate a further product of culture-based English learning material for some reasons. The first, there are so many positive values inside the culture. As a way of life, culture brings a very significant role to the human life. It is important to develop culture-based English learning materials since culture has a great significant contribution to the people live and their civilization. On the other hand, there are some social problems happen in the middle of society which need a comprehensive solution.

Culture phenomena happen in the society which is very worrying such as the forgotten cultural values by the young people. Educating and understanding the cultures values as well as implementing them to the daily life are assumed to be one of the solutions. In the educational context, learning materials have a very important role. By developing instructional and/or learning materials which full of positive values will help the culture inculcating to the next generation. Since it is fact that textbooks reflect the culture of the society hence it is very advisable to develop a good textbook which full of positive values that can educate positives values to the students. Therefore, the textbook that reflects the national culture and adapts the positive cultural values from the target culture is important to develop.

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"TIGA JAKA" AN INNOVATIVE GAMES TO IMPROVE ACTIVITY AND OUTCOMES OF LEARNING MATHEMATICS IN MULTIPLICATION MATERIAL

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Abstract

The problem of this study was whether Tiga Jaka Educational Games could improve the activity and learning outcomes of students. The objective of this study was to improve the activity and learning outcomes of learning mathematics in multiplication material of the second grade students of Bendungan Elementary School at 1st semester in the academic year of 2014/2015. This study was class action research which was designed into two main cycles. Each cycle consisted of four stages started from planning, acting, observing and reflecting. The result showed that: (1) Learning activities increased from 58,18% before cycle, 88,63% in the first cycle and 90,90% in the second cycle, (2) The learning outcomes increased from 58,18 before cycle, 85,45 in the first cycle and 93,18 in the second cycle. Therefore the use ofthis methodscouldbe one ofthe references for the teachersin implementingthe learning process.

Keywords: Tiga Jaka, Innovative Games, Mathematics

1. Introduction

Mathematics always we use in everyday life . For example, trading activities we are doing well in stores , markets , supermarkets and malls.So, do not be surprised if these subjects are taught from elementary school through college .

Based on discussions with the second year teacher of elementary school of Bendungan found the data that learners have difficulty in calculating the multiplication quickly as applied learning less varied .Learners are less enthusiastic and less active in the following study.The same thing also complained of by the second year teachers on the forum Teachers Working Group (KKG) of Pabelan subdistrict. This problem is not getting the correct solution will result in learners have difficulty in understanding the more complex mathematical concepts in a class on it even until the sixth grade who will takeexams.

Factors that constrain the low activity and learning outcomes of students for this , among others, the method used to deliver material multiplication teachers are lectures and exercises.Learners who have difficulty in multiplying , fear , and do not enjoy the learning process.

Good learning strategies should use the student centered approach. This approach presents the lessons that provide ample opportunity for learners to develop their own learning strategies and skills[1].

link prior knowledge that has been owned by learners with new information. Teachers help students to easily understand the concept of multiplication , skillfully using multiplication , and create a fun learning .

Math lesson can be taught with fun. Teachers need to know the various strategies Creative Active Learning Effective and Fun (PAKEM). This instructional strategies to encourage students to be active , and happy to follow the lessons. One of fun learning can be done through an innovative game. The learning is made fun and easy learners learn multiplication.

This research will discuss the mathematics learning with Tiga JakaGame, assuming the game is one of the active and creative learning strategies that can improve learning outcomes math multiplication material

Learning to use the game in accordance with the mental development of elementary school students who were at the time of play. The game is a fun and do act on their own will in order to gain pleasure when doing these activities[2].

The use of games in teaching also have some functions because the game is also known as a serious relaxed learning[3]. Application of games in the classroom to make students enjoy the learning process presented by the teacher.Learners liked the relaxed atmosphere , competitive element , and motivation brought by the game in the classroom[4].

This is because students have the opportunity to use their imagination the number 6. Next is the player 's turn one put a lid on one of the numbers 1-

In this case , the teacher acts as a facilitator and mentor who try to
and creativity during activities such as games in the classroom , so that they are motivated to learn.

Tiga Jaka is an acronym of TigaJadi Perkalian. Tiga JakaGameis learning media created by researchers to facilitate pesrta train students in basic multiplication competence. The learning media is designed such that learners happy and easy to master basic multiplication.

Rules of the Tiga Jaka Gamesimilar to the game of Tic Tac Toe and Tiga Jadi ie sequence assembles three bottle caps on multiplication box horizontally , vertically , or diagonally. The difference is that each player will put the cap based on the multiplication is done both players. Players must have in order to inhibit movement tactics opponent and win.

1	2	3	4	5	6	7	8	9

35	14	12	5	27	9	15	10	4
6	48	45	24	8	64	42	12	25
15	42	7	56	14	12	24	16	48
81	24	20	49	2	15	40	32	25
4	63	42	18	12	81	56	40	48
72	7	30	32	42	56	12	36	8
24	16	15	8	49	72	14	9	64
12	54	40	24	10	8	25	32	7

1	2	3	4	5	6	7	8	9

Figure 1. Board Game Tiga Jaka

Tiga JakaGameplayed by two students . Each game is divided by a set of Tiga Jaka Gamewhich consists of a board Tiga JakaGameand some bottle caps.

Figure 2. Bottle Cap

Rule of Tiga Jaka Gameis the first hold a lottery to determine which players move ahead. An example of the lottery was won by player 1 , then the second player must put a lid on one of the numbers 1-9 , eg 9 , eg figure 5.This means that players 1 multiplication 5 x 6 and is entitled to a box that is labeled with the number 30, which is marked by placing the bottle cap white. Then turn the player 2 to shift or not to shift the existing cap on the numbers 1-9 , eg 2 shifts player cap of the number 6 to the number 7.This means that players 2 perform multiplication 7 x 5 and is entitled to a box labeled with the number 35, which is characterized by putting red bottle cap. Activities are carried out repeatedly with the same steps until one of the players managed to have three consecutive boxes either horizontally , vertically , or diagonally.

2. Methods

The method used in this research is the classroom action research.The study was conducted in class II Bendugan Elementary School District of Pabelan , the school where the researcher in charge. Time study in the 1st half of the school year 2014/2015 for 4 months , starting from July to October.

The subjects of this study were students of class II were 22 learners who have characteristics and different social backgrounds.

This study consisted of two cycles. In the first cycle of each group performs Game Tiga Jaka , while in the second cycle of each group performs Game Tiga Jaka with a different board. Referring to the model of Kurt Lewin, the steps in each cycle consisting of (1) planning, (2) acting, (3) observing, and (4) reflecting .

3. Results and discussion

Pre condition mathematics learning cycle is obtained through observation, the initial data collection through observation, and analysis of the average value of learners.Observation of learning activities of students in pre-cycle is 45.45 %.

Preliminary data obtained through the learning outcomes of pre-test. The results are then analyzed to determine the level of mastery of the material and the thoroughness of learners with benchmark KKM 75.Learning outcomes of learners at pre cycles are presented in the following table.

Table 1. Learning Outcomes Pre Cycle

No	Aspect	Result
1	The lowest score	20
2	The highest score	100
3	Mean	58,18
4	The number of learners who completed	8 (36,36%)

In the first cycle of action learners are asked to gather and play Tiga JakaGame. The results showed that the activity of learning to be 88.63 % and the learning outcomes of students score average is 85.45 and pesert students who complete or above KKM 75 of 15 people or 68.18 %.

In cycle 2 groups of students were asked to perform the Tiga Jaka Gamewith different board games. During the game they are allowed to use the multiplication table. The observation of the activities of learners 90.90 % . While the study of students in cycle 2 by an average of 93.18 and learners unresolved as 13.64 % or 3 people and learners who completed 86.36 % or 19 people. The highest score of 100 and the lowest score of 70, because the number of students has completed more than 75% of the research action enough to cycle 2 .

Learning activities during pre- cycle , cycle 1 and cycle 2 visible increased from 45.45 % to 88.63 % pre-cycle into the cycle 1 and rose again to 90.90 % in cycle 2. Based on these data it can be stated that the learners are increasingly active in the following study, because they love to learn while playing.

Based on the results of studying the current score of the initial conditions , cycle 1 and cycle 2 that on average the study of students increased from 58.18 at baseline , became 85.45 while the average cycle 1 and cycle 2 for 93.18 to 86.36 % learners completed or has a value above KKM set of 75.

Table 2 Comparison of Learning Outcomes of Students

No	Aspect	Pre Cycle	Cycle 1	Cycle 2
1	The lowest score	20	50	70
2	The highest score	100	100	100
3	Mean	58,18	85,45	93,18
4	The number of learners who completed	63,64%	31,82%	13,64%
5	The number of learners who not completed	36,36%	68,18%	86,36%

Improved learning outcomes after the act of using the media Tiga JakaGame, in line with the research of Warsito[5], Marianingsih[6], Wahyuni[7], dan Kesuma[8]turns out educational games and activities can improve student learning outcomes.

People love the game because of several reasons.The researchers found in a survey of 169 adults that while playing the respondents liked the opportunity to " fantasize and turn moments unusual " and be entertained by playing board games like Monopoly and Scrabble[9]. The researchers found that many other woods useful educational games to learn a knowledge

5	The number of learners who not completed	(63,64%)

and skill enhancement group work[10], improve the ability tomake decisions[11], and create a healthy psychological environment in the classroom during the lesson[12].

Tiga JakaGame is designed to meet the needs of learners' learning styles of visual kinesthetic, as expressed by Gregoryk and Eighmy[13], Robinson[14, 15], Eisner[16]in his research that the traditional way of learning lectures , with textbooks and quizzes do not cultivate the ability of the students to learn something , because students tend to have a visual learning style kinesthetic. When teachers know this change , they try to make a lot of simulation games and gaming , on their learning strategies in the classroom[17, 18].

4. Conclusion

Based on the results of research and discussion that has been described in the previous chapter, the conclusions of this study are:(1) the application of Tiga Jaka Game can increase the activity and student learning outcomes multiplication material in second year of Bendungan Elementary School District of Pabelan, (2) learning activity increased from 45.45 % to 88.63 % pre-cycle into the cycle 1 and 90.90 % in cycle 2. Learning outcomes increased from 58.18 % to 85.45 % pre-cycle into the cycle 1 and 93.18 % in the second cycle

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THE PDEODEE STUDENTS WORKSHEET ON STATIC ELECTRICITY: AS INNOVATION IN LEARNING SETS OF PHYSICS

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Abstract

An innovative students' worksheet was needed in implementing the physics-based learning on cognitive conflict strategy. The PDEODEE's worksheet was designed to answer the challenges of physics learning that tend with theoretical approach towards a more factual and conceptual through experimental approaches. Firstly the PDEODEE's worksheet has been designed for some of the concepts on static electricity which includes concepts on Coulomb's law, electric field, and parallel capacitors. PDEODEE is one of the innovations in physics learning strategy that includes the steps of: Predict, Discuss, Explain, Observe, Discuss, Explore, and Explain. The PDEODEE has been developed using the Four-D which includes steps: Defining, Designing, Developing, and Disseminating. Development of PDEODEE's worksheet was to identify the level of conceptions and misconceptions in Pre-service Physics student in one of LPTK in West Java, Indonesia. The PDEODEE has been developed at the university level with the aim of preparing Physics teacher who understanding the concept of static electricity comprehensively and be able to avoid misconceptions about the concepts being studied.

Keywords: PDEODEE, Static electricity, Innovation

1. Introduction

The misconception is one of the most interesting studies in the world, including in Indonesia. Studies on misconceptions have done research since three decades ago until now as that of Ref. [1], [2], [3], and [4]. Researchers have done a variety of ways to reduce these misconceptions. One of them by developing a book, a model of learning, learning strategies, student worksheets, media, and so forth. One of the most interesting developments to reduce misconceptions is the development of student worksheets (SW) as developed by Savander-Ranne [5]&Kolari Bayram Costu [6]. Reference [5] conducted research on PDEODE for engineering student and Reference [6] conducted research on Predict, Discuss, Explain, Observe, Discuss, and Explain (PDEODE) for elementary school students study subjects. Based on that developed by Reference [5] and [6], researchers conducted a more in-depth study and found a loophole as novelty for continued development. Continued development resulted in: Predict, Discuss, Explain, Observe, Discuss, Explore and Explain (PDEODEE). The author considers PDEODEE is a new innovation in science education to reduce misconceptions education students in college-level physics.

The PDEODE worksheet was arranged in two formats namely student worksheets and exploration sheet. In the exploration sheet there is a slot for physics student teachers to conduct further exploration of the initial observations that have been made in the worksheet. Exploration sheet is a step development of an existing worksheet.

Furthermore the concept of static electricity chosen with a background in studying was as the basic concepts of electricity concepts further. The concept of static electricity which examined the concept of Coulomb's law for the various types of materials (plastic ruler and rubber ruler) was rubbed with wool fabric and plastic.

2. Method

This study was performed using 4-D developed by S. Thiagarajan, D. S. Semmel&M. I. Semmel [7] which includes: 1) Define, 2) Design, 3) Development and 4) Dissemination. Development steps that have been made recently reached step developing. Step 4-D beginning has been implemented only for a small group in the

second semester of the academic year 2014-2015, while the development in large groups will be conducted in a solid half of the school year or semester 2015.

Respondents who are involved in the process of development were small groups consisted of six students who had followed the Physics Education Physics II previous lectures. Two groups consisted of four female student and two male students. Determination of the students who have taken this course previously intended to remediate misconceptions that happened before.

3. Results and Discussion

The developing of PDEODE worksheet exerted 4D type of development that includes the development of define, design, development and dissemination. The fourth steps of this development are discussed as follows.

3.1 Define

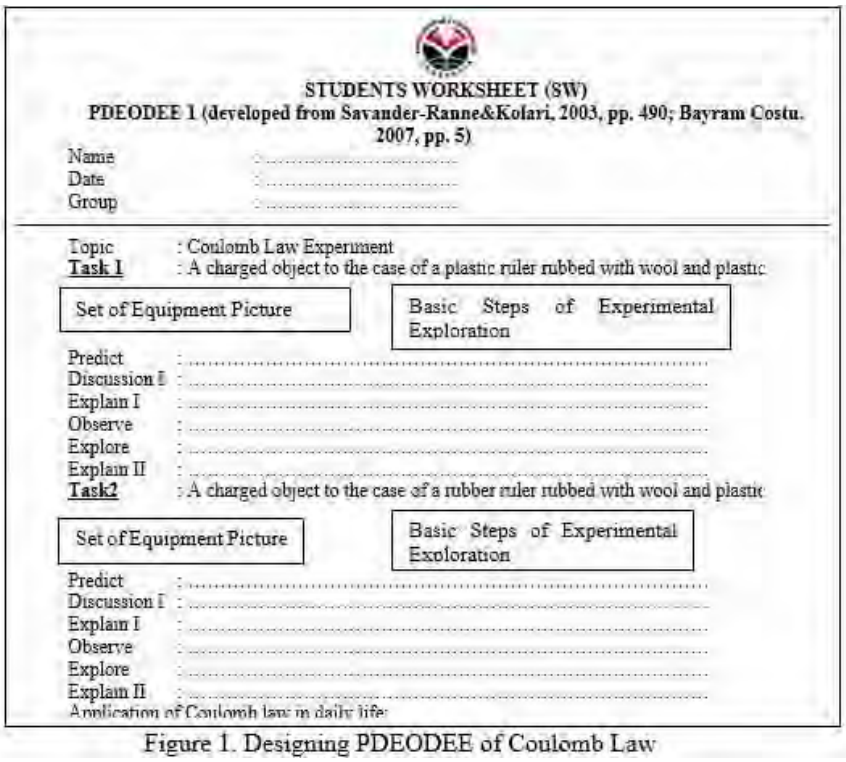
Researchers examined the opportunities that could be developed from PDEODE Ref. [5] and Ref. [6] to take the next PDEODEE development opportunities without compromising the essence of the existing worksheet. Step defining generates cracks developing in the form of: 1) the level of different research subject of construction elementary school students a student at the university level, 2) explore additional measures for deepening the concept of the previous observation step, and 3) the construction of the content and context of the concept of evaporation worksheet The SD changed completely into the concepts included in the Coulomb law at university level.

Ref. [5] and Ref. [6] investigated the concept of evaporation in the context of elementary students. Researchers re-define the student level to level students as researchers consider the additional steps can explore more deeply emphasizes concepts and construction PDEODE turned into PDEODEE. Strictly exploration phase requires students take measurements and a deeper analysis of the concept of static electricity, so bring a new step (innovation) from existing ones.

3.2 Design

The initial design of PDEODE included initial steps that follow a pattern that has been developed by Bayram Costu [6]. In consideration levels of concepts and different levels of respondents who finally achieved the level of exploration in its own exploration sheet and the addition step and given space explore the application of the concept in everyday life. Format PDEODEE produced can be seen in Figure 1.

Figure 1. Designing PDEODEE of Coulomb Law


STUDENTS WORKSHEET (SW)
PDEODEE 1 (developed from Savander-Ranne&Kolari, 2003, pp. 490; Bayram Costu. 2007, pp. 5)

Name :
Date :
Group :

Topic : Coulomb Law Experiment
Task 1 : A charged object to the case of a plastic ruler rubbed with wool and plastic

Set of Equipment Picture

Basic Steps of Experimental Exploration

Predict :
Discussion I :
Explain I :
Observe :
Explore :
Explain II :
Task2 : A charged object to the case of a rubber ruler rubbed with wool and plastic

Set of Equipment Picture

Basic Steps of Experimental Exploration

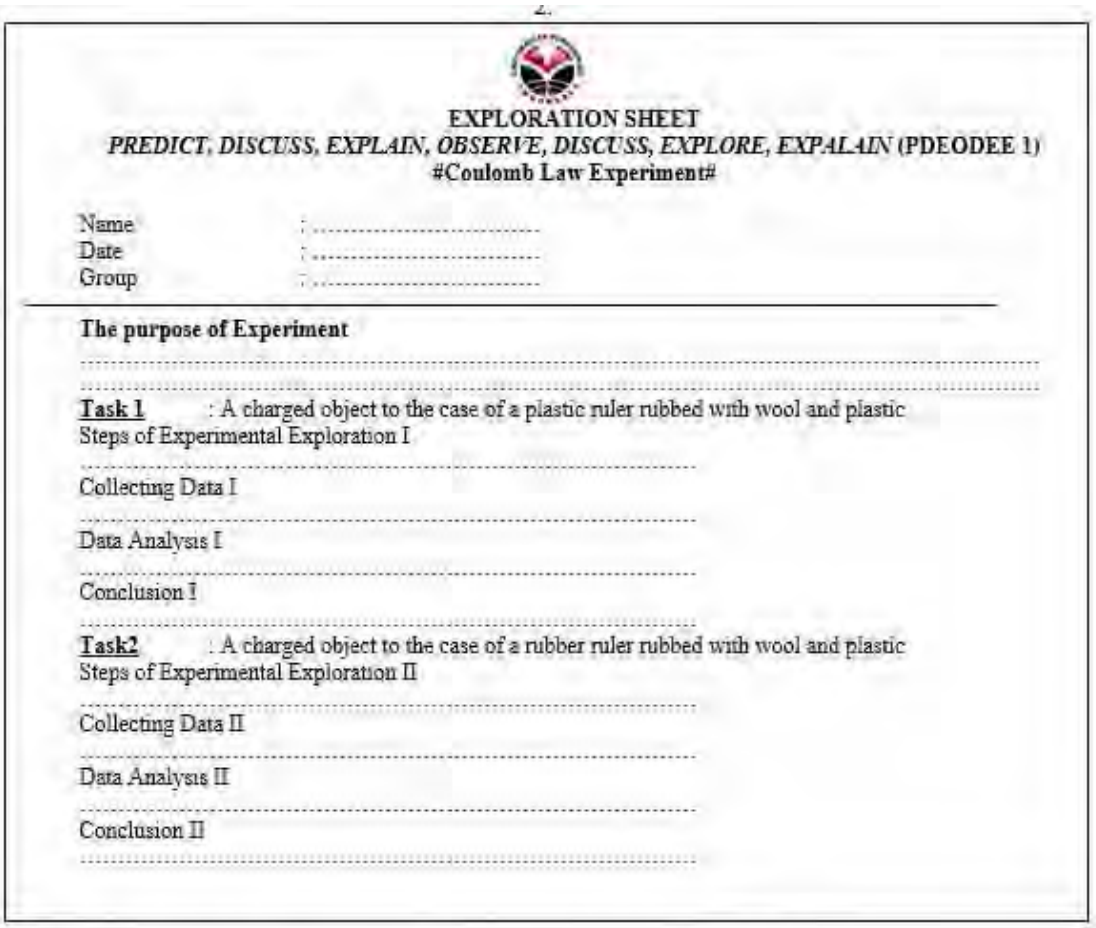
Predict :
Discussion I :
Explain I :
Observe :
Explore :
Explain II :
Application of Coulomb law in daily life:

Figure 1. Designing PDEODEE of Coulomb Law

The PDEODE worksheet format contains only the basic structure of the design PDEODEE already developed. A complete design concept PDEODEE on Coulomb's law can be found in the Appendix 1.

3.3 Development

The development of PDEODEE was developed from PDEODE [5] and [6].The PDEODEEadded step of exploration asa new innovation arranged in Figure 1. The format sheet detailed exploration can be seen in Figure 2.



EXPLORATION SHEET

***PREDICT, DISCUSS, EXPLAIN, OBSERVE, DISCUSS, EXPLORE, EXPALAIN* (PDEODEE 1)**

#Coulomb Law Experiment#

Name : .....

Date : .....

Group : .....

The purpose of Experiment

.....

.....

Task 1 : A charged object to the case of a plastic ruler rubbed with wool and plastic

Steps of Experimental Exploration I

.....

Collecting Data I

.....

Data Analysis I

.....

Conclusion I

.....

Task2 : A charged object to the case of a rubber ruler rubbed with wool and plastic

Steps of Experimental Exploration II

.....

Collecting Data II

.....

Data Analysis II

.....

Conclusion II

.....

Figure 2. Developing Exploration Step on Coulomb Law

The exploration sheet format only contains the basic structure of the design PDEODEE already developed. A complete exploration of the design sheet PDEODEE on the concept of Coulomb's law can be found in the Appendix 2.

3.4 Dissemination

In the phase of disseminatingresearchers attempted to analysis a qualitative data collectedfrom students writing in a worksheet. Researchers collected data in the form of descriptive statement of students from two groups as shown in Table 1.

Table 1. Grouped Description of Students Responses on Coulomb Law

Group I			
Group Prediction	Observation	Analysis	Research Comment
The result of the discussion, the black ball isa neutralball, ruler was rubbed with wool fabric (giving a negative charge to the ruler) so that the ruler was negatively charged, contrary to the rubbed with plastic ruler.	If a ruler was rubbed by plastic would repel and when a black ballwas rubbed by wool fabric pull.	If a ruler was rubbed by plastic, the black ballwould reject a ruler when a ruler was rubbed by wool fabric,the black ballwould pull. When two charged objects brought closer there would be interaction. As for the interaction depends on the distance and payload.	Student's prediction still fixated on reading materials (textbooks), so it has not led to a comprehensive analysis. But there are no misconceptions.
Group II			
Group Prediction	Observation	Analysis	Research Comment
A black ball hanging when juxtaposed ruler rubbed with wool cloth, will cause the black ball is moving closer to a ruler. This is because the ruler becomes positively charged. When plastic ruler rubbed with plastic, the ball will stay away from a ruler be a ruler as a negative charge.	A ball away from the black plastic ruler rubbed with plastic. Meanwhile, when the ruler is rubbed with wool fabric, black ball approaching ruler.	The interaction between a ball and a ruler down when the distance between the two is quite far.	Analysis of the two groups has led to a comprehensive analysis to obtain a complete understanding of the concept.

The first group had a preliminary understanding incomplete in understanding the concept of Coulomb's law compared to the second group, but the end result leads to a thorough understanding in both groups. This indicates that the worksheet PDEODEE can instill a comprehensive understanding of the concepts that the students who initially do not understand the concept of static electricity particularly Coulomb's law can be constructed concept intact after exploring existing concepts. The process experienced by members of the group that was the process of assimilation. The process of assimilation occurs at conception respondents in a state of incomplete or partially conceptions [8]. So the reconstruction of the concept was to build and strengthen the existing conceptions. While the second group, a process that occurs was a reconceptualization process whereby existing conceptionwas reinforced by the building conceptionwas still the same. In both groups did not happen misconceptions, so the accommodation did not occur. The process of accommodation would happen to respondents who have misconceptions when making wrong predictions of individuals and groups.

4. Conclusion

Based on the above discussion, it can be concluded that the worksheet PDEODEE form has been developed to provide an additional step exploration. Exploration step further developed in a separate exploration sheet of previous worksheets. Development of student worksheets PDEODEE performed using 4-D development: Define, Design, Develop, and Disseminate.

The results of the analysis of qualitative data obtained from the two groups were observed showing initial conceptions were stated: partial conception in group I and the comprehensive conception (understanding) of the group II. After learning using PDEODEE MFI can be seen reconstruction concept (assimilation) occurred in group I and the reconceptualization of the concept occurred in group II.

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CONTENT VALIDITY OF SELF ASSESSMENT MODEL FOR HISTORICAL CONSCIOUSNESS

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Abstract

The purpose of this study was to estimate the content validity of self assessment model for historical consciousness consists of conceptual model, self-assessment instruments for historical consciousness and guidance. The content validation process involves six experts (2 psychometric, 1 evaluation methodology expert, 3 historian/lecturers of history, and one of linguists). The data of content validation are collected by using validation sheet in form of Likert scale four categories; very good', 'good', 'less good', and 'not good'. The data of rating score from experts are analyzed by R. L. Aiken' formula content validity. The analysis show that content validity index of conceptual model of self assessment for historical consciousness were 0.8a. Content validity index of self assessment instrument for historical consciousness were 0.81 and content validity index of self assessment guide were 0.89. The mean of content validity index were 0.84. Content validity index of each components of the model self assessment as a whole were greater than the minimum criteria of 0.78 by the number of experts were six people and the number of rating categories were four. It's mean that the model of self assessment for historical consciousness already fulfill the requirements of content validity.

Keywords: content validity, self-assessment model, historical consciousness

1. Introduction

Self assessment model for historical consciousness is a bid and reference to detect historical consciousness, especially for students of history education who learn and will teach the subjects of history. This assessment model was derived from the research and development process. Products produced include conceptual model of self assessment for historical consciousness, self assessment instruments for historical consciousness and it's implementation guide. The quality of the product innovations developed will be presented in this paper in terms of content validity.

Speaking about historical consciousness can not be separated from the lessons of history. Historical consciousness is a fundamental and significant concept in the study of history (Thorp, 2014: 18). In relation to character education, the lessons of history have a strategic role in instilling character values that need to be based on the historical consciousness. In America there were claims that students lack knowledge about the past of his nation that is seen from the results of the national examination (NAEP 2006). Historical instructional is just little which is emphasizing on nationalism and patriotism as expected. The role of history in describing the national identity often not questioned (Trofanenko, 2008: 582). This situation shows the neglected of character education in the teaching history and the low of historical consciousness.

Actally anyone has a historical consciousness but historical consciousness can change at any time. Therefore, historical consciousness needs to be developed and trained continuously and systematic through the historical learning (Rosenlund, 2011: 1) and the results are always able to be monitored through the assessment. So far, there has been no a specific assessment model for the historical consciousness, and this study sought to develop a self assessment model specifically for this. Key components this self assessment model is a conceptual model of construct historical consciousness and measurement instrument of historical consciousness. Conceptual of Historical consciousness summarized from the various opinions of experts ideas such as Lukacs, Carlob, Easter, Kartodirdjo, Lapian, Abdul Gani, Ayatroehadi and Leirissa. Based on ideas of this experts, historical consciousness is defined as a process of thinking in which people become recall again the meaning of history and it's usefulness. Therefore, it was determined that the historical consciousness is built by four

constructs, namely historical knowledge, historical research method understanding, the meaning of history and the uses of history. Historical knowledge is knowledge of what has happened in the past, as well as the reconstruction of human actions in the past (Gago, 2005: 77). Essentially historical knowledge is a disclosure of the facts of whole historical event, including "what", "who", "when", "where" and "how" (Kartodirdjo, 1992: 252; Grant, 2003: 60). Historical knowledge lies in what it can tell about the past (Elliott, 2003: 24) and can be measured by what is remembered about the facts that have been learned (Grant, 2003: 89). In addition, historical knowledge is also cover the knowledge about causality (Kitson, 2011: 74). Historical knowledge is originated from results of the application of historical research methods from accurate and credible historical sources.

A series of scientific procedures carried out to verify historical sources or historical evident (Tosh, 2002: 104). These procedures include; selection of topics, gathering historical sources, internal and external criticism, analysis and interpretation, and historiography (Kuntowijoyo, 2013: 64). From this process, it is obtained indisputable historical knowledge and evidenced by the robustness of the findings (Kreuzer, 2010: 383) based on the available evidence. Through historical research it can obtained much information about various historical events that reflect the human experience in the past and its significance for the present and future. The essence of a historical event lies in the significance or meaning embedded of the historical events for the human life.

The meaning of the historical event depends on the application of the value from a particular perspective (Barash, 2003: 27). The meaning of the historical event does not appear automatically from the historical facts (Cohen, 1961: 44). The efforts to train the ability to construct meaning are something that surpass the content based simple knowledge (Russell, 2008: 3). Historical consciousness can be improved through the research about important events because historical events generate emotions, values, and ideas that make life meaningful (Danniels, 1981: 6). Therefore, the meaning of historical events is located on the significance given to the event (Denison, 2011: 47). History would be felt meaningful if one can find the significance of the events that was seen from embodied values or from the impact or consequence of the events.

Significance of events eventually guide people to appreciate the usefulness of history in lives both of practical and theoretical. History offers the most excellent material for an intellectual exercise. Intellectual curiosity about the past is the reason why people learn and read history (Tosh, 1985: 20-21). All historicalknowledge is based on the practical needs of human life (Mazabow, 2003: 227). By studying the history we can found many educative examples as teaching material, inspiration source, arouse sense of aesthetic, open our heart and feelings (Sjamsuddin, 2007: 126; Kuntowijoyo, 2013: 23-25; Tosh, 1985: 7). History is a repository of experience that became the basis for the projections or predictions of the future (Tosh, 1985: 1 & 14; Greenberg, 1991: 38). Based on above theoretical study, I formulated a conceptual model of historical consciousness constructs as follow.

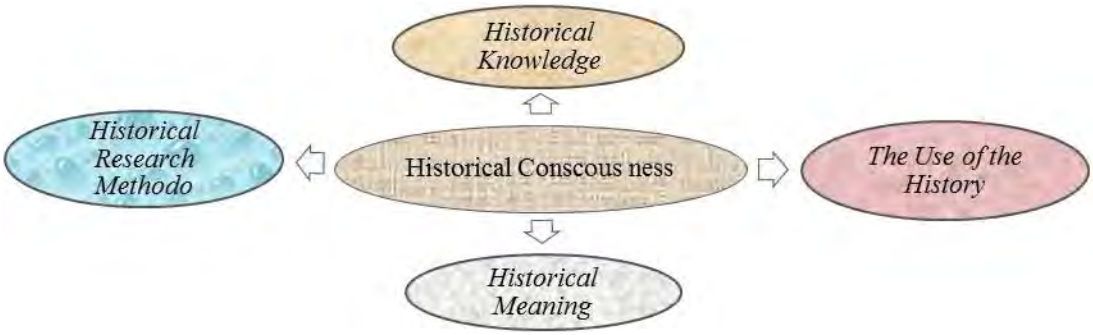

Figure 1. Constructs (Aspecs) of Historical Consciousness

Self assessment instrument for historical consciousness developed from the four constructs of historical consciousness above and equipped with the implementation guide. Thus

the contents of self assessment model for historical consciousness consist of three parts namely; conceptual models, instruments and guidance. Next, this three components was proved its content validity. Proving content validity is very important in developing a test or assessment of knowledge and skills, especially with respect to the definition, representation, relevance and accuracy of the test. (Sireci, 2014: 100-101). Content validity quantitatively is based on the consideration and expert opinion (Hyness, 1995: 240). Proving the content validity all at once shows the quality of the results of this research and development being done.

Based on the above explanation, formulated research question of this study was "how the content validity of self assessment model that has been developed?" The goal is to obtain evidence that can be accounted about the content validity of self assessment model for historical consciousness. Hopefully the results of this study can be used to assess historical consciousness, especially for the student candidate history teacher.

2. Research Methods

This research included research and development that is refers to Plomp model. The stages of the development of self assessment model for the historical consciousness are as follows.

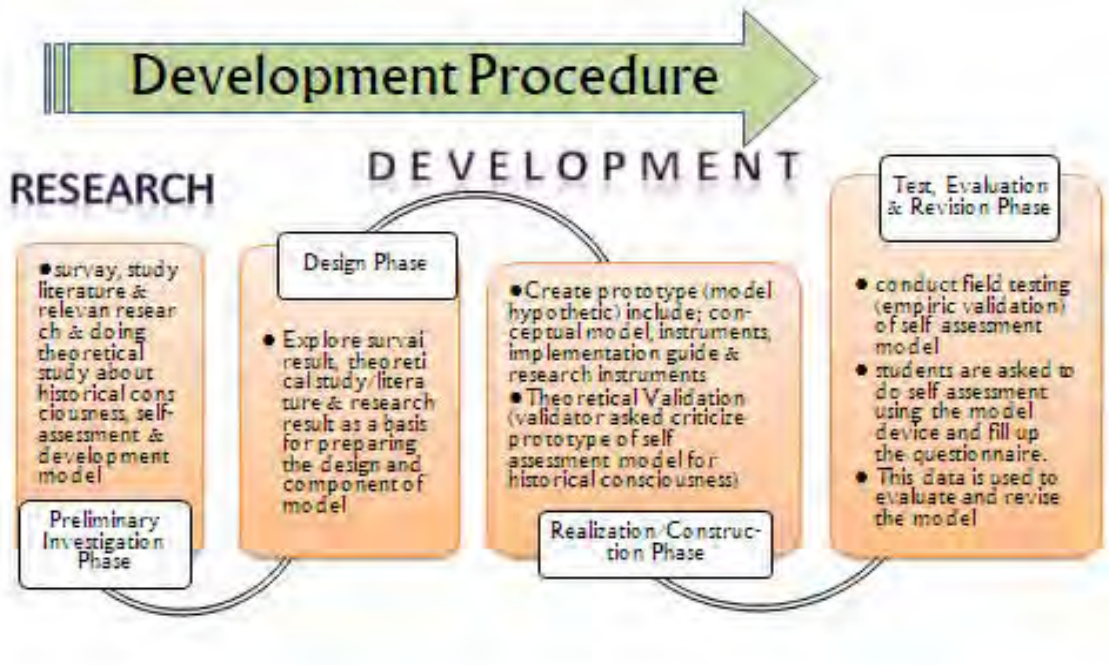

Figure 2. The Stage of the Development Model of Self Assessment for Historical Consciousness

Content validity of self assessment model for historical consciousness was obtained through a validation process involving experts/validator from various fields of related expertise. The data of the content validation were collected by using validation sheet in form of Likert scale four categories; very good', 'good', 'less good', and 'not good'. The data of rating score from experts are analyzed quantitatively by R. L. Aiken' formula content validity (1985: 133).

3. Discussion

Content validity of self assessment model for historical consciousness is shown by the agreement of the rating given by the validator to each items of validation. Validators that are involved during the validation process are as follows.

Table 1. List of the Validators on the Validation Process

No	Name*	Expertise field	Institution	Amount	Validation Process
1	Jmr	Psikometri	UNY	2	June 26th - July 4th 2014
2	Bkw				July 14th - July 2nd 2014
3	Smr	Evaluation methodology expert		1	June 28th - July 1st 2014
4	Mtz	Historians/lecturers of history	UNP UGM UNY	3	June 27th - Juli 21th 2014
5	Shrt				June 30th - July 11th 2014
6	Amn				June 26th - July 10th 2014
7	Shd	Indonesia linguist	UNY	1	June 30th - July 15th 2014

*Akronim validators name

Content validity index (V) of each validation item is calculated by using the formula that was introduced by Lewis R. Aiken (1985: 133). The procedure for determining a V begins with rating by validator (S). Validity rating can be made on Validity rating can be made on one of rating category (c). When rating of items are made by a number of validators (n), the V coefficient can be computed by the formula bellow.

$$V = \frac{S}{[n(c-1)]} \quad (1)$$

The criteria for determining the validity of an item is done by comparing the value of $V_{calculated}$ and the value of the V_{table}. The value of V_{table} is the minimum value of the content validity index which is viewed from the number of raters (validator) and the number of rating categories (see table V, Aiken, 1985: 134). Because the number of validator were six people and the number of rating categories were four, then the minimum value of the content validity index in table V was 0.78. This means that if the value $_{calculated}$ higher than the minimum value of V_{table}, then that validation item is declared not valid. The results of the validation data analysis conceptual model of self assessment for historical consciousness can be seen in table 2 below.

Table 2. Analysis Data Validation of Conceptual Model Self Assessment for Historical Conscciousness

Validation Items	S	n	c	c-1	V_{table}	$V_{calculated}$	Decision
1. The clarity basic concept of HC	16	6	4	3	0.78	0.89	valid
2. Relevancy of dimensions HC	17	6	4	3	0.78	0.94	valid
3. The support of theoretical studies	15	6	4	3	0.78	0.83	valid
4. Relevance illustration with test items	17	6	4	3	0.78	0.94	valid
6. Appropriate for measuring HC	14	6	4	3	0.78	0.78	valid
7. Produce data of HC	15	6	4	3	0.78	0.83	valid
8. Produce consistent data	14	6	4	3	0.78	0.78	valid
9. Measure the level of HC	14	6	4	3	0.78	0.78	valid
10. Measure the HC empirical-metaphysical	16	6	4	3	0.78	0.89	valid
11. Clarity of the self assessment procedure	15	6	4	3	0.78	0.83	valid
12. Systematic self assessment procedure	16	6	4	3	0.78	0.89	valid
13. Clarity of scoring	15	6	4	3	0.78	0.83	valid
14. Produce the profile of self assessment	14	6	4	3	0.78	0.78	valid
15. Conceptually easy to understand	15	6	4	3	0.78	0.83	valid
16. Instrument is easy done	14	6	4	3	0.78	0.78	valid
17. Instrument easy administrated	13	6	4	3	0.78	0.72	Invalid*
18. Guidance easy understood	13	6	4	3	0.78	0.72	Invalid*
19. Model easy implemented	15	6	4	3	0.78	0.83	valid
20. Model is suitable for measuring HC	15	6	4	3	0.78	0.83	valid
21. Efficiency of instrument & guidelines	15	6	4	3	0.78	0.83	valid
22. Can be used in one time	14	6	4	3	0.78	0.78	valid
23. The cost is cheap	13	6	4	3	0.78	0.72	Invalid*

* Revised according to validator's suggestions

Table 2 shows content validity index of conceptual model self assessment for historical consciousness. The mean of content validity index conceptual model is 0.81 > 0.78. In the table appears three invalid items (item 17, 18, and 23) because there is a rating score of

validator at level 2 (less good). For that, this items needs to be revised according to comment and suggestion validators before empirical testing. In this case, validators suggest that the answer key presented separately and held by the lecturer/examiner. Therefore, revision is done to repair the instruments and guidance. Revision is done to repair the instruments and guidance, the answer key was separated from guidance and the answer sheet is created separately. Thus, all the instruments more easily administered and can be used repeatedly because the answers would be written on a special answer sheet (no longer on the instrument). Hopefully the costs of implementing self assessment model for historical consciousness become economic and easy.

Table 3. Analysis Data Validation of Self Assessment Instrumen for Historical Conscciousness

Validation Items	s	n	c	c-1	V_{table}	$V_{calculated}$	Decision
Clarity of direction	17	6	4	3	0.78	0.94	valid
Sample of test item easy understood	16	6	4	3	0.78	0.89	Valid
Test item in accordance with the theory	16	6	4	3	0.78	0.89	Valid
Measuring historical knowledge	14	6	4	3	0.78	0.78	Valid
Measuring historical method understanding	13	6	4	3	0.78	0.72	Invalid
Measuring historical meaning	14	6	4	3	0.78	0.78	Valid
Measuring historical usefulness	14	6	4	3	0.78	0.78	Valid
Covering historical periodization of Indonesia	14	6	4	3	0.78	0.78	Valid
Represent regions in Indonesia	14	6	4	3	0.78	0.78	Valid
Covering various historical themes	14	6	4	3	0.78	0.78	Valid
Measuring, knowledge, understanding, historical skill	14	6	4	3	0.78	0.78	Valid
There are basic problem on a core quest	14	6	4	3	0.78	0.78	Valid
The short and obvious question	14	6	4	3	0.78	0.78	Valid
There is only one right answer combination	14	6	4	3	0.78	0.78	Valid
Homogeneous answer choices	12	6	4	3	0.78	0.67	Invalid
Question accordance with the answer key	14	6	4	3	0.78	0.78	Valid
The use of standard Indonesian Idioms	14	6	4	3	0.78	0.78	Valid
Question is easy understood	16	6	4	3	0.78	0.89	Valid
Choice of word easy understood	15	6	4	3	0.78	0.83	Valid
The use of communicative sentence	15	6	4	3	0.78	0.83	Valid
Illustrations relevant to the question	15	6	4	3	0.78	0.83	Valid
Illustrations clear and easy to read	17	6	4	3	0.78	0.94	Valid
Illustrations is proportional	14	6	4	3	0.78	0.78	Valid

Overall average content validity index of self assessment instrument for historical consciousness was 0.81 > 0.78. The analysis shows that there were two items invalid. The item relating to the instrument of historical research method understanding and homogeneity of answer choice of multiple choice questions. Both grains invalid anticipated by reviewed instrument items, corrected indicators and revised choice answers were not homogeneous that is suggested by the validator. On the instrument of historical research method understanding there are indicators that were not included in the method of historical research. The solution was removed that indicator including the items. These are improving the efficiency and effectively of test instrument because it is not too much more spend a lot of time.

Table 4. Analysis Data Validation of Guidance Self assessment for Historical Consciousness

Validation Items	s	n	c	c-1	V_{table}	$V_{calculated}$	Decision
1. Complete and clear	16	6	4	3	0.78	0.89	valid
2. Easy understood	16	6	4	3	0.78	0.89	Valid
3. Systematic	16	6	4	3	0.78	0.89	Valid
4. Clear command	16	6	4	3	0.78	0.89	Valid
5. Clear stages	16	6	4	3	0.78	0.89	Valid
6. Clear scoring	16	6	4	3	0.78	0.89	Valid
7. Easy calculating final score	17	6	4	3	0.78	0.94	Valid
8. Raw Indonesia language	16	6	4	3	0.78	0.89	Valid
9. Words easy understood	16	6	4	3	0.78	0.89	Valid
10. Communicative sentence	16	6	4	3	0.78	0.89	Valid

The results of the validation data analysis of self assessment guide for historical consciousness shows that all items were valid. The mean content validity index were 0.89 > 0.87. This means that theoretically this guide can directly tested in field testing on history education students without revision. Overall summary of the analysis data scores validation of prototype self assessment model for historical consciousness are presented in Table 5.

Table 5. Summary Analysis Data Validation of Prototype Self Assessment Model for Historical Consciousness

Component	Score Average	Category	Result
Conceptual	3.17	baik	SR
Instrument	3.50	baik	SR
Guidance	3.33	baik	WR

SR: Slightly Revised TR: Without Revision

4. Conclusion

In general, the content validity of self assessment model for historical consciousness theoretically according to consideration and rating from experts (validators) have had good and met criteria that were proven valid. Furthermore the self assessment model for historical consciousness that was created can be tested empirically to the students of history education study program. Empirical tests are intended to test the validity, effectiveness and practicality of self assessment model for historical consciousness.

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EFFORTS TO INCREASE COOPERATION AND ACHIEVEMENT ON ART OF MUSIC THROUGH COOPERATIVE LEARNING METHOD OF STUDENT TEAM ACHIEVEMENT DISVISIONS (STAD)

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Abstract

Based on the preliminary studies, the art of music is a favorite subject for students of SMP Negeri 2 Gedangsari, Class VIII F, Gunungkidul. However, in the learning process, students tend to be not compact, and do not work well. This is resulted the poor achievement of art. To overcome this, the teacher intends to change the teaching methods of the conventional method into an innovative method, the method of cooperative learning Student Teams Achievement Divisions (STAD). The purpose of this research is to improve cooperation and achievement through the use of art music STAD cooperative learning methods. This study is a Class Action Research (CAR), which uses a model Chemish and Taggart in 2 cycles. Data collection techniques used was observation and tests. The data were analyzed descriptively. Planning was conducted on the preparation of lesson plans, group formation, preparation of musical instruments, and preparation of the evaluation instrument. The Implementation is done by following syntax STAD method, namely the presentation of theoretical material, train students assemble music, grouping students to work in groups, group performance, evaluation and award. This implementation is observed by the observer, and subsequently reflected together. The results showed that the use of this STAD method can improve achievement and student collaboration from cycle 1 to cycle 2. It is recommended for teachers to be able to use the STAD method if you want to improve collaboration and achievement of the art of music.

Keywords: STAD, cooperation, achievement

1. Introduction

Arts Education as mandated by the Government of the Republic of Indonesia in the Regulation No. 19 of 2005 on National Education Standards are not only present in one subject because the culture itself covers all aspects of life. In the subjects of Arts & Culture, the cultural aspects are not addressed in isolation but integrated with art. Therefore, the subjects of art and culture are essentially a culture-based art education.

Arts education is given in schools because of the uniqueness, meaningfulness, and usefulness for the developmental needs of learners, which lies in the provision of aesthetic experience in the form of expression activity/creativity and appreciates through"learning with art", "learning through the arts" and "learns about art ". This role cannot be provided by other subjects.

Arts and Culture Education and Skills has a role in the formation of a harmonious personal learners to pay attention to the needs of the child's development in achieving multi-intelligence consisting of intrapersonal, interpersonal, visual-spatial, musical, linguistic, mathematical logic, naturalist and adversity intelligence, creativity intelligence, wit spiritual and moral, and emotional intelligence. Arts subjects intended that learners have the following capabilities: (1) Understand the concept and the importance of art and culture; (2) Displays the attitude of appreciation for arts and culture; (3) Displays creativity through arts and culture; (4) Displays the participation in the arts and culture in the local, regional, and global.

The ability to be developed in the art includes the ability to master the vocal, playing musical instruments, and appreciating the art work. Ensemble musical material is aimed for the students to get experience in playing music and organize music ensembles. The success of a group of musical ensemble is determined by two factors, they are individual skills and ability groups. The ability of an individual includes the ability musicality, and interpersonal skills. Musicality is intelligence in the form of one's sensitivity in connecting between the tone and flexibility of the fingers or organs that used to sing or play music. Interpersonal capabilities are include empathy and discipline. Empathy helps a person's ability to understand others, while discipline helps a person to adjust the ensemble group in maintaining the compactness and the balance.

The compactness includes togetherness in starting the song, keeping the tempo, and ends the song. Equilibrium (balance) includes the balance between melody, rhythm, harmony, bass and volume balance between the players, both vocal and instrumental.

Based on these explanations, it appears that cooperation among the players in the ensemble is very strategic. In order to develop this cooperation through learning the art of music, first it is needed to discuss the concept of co-operation in general. Associated with learning, collaboration among students can be either learning together. In this activity, the interaction between the students can be done in communication in various directions. Interactions within a relatively small group psychological are impacting on students' courage and liveliness in the opinion, so that learning becomes more effective.

Rationale of co-operation is thought of Aronson who emphasize that the structure of the award in the classroom should be changed from a setting of unfair competition into the system of equitable cooperation among individuals without changing the existing curriculum [1]. This idea would be very suitable to be applied in the condition of students who tend to compete unfairly, for example when the getting individual tests, many students are cheating. When the evaluation is done in the following learning group, fraud in the group competition tends to be minimized. Students tend to focus on practice and work in groups, and did not think to monitor the progress of the other groups.

In order for joint the learning activities and cooperation among students to work well, it is necessary to determine the procedures for cooperating. This outline can consist of forming a group, set the seat, start cooperation, carry out cooperation, and an end to the cooperation [2]. The magnitude of the group can be determined according to the needs, characteristics of the object being studied, as well as the number of students in a class. If the number of students in a class is relatively small, for example, 10 students, the group that is formed is quite small. Furthermore, associated with the seating arrangement, this can be done flexibly. If the space in the class is relatively narrow, group work can also be done outside of class. Moreover, the cooperation within the group can be started and implemented, and eventually terminated. Overall technical in these components buffer adjusted to the selected innovative learning of syntax.

The cooperation in groups can be associated with the value, so that students cooperation is intensively increase and students can achieve the competence [3]. Related to this, teachers need to emphasize to students that the only value is as a reward, and is not as punishment. Therefore, if there is a group getting a low value, it is assumed that the teachers appreciated the groups with low values, and does not mean the teacher is punishing group.

Based on various studies that have been conducted on the concept of cooperation, it can be concluded that the ability to cooperate in students can be developed through a process of learning in groups. Therefore, in order to develop students' ability to work, teachers can implement this method of work-based learning groups, such as cooperative learning methods. Furthermore, it is needed to discuss the concept of achievement as other effects of the implementation of innovative learning methods.

Discussion of achievement needs to be preceded by the concept of learning in general. According to Winkel, learning is a mental or psychic activity that takes place in an active interaction with the environment of knowledge, understanding, skills, attitudes and values which these changes are relatively consistent and traced [4]. From this Understanding of learning according to Winkel, this is emphasized changes in students. Furthermore, these changes can be measured through the concept of value, which is part of the achievement.

Hamalik stated that the results of learning as a change in a person's behavior can be observed and measured form of knowledge, attitudes and skills [5]. From that sense, it seems that the achievement not only include aspects of knowledge, but also attitudes and skills. Thus, the character of co-operation is also one of the changes in behavior that can be measured.

Furthermore, according to Sudjana, achievement as changes in behavior is covers the areas of cognitive, affective, and psychomotor owned by the students after receiving a learning experience [6]. This notion is relatively the same as Hamalik sense, but there is an emphasis that the changes in behavior as a result of the learning experience. This learning experience is the responsibility of the teacher.

In order to provide a good learning experience, a teacher faced with a problem selecting appropriate teaching methods. One of the basic selection methods of learning is the student's learning style that can include visual, auditory, and kinesthetic. The key to successful implementation of this study was the variation in the use of learning methods. In one class, of course there are students who tend to be stylish visual, auditory, and kinesthetic. Therefore, with varied learning, all characters can be underserved students in the learning.

The fact that encountered in the field indicates different conditions with these ideals. This fact occurs in the art of music lessons in class VIII F SMP 2 Gedangsari, Gunungkidul. Based on the preliminary survey, the students of class VIII F is very enthusiastic in participating in the subjects of musical art. But enthusiasm is not supported by character of good cooperation between students. Students tend to practice on their own, and do not want to teach the other students who have not been able to. When there are individual performances, the other students who do not perform their own are busy practicing for their appearance later, and did not see a friend who was performing. This makes the rowdy atmosphere and ineffective of learning. Student achievement are appeared to be low. From 33 students, only 13 students who completed the KKM of 75, and the remaining 20 did not complete with an average value of 67.9.

The problem occurs when the teachers are teaching with conventional methods and tend to be monotonous. The poor cooperation among potential students on the poor quality of appearance when students are exposed to the game music groups (e.g. ensemble). Thus, the results of student learning have the potential to be bad. Therefore, this issue needs to be addressed by changing the implementation the variety of learning methods. For the purposes of enhancing cooperation and achievement of this musical art, the learning method Student Teams Achievement Division (STAD) is the correct method.

STAD is one type of cooperative learning methods other than Jigsaw, Team Assisted Individualization (TAI), Team Games Tournament (TGT), Group Investigation, and structural methods [7]. Therefore, discussion of the method of STAD this should be preceded by a discussion of cooperative learning methods in general.

Cooperative learning is an instructional model that promotes student-student collaboration to achieve the learning objectives [8]. The characteristics of cooperative learning are: aimed at completing the materials studied by means of cooperative learning in groups, groups are formed based on the ability of high, medium, and low, as well as the award for the success of the group takes precedence over the individual.

As one form of cooperative learning, STAD method also emphasizes the study group. Furthermore, there are five main components in STAD is a class presentation, study groups, quizzes, balanced development, and awards groups [9].

This research adopts STAD method to troubleshoot the problems that occur. Modifications to the STAD method required to be consistent with the learning objectives and characteristics of the subjects of musical art. The steps are taken in the implementation of STAD method becomes: presentation of theoretical material on the ensemble by teachers, exercise together several components of the ensemble (1 recorder, recorder 2, and vocals), the division of the group, exercises in groups, each group performances, and awards.

Therefore, the formulations of the problem in this study were: (1) does the use of STAD method can improve the cooperation within the students of class VIII F? (2) Is the use of STAD method can improve the achievement musical art class VIII F?

2. Research Methods

This study is a Class Action Research (CAR). CAR models used are Chemis and Taggart [10]. The study took place in two cycles. Each cycle conducted three meetings, where the first meeting and the second is used for learning, and the third meeting is used for evaluation. Each cycle consists of the following steps: (1) Planning, (2) implementation of the learning as well as observation, and (3) a reflection of the acts of learning that have been done.

Planning include: preparing the plan (RPP); preparing the text of the song complete with note rec 1, rec 2, and the chord; develop guidelines for the observation process, observation of cooperation, and student performance assessment instruments; prepare supporting musical instruments, like flutes, pianika,

keyboard, and microphone; prepare the gifts as rewards.

The Implementation of learning include: presentation of theoretical material; whole exercise part or component (rec 1, rec 2, and vocals); the formation of groups; division of tasks of each member of the group; exercises in groups; special training students keyboard player; appearance of the group; appraisal; award. As discussed earlier, this implementation follows the syntax STAD method that has been modified. Implementation of the learning effectiveness of the process as well is observed by the observer.

The reflection is done by way of discussion between teachers, observers, and representatives of the students. A reflection is the observation of the learning process, and the evaluation results of cooperation of the students, and the student achievement. The results are used as a decision-making related to the continuation of learning.

The data collected in this study include data processing and data results. The data process collected is the effectiveness of the learning process that includes activity data of the teacher and the student activity data. Both of these data were collected through the observation by the observer. These data serve as an input for analysis and reflection activities, and determine the changes necessary follow-learning, while the results of the data are cooperation data and student achievement. The Data collected by the observation of the teacher and the observer, while the data is the result of learning is done by assessing the performance of the group with indicator of compactness, technique, and harmonization. The data has been collected is analyzed descriptively.

In this study, an indicator of success of action is cooperation of the students and their achievement. Follow-learning has been considered successful if at least 80% of students showed good cooperation with indicators of helping fellow of the group, joined organize and manage groups (participation), and seriousness in the study group. These three indicators are each assessed on a scale of 10, and summed to obtain the cooperation value of each student. Students are considered to indicate good cooperation if it gets above 24. The total value of student achievement are said to fulfill the criteria of success if 90% of students completed the KKM. If not, then the act of learning was considered a failure, and need to be repaired and tested in the next cycle.

3. Research Result

The Implementation of actions is directly impact on the improvement of student the cooperation and their achievement. The increasing in both these variables is visible from cycle 1, and increased again in cycle 2. The description of the second cycle is as follows.

In cycle 1, the cooperation of students has increased qualitatively. The most prominent indicator in this case is helping fellow friends. While quantitatively, the average value of the cooperation of students is 20.5. From 33 students, only 22 people who get the value of co-operation above 24 (the category of being able to work well). The rest still get a value below 24, which means do not work well together.

The achievement of students have increased compared to the previous condition. The average value of the class rose to 78.2 compared to the previous that was 67.9 only. The number of students who scored above 75 (completed the KKM) is 22 persons (2 groups), up from the previous that was 13 people. Seeing both of these, it was decided to continue the learning at 2 cycles.

In cycle 2, the cooperation of students returning increased. All indicators of cooperation are shown by the students. While quantitatively, the average value of the cooperation of students is 27. Out of 33 students, 27 people got (90%) scored above 24 cooperation (the category of being able to work well). The rest still get a value below 24, which means do not work well together. Thus, the cooperation rates of the students have achieved the expected target.

The student achievement in cycle 2 also increased compared to the cycle 1. The average value of the class rose to 83.1 compared to previously that was only 78.2. The number of students who scored above 75 (completed the KKM) is 33 people (3 groups), up from the previous 22 people. This has exceeded the target that was expected. Seeing both of these, it was decided to stop the action.

4. Conclusions and Recommendations

Based on the research results, it was concluded that the use of STAD method can improve learning effectiveness and impacted to the student cooperation and achievement of the art of music. Furthermore, the result of research into the answer to the second formulation of the problem as follows: (1) The use of STAD method can improve the cooperation within the students of class VIII F; (2) The use of STAD method can improve achievement musical art class VIII F.

Conclusions research became the basis of the suggestions made research, as follows: (1) For students are advised to work well, especially in materials of playing music in groups (such as ensemble) that produced more quality music, and learn to be a good result; (2) For Teachers are encouraged to use the STAD method if you want to improve student cooperation and achievement especially in the subjects of art music.

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MAINTAINING INTEGRITY IN LANGUAGE POWER AND STYLE-BASED COMMUNICATION AS SEEN IN MASS MEDIA COMMUNICATIONS (JOURNALISM) CLASS *) 1)

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Abstract

Striving to maintain the quality of being whole and complete as one of those research ethical standards to achieve is in line with approving the use of intra-lingual and extra-lingual components as the signs of the students' politeness strategies to have appropriate communication. It is, indeed, of concern to the action research functioning to brush up on the students' writing skills. The focus is on the student's implementation of those linguistic components as seen in their work assigned in Mass Media Communication (Journalism) class of the English Language Education Study Program of Sanata Dharma University Yogyakarta. Not only does the discussion engage with the course objectives such as being able to make use of the language of news and the nature of investigative report, but it also involves the burning question of how politeness strategies portray such an appropriate application of the two linguistic components. Analysing the students work is, thus, an unavoidable method to use. This (action) research paper is also grounded on the Indonesian indigenous wisdom *andhom slamet* of *Katresnanisme* theory, contextualizing the students with the pro-active spirit of cultural pluralism as the nature of International journalism.

Keywords: ethical standards, language power and style, communication, *Katresnanism*.

1. Introduction

Mentioning two principle categories of action research, namely, descriptive research and quasi experimental research, Richard Sagor says that the actions a researcher has decided to take (his or her hypothesis) are not always working as he or she had hoped (2005:xi). This is comparable to the answer to whether or not striving to maintain the quality of being whole and complete as one of those research ethical standards to achieve is in line with approving the use of intra-lingual and extra-lingual components as the signs of the students' politeness strategies to have appropriate communication.

Maintaining the quality of being whole and complete as one of those research ethical standards to achieve is not only functioning as the thesis of this paper, but it is also highlighting the concrete implementation of the theory used in this very action research: by making use of intra-lingual and extra-lingual components the students will be prevented from having inappropriate communication. The key term is, therefore, having something to do with the so-called politeness.

As the end goal is to brush up on the students' writing skills, the primary data are their written work.

The focus is on their implementation of those linguistic components as seen in their work assigned in Mass Media Communication (Journalism) class of the English Language Education Study Program of Sanata Dharma University Yogyakarta. Not only does the discussion engage with the course objectives such as being able to make use of the language of news and the nature of investigative report, but it also involves the burning question of how politeness strategies portray such an appropriate application of the two linguistic components. Analysing the students work is, thus, an unavoidable method to use.

This (action) research paper is also grounded on the Indonesian indigenous wisdom *andhom slamet* of *Katresnanisme* theory, contextualizing the students with the pro-active spirit of cultural pluralism as the nature of International journalism.

Literary critics and linguists have directly and indirectly given their opinions especially when following the nature of texts. On the one hand those critics depict their arguments based on the theory of criticism [Common sense-New

Historicism], the linguists, on the other hand, make use of their linguistic knowledge [from that of the mainstreams up to socio-psycho linguistic aspects].

This research is, however, not only meant to highlight the arguments of those experts, but it also points out that we cannot forget to talk about critical approach, linguistic knowledge, and those dealing with socio-cultural, interactional, and strategic competence.

The expected list would be, therefore, comprising of writing the results of those procedures and analysing the data obtained. This is precisely the nature of this study: to uncover Language Power and Style-Based Communication with the focus on the so-called Politeness Strategies by making use of Indonesian indigenous wisdom of *Katresnanism* .

The data is taken from the students' final paper (for their term paper) in many different content courses, but in this paper the work is focused on those of MMC-Journalism [Mass Media Communication] class of the English Language Education Study Program of Sanata Dharma University Yogyakarta.

The questions of the study may, thus, be formulated as "How do the students make use of the intra-lingual and extra-lingual components as the signs of their politeness strategies?" and "How do they use their ideas to advance and develop their thesis as demanded by MMC class?"

Not only does the discussion engage with the course objectives such as being able to make use of the language of news and the nature of investigative report, but it also involves in exposing the nature of scientific paper writing and that of the language (power and) style-based communication. This research paper is grounded on the Indonesian indigenous wisdom *andhom-slamet* of *Katresnanism* theory (Herujiyanto, 2006, pp. 125-138), contextualizing the students with the spirit of positive thinking in the process of writing a scientific paper for their final test.

2. Method

Collecting the data, [the students' midterm test (01-11/04/2014) (Semester Vl & VIII), the final one (18-28/12.2014), and their latest assignments (January-March 2015)], categorizing and analysing them in accordance to the spirit of Katresnanism "andhom- slamet".

The findings deal with whether or not the politeness strategies as reflected in their papers have something to do with intra-lingual and extra-lingual components and whether or not they used their ideas to advance and develop their thesis. Indirectly, the minimum requirement for a paper to be able to be published in a scientific journal is met.

Katresnanism approach

Andhom slamet is one the *aos* [cores] of *Katresnanism* theory, accommodating the sincere actions of PROVIDING OTHERS WITH concrete actions [altruistically participating] in order to encourage and see that one action would lead to another related action endlessly. All those actions [as seen in the analysis/ discussion] are basically to motivate and create the accomodating the better situation of learning-teaching process.

The spirit of giving and offering (Antonius Herujiyanto, 2006, pp. 125-138).

The word a*ndhom slamet* deals with one of those basic concepts of intercultural communication in *Katresnanism* wisdom ["Katresnan Criticism: The Nature And Who Does It", in LLT Journal, 2nd ed., vol. 9 (2), pp. 125-138, August 2006.].

It can be defined as those actions exercising "altruistic acts reminding each of us as mentioned in the background of this study: critical approach, linguistic knowledge, and those dealing with socio-cultural, interactional, and strategic competence are all closely related with and to Language Power and Style-Based Communication."

A*ndhom slamet*: the making of *nyengkuyung* [the spirit of doing a favour altruistically] and all other "cores" of *Katresnanism* school of thought.

3. Analysis/ Discussion

Besides the andhom- slamet with one of those basic concepts of intercultural communication in *Katresnanism* wisdom, the discussion of the students' work fuctions to highlight their understanding of the language power and style that deal with the politeness markers in communicative language.

This can be easily identified [intralinguistically] and/ or should be regarded within the context [extralinguistically] in the sense of having to make use of certain tools to interprete them.

Implementing the andhom- slamet of intralinguistic elements and extralinguistic elements would, therefore, produce the ideal communication within the society in question.

Thye following the students' original work and its correction:

[AH07_090215]:

Groups of Indonesian Muslims staged a rally in front of Chinese Consulate General in Medan, North Sumatra on Friday afternoon (06 February). They protested against the Chinese government's decision to let violence and intimidation against Chinese Muslims take place in Uyghur, China.

It is edited into:

Groups of Indonesian Muslims staged a rally in front of the Chinese consulate in Medan, North Sumatra on Friday [6 February]. They protested against the Chinese government's decision to let violence and intimidation take place against Chinese Muslims in Uighur, China [reference to Xinjiang Uighur autonomous region].

[AH12_120215]:

\The sixth Congress of Indonesian Muslims (KUII) in Yogyakarta has been completed with the so-called Yogyakarta Treatise.

It is edited into:

The sixth Congress of Indonesian Muslims (KUII) in Yogyakarta has concluded with the declaration of the so-called Yogyakarta Treatise.

The following is the other examples of the students' work and its edited result:

It consists of seven items calling on Indonesian Muslims to unite, guarding and developing NKRI [the Unitary Republic of Indonesia] based on the true Islamic teachings (of Sunnis or ahlus sunah wal ajama'ah) as follows:	It consists of seven items calling on Indonesian Muslims to unite, guard and develop the NKRI [the Unitary Republic of Indonesia] based on true Islamic teachings (of Sunnis) as follows:
To urge the Indonesian government and the National political institutions to prosper the people spiritually and economically. To call on the government to make use of Sharia economy and the natural resources to prosper the people especially those categorized as low class society. To remind Indonesian Muslims to unite to empower themselves in the political, economic, social and cultural fields through Islamic organizations, mosques, and pesantren [Islamic boarding schools]. They should also increase the women's roles in the world of economy; encourage the government to keep on having the pro-the people policies	To urge the Indonesian government and national political institutions to help in the prosperity of the people spiritually and economically. To call on the government to make use of the shari'ah economy and natural resources to help the people prosper, especially those categorized as low-class society. To remind Indonesian Muslims to unite to empower themselves in the political, economic, social and cultural fields through Islamic organizations, mosques, and pesantren [Islamic boarding schools]. They should also increase women's roles in economy, encourage the government to continue pro-people policies.

To call on the government and all Indonesian people to avoid those cultures and values that are not Islamic and to firmly and consistently establish law enforcement. To be concerned with the present situation, urging the government to make sure that the so-called Islamic and Indonesian values are well revived and guarded in the country. To call on all countries all over the world to protect their people who are Muslims instead of discriminating them. The congress also urges the Indonesian government and Indonesian people to provide those suffering Muslims with all aids based on the spirit of both Islamic brotherhood and humanity.	To call on the government and all Indonesian people to avoid those cultures and values that are not Islamic and to firmly and consistently establish law-enforcement. To be concerned with the present situation, urge the government to make sure that the so-called Islamic and Indonesian values are well-revived and guarded in the country. To call on all countries all over the world to protect Muslims instead of discriminating against them. The Congress also urges the Indonesian government and Indonesian people to provide those suffering Muslims with all aid based on the spirit of both Islamic brotherhood and humanity.

General chair of the Indonesian Hizbut Tahrir [HTI], Muhammad Rahmat Kurnia, has said about two important things for Indonesian Muslims in getting involved in political world. First, to be the defence of the people; and second, to establish Islamic Sharia. The statement was stated during a discussion session taking place in the Commission of Strengthening the Political Roles of the sixth Indonesian Muslims Congress (KUII) in Yogyakarta [08-11 February]. "There are two important things for Indonesian Muslims to remember, namely, to be the defence of the people and to establish Islamic Sharia," he said during the congress on Tuesday (10 February). According to him, being firm and decisive in implementing the true Islamic teachings, the [Indonesian] Muslims will not be politically ignored. "In short, we deal with 'ri'ayatu syuunil ummah bil ahkami asysyar'iyyah al-islamiyyah' (taking care	The general chair of the Indonesian Hizbut Tahrir [HTI] has made some important remarks about Indonesian Muslims getting involved in political developments. The first is to act as the defence of the people and second, to establish Islamic shar'iah [Islamic rule]. The statement was made at a discussion during the sixth Indonesian Muslims Congress in Yogyakarta [from 8-11 February]. There are two important things for Indonesian Muslims to remember: namely, to be the defence of the people and to establish Islamic shari'ah, he said during the Congress on Tuesday [10 February]. According to him, Indonesian Muslims will not be politically ignored if they are firm and decisive about implementing the true teachings of Islam. In short, we deal with "ri'ayatu syuunil ummah bil ahkami asysyar'iyyah al-islamiyyah" (taking care of the people based on Islamic shari'ah), he said, adding that guarding the people would increase the

for the people based on Islamic Sharia)," he said, adding that guarding the people unity was to increase the political roles of Muslims in the country. Pointing out that having different ideas ending up with having no agreement among Muslims was only natural, he reminded that all Muslims fighting for the establishment of Sharia and khilafah would remain the members of the same one family. "It would be weird for us to be friendly with the infidels if we are hostile to other Muslims," he said.	political role of Muslims in the country. Pointing out that having different ideas is only natural, he said that all Muslims fighting for the establishment of shari'ah and khilafah would remain members of the same family. It would be weird for us to be friendly with infidels if we are hostile to other Muslims, he said.

Chair of Indonesian Hizbut Tahrir [HTI], Yahya Abdurrahman, has criticized Vice President Yusuf Kalla for having said that Islam in Indonesia is moderate with a different cultural background. Kalla's statement was said during his opening speech of the 6th Congress of Indonesian Muslims held in Yogyakarta on Monday [09 February]. According to Yahya, the so-called moderate and tolerant Islam is the "Islam" willingly dictated by the Infidel West. "Islam is Islam with no what so ever limitation, or rather, attributes; and certainly not those attributes created by the very infidels with their obvious hostility to Islam and Muslims," he wrote in his email to mediaumat.com on Wednesday (11 February). Pointing out that there is only one Islam, he insisted that there were no other references for Islam but [except for the--mine] Koran and "Sunnah" [religious and political practice of Prophet Muhammad].	The chair of Indonesian Hizbut Tahrir [HTI], Yahya Abdurrahman, has criticized Vice-President Yusuf Kalla for saying that Islam in Indonesia is moderate with a different cultural background. Kalla's statement was made during his opening speech at the sixth Congress of Indonesian Muslims held in Yogyakarta on Monday [9 February]. According to Yahya, the so-called moderate and tolerant Islam is the Islam willingly dictated by the infidel West. Islam is Islam with no limitations whatsoever or rather attributes and it certainly does not have those attributes which are created by the infidels with their obvious hostility to Islam and Muslims, he wrote in his email to mediaumat.com on Wednesday [11 February]. Pointing out that there is only one Islam, he insisted that there were no other references for Islam except for the Koran and "Sunnah" [the way of life prescribed for Muslims on the basis of the teachings and practices of Prophet Muhammad].

An Islamic preacher from Papua province, cleric Fadhlan Garamathan, has said that Islamic teenagers should stay away and prevent themselves from getting involved in any activities dealing with Valentine's Day. "It is a misleading culture portraying those being imprisoned and not guaranteed to be able to go to heaven but enforcing other people to follow them," the cleric said after attending the closing ceremony of the Sixth Congress of Indonesian Muslims in Yogyakarta on Wednesday (11 February). According to him, there is no other guide but Islamic Sharia.	An Islamic preacher from Papua Province, cleric Fadhlan Garamathan, has said that Muslim teenagers should avoid getting involved in any activities related to Valentine's Day. "It is a misleading cultural practice of people who are enslaved and not guaranteed to go to heaven, but who try to impose this practice on others," the cleric said after attending the closing ceremony of the Sixth Congress of Indonesian Muslims in Yogyakarta on Wednesday 11 February. According to him, there is no guide but shari'ah.

"Those activities of Valentine's Day have deceived Muslim youth into having no guaranteed ends including the meaning of them all," said the cleric who is also the chair Al-Fatih Kaffah Nusantara. He also said that Muslim youth should have adored Prophet Muhammad, instead of Valentine. "As the majority of Indonesian people are Muslims, the government may issue a decree banning the people from celebrating Valentine's Day, an activity against Islamic faith," cleric Fadhlan said, adding that the government had banned Ahmadiyah [2008] while celebrating Valentine's Day was not different from those conducted by the Achmadis. [The 2008 joint ministerial decree signed by the Religious Affairs Ministry, the Attorney General's Office and the Home Ministry warns and orders all Ahmadiyah followers to stop their (religious) activities.]	"Valentine's Day activities have misled Muslim youth into pursuing no definite ends, including that of seeking the meaning of everything," said the cleric, who is also the chairman of the Al-Fatih Kaffah Nusantara. He said that Muslim youth should adore Prophet Muhammad instead of their Valentine. "As the majority of Indonesian people are Muslims, the government must issue a decree banning Valentine's Day celebrations, as they are an activity against the Islamic faith," Garamathan said, adding that while the government had banned the Ahmadiyah community, celebrating Valentine's Day was no different from being a member of the Ahmadiyah community. [A 2008 joint decree signed by the Religious Affairs Ministry, Attorney-General's Office and Home Ministry orders all Ahmadiyahs to stop their religious activities.]

4. Note and Final Remarks

1. This reasearch is one of the responses to the demand of the Indonesian Directorate General of Higher Education and Culture Ministry stated in its decree No. 152/D/T/2012, dated on 27 January 2012: one of the requirements to obtain undergraduate degree is for the student to have

produced a paper published in a scientific journal.

2. Additional Method & Class Activities

First, the students were divided into small group of three. Then they discussed their understanding on the nature of the class [and the primary data and scientific paper writing].

Exchanging their first draft of their paper.

The students' second draft paper was consulted with their lecturer. The consultation was mainly dealing with their understanding of the materials discussed. This is followed by submitting their final scientific writing papers.

3.On Developing Ideas: Based on the analysis, it is found out that those using documentation are 75 % [4 -12 groups depending the numbers of the students in a class]; analyzing, discussing, and debating ideas: 65 % [3-10 groups]; acquainting them with a cross section of materials: 65 % [3-10 groups]; engaging them in critical, not creative, reading and writing: 75 % [4 -12 groups depending the numbers of the students in a class].

Not only has the approach helped the students feel relaxed in following the activities conducted in the class, but they have also deepened and developed their research paper writing skill.

This paper also shows that the objectives of the course(s) such as understanding the nature of journalism and creative-feature writing; becoming familiar with cross cultural multidimensionality and world cultures may be achieved mainly through written activities.

Implementing and establishing "andhom-slamet" principles have, indeed, helped the students better understand the meaning of critical approaches, linguistic knowledge, and those dealing with socio-cultural, interactional, and strategic competence. They also experience brushing up on their scientific writing skills.

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THE EFFECTIVENESS OF PRE-SERVICE TEACHERS TRAINING MODEL BASED ON PEDAGOGICAL CONTENT KNOWLEDGE AND COLLABORATIVE LEARNING TO IMPROVE KNOWLEDGE OF CHEMISTRY CURRICULUM IN VOCATIONAL CONTEXT

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Abstract

The Pre-service teacher training model cannot be separated from two things; content and strategy of training. The content should be suited with the preservice chemistry teachers needs in vocational schools to improve their professionalisms, such as, curriculum knowledge, chemistry in vocational context and PCK. Related to the appliedstrategy, improvement of skills to teach chemistry will be more effective if it was given by the concrete experiences obtained from the continuous and comprehensive examples and practices. This article will specifically study about the effectiveness of pre-service training model based on PCK-CL to improve knowledge ofchemistry curriculum and chemistry in automotive vocational context. The research design was *pretest -posttest control group design*. There were 36 students in experiment class and 23 students in control class as the subject of the research. The learning in the experiment class implemented pre-service teachers training model based on PCK-CL, conducted in five stages, while in the control class implemented the lecture and class discussion methods. The result showed that the implementation of pre-service teachers training model based on PCK-CL is effective to improve knowledge of chemistry curriculum and chemistry in vocational context. Two factors supporting the effectiveness of models implementation are the relevance of the pre-service training contents and collaborative learning that providing the chance for preservice chemistry teachers to develop their reasoning in constructing knowledge. The main obstacle in implementing the pre-service training models is related to the group effectiveness and time management.

Keywords: pre-service training models, PCK, collaborative learning, pre-service chemistry teacher, curriculum knowledge, chemistry in vocational context

1. Introduction

There were many factors affecting the quality of chemistry education. High quality education will be obtained through the in-class learning process conducted by the teachers who are professional and highly committed to the quality. Some studies showed that the teachers' quality became the most important factor contributed in the learning success, so that it is considered as the most important factor determining the quality of chemistry education [3,19,24,26]. Being a professional teacher is a long and difficult process. Therefore, the effort to improve the quality of the chemistry teachers has to be started from improving the education quality taken by the preservice teacherss. The chemistry preservice teacherss should be trained in order to reach the expected competences to be the professional teachers in the future.

Ideally, the learning for preservice teachers is based on the professional learning concept which emphasize on the steady and continuous preparation using some assessment types and tools, also the suitability of the learning with its purposes and contents and the candidates' needs related to the curriculum demand [9,14,24]. Whereas, NRC [24]states that the learning given to the preservice teachers would be better if it emphasized on the correct way of learning, such as digging for knowledge, searching for information, referring to the literature, conducting experiments in the correct way, inferencing, interpreting, extrapolating or intrapolating and communicating so that it will be their pleasure, needs, and way of life. Therefore, the training models for the preservice teachers could not be separated from two things, they are the debriefing contents and strategies will be implemented.

The contents should be suited to the preservice teacherss' needs to improve their professionalism.

One of those is a good mastering to the chemistry contents and knowledge about the chemistry curriculum [12,28]. Related to the content knowledge, Hiebert et. al [16] divides the teachers' basic knowledge to two types, they are professional (theoretical) and practitioner (practice) knowledge. Theoretical knowledge is knowledge about facts, concepts, principles and theories of chemistry built from the scientific generalization. Practical knowledge is a knowledge that is real life, contextual, detailed and integrated with some specific practices. The practical knowledge is developed based on the results of research on chemistry learning. It requires the development of practical knowledge in the teachers' ability to integrate their theoretical knowledge, experiences and confidence to determine the specific content. In other words, the chemistry preservice teacherss are not only required to have a good knowledge of the basic concepts of chemistry but also must have knowledge of chemical enrichment in accordance with the needs of students in the secondary schools, anticipating the possibility of miss-concepts, students' learning difficulties or even being able to be creative in the knowledge to encourage students' interest in learning. This indicates the need for change in the education curriculum for the preservice teacherss who provide higher science level training to prepare them to be able to teach chemistry accurately with a broad knowledge base [25].

The preparation of chemistry preservice teachers in the vocational school appropriate to the needs is required because of the existence of several different specialized professional abilities that must be owned by the chemistry teachers in the general and vocational schools. This is related to the characteristics of the chemistry material which is being taught, chemistry learning objectives and the characteristics of vocational and general education programs [2,11,19]. Learning content in the vocational schools should be developed in accordance with the vocational context. The importance of context in designing the chemistry teaching in vocational schools is in line with the results of Faraday et al. [10]. The research results conclude that learning in vocational education is not essentially different from other educational settings, except in one aspect, the context. This context is the integration of vocational nature of the subject, the circumstances in which learning takes place, purpose and desired outcome that is tailored to the specifics of vocational qualifications, the nature of the student and how the student's learning style.

In addition, the chemistry preservice teacherss should have pedagogical knowledge that can be implemented correctly at the specific chemical contents. Shulman [28] introduces it as a Pedagogical Content Knowledge (PCK) to develop professionalism by introducing new forms of teacher knowledge that integrates the content and pedagogical knowledge. This knowledge consists of seven categories. Three of them are related to the contents, and the rest four are related to the general pedagogy, students and their characteristics, educational contexts and purposes. Related to the representation of PCK, Loughran et. al. [21] introduces it in two forms of documents, they are Content Representation (CoRe) and the Pedagogical and Professional experience Repertoire (PaP-eR). Some studies show that the PCK training for teachers and preservice teacherss through the development of CoRe and PaP-eR it can improve the ability of teachers to do some innovation when teaching, increase understanding of the content and curriculum, knowledge about students and learning strategies as well as being a powerful way to develop PCK for the chemistry preservice teacherss [5,7,17,21].

The content of chemistry needed for vocational students is different from the Automotive Engineering and Textile Technology vocational students, more over with the vocational students of Agricultural Agribusiness Production. For example, the content of organic chemistry, the vocational Automotive Engineering students need more enrichment for the content of petroleum fractionation, while for the Agricultural Agribusiness Production expertise more emphasizes on carbon compounds for organic herbicide, while for Textile Technology expertise needs more emphasize on surfactant materials for textiles. In order to solve those matters, it needs a development in learning which is using context as the starting point to expand the chemistry preservice teacherss' understanding about the content of chemistry that is applicable to the vocational students. The training of specific content aspects, based on the context where the contents taught are important for the preservice teachers, since most of the teachers have some limitations in transferring the contents caused by the low mastering on the contents [18,22].

On the other hand, related to the strategy implemented, the skills debriefing to teach chemistry will be more effective if it is completed by the concrete experience obtained through continuous and comprehensive examples and exercises. In addition, learning for chemistry preservice teachers should provides opportunities for preservice teacherss to develop their ability to take critical decisions related to the aspects of learning as the teacher's role as the main controller of learning. Professional development of teachers will give better results in developing teachers' knowledge if the learners focus on collaboration learningamong them [9,14,16].

Collaborative Learning (CL) provides the opportunity for the preservice teacherss to think about themselves, compares theirs to the others', conducts a small research project, investigates the

subject materials among the students, and to practice the use of high-level thinking skills. It can provide activities that encourage the preservice teacherss to face the logic of their own thoughts, beliefs and accuracy of a preliminary understanding of learning, practicing high-level thinking skills and creative knowledge [4,23]. The activities in CL are very broad but it is more student-centered on students' exploration or application over the learning materials. Therefore, CL becomes an alternative approach in debriefing the preservice teacherss about content knowledge which emphasizes on the activities and familiarizes the preservice teacherss in establishing a learning community.

CL approach covers a wide area of approach with a variety of how the groups are established, the model which is developed, ranging from the class discussions interspersed by the short lessons, through the whole period of the class, and to study in the research team. The purpose and process of CL are also varied. Designed in small groups working in the specific sequential steps or strictly structured tasks or prepare a more spontaneous agenda which is the development of student's interests or the questions. Or else, the task of being creative in the product description clearly, a practice to answer any work or involve the analysis and creation of the meaning [1,4]. The implementation of CL in the debriefing for teachers and preservice teachers has been conducted by several researchers at various stages of debriefing methods. Coenders [7] implements the case study method and cooperative learning. Hume and Berry [17] implements a collaborative approach to the discussion stages, starts discussions in small group and large group, and ends with the independent tasks. Meanwhile, Zhang, et al. [30] tries to implement the CL approach to problem-based learning. This article will specifically examine the effectiveness of the implementation of the pre-service teachers (preset) training models based on PCK-CL in improving curriculum knowledge and knowledge of chemistry in Automotive Engineering vocational context for preservice chemistry teachers.

2. Research method

2.1 Research Design and Subject

The research design used is *pretest-posttest control group design.* The subject of the research is 36 students in the experiment class and 23 students in the control class. The research was conducted on the Chemistry Course in Vocational School on the Odd Semester of the academic year of 2014/2015.

2.2 Setting of the Learning.

Learning in the experiment class implemented the preset training models based on PCK-CL in five stages. The first stage was a collaborative learning through small group discussions with the structured task of arranging the content of chemistry which was being taught. The second stage is a collaborative learning through small group discussions with tasks involving analysis and meaning (the selection of chemical content in the context of vocational). The third stage is the collaborative learning through problem-based learning with a well-defined problem for petroleum and polymer content in the automotive field. The fourth stage is the collaborative learning through small group discussions to discuss and explore the understanding of the preservice teacherss about PCK. The fifth stage is the assignment for creating the chemistry CoRe and PaP-eR paper based on the vocational context. Learning in the control class implements the learning strategies lectures and discussions.

2.3 Research Instruments

There were two instruments that are used for research data collection given in the experiment and the control class. First, the instrument to collect the data in mastering curriculum knowledge was in the form of essay or five questions. The second instrument to collect the data of chemistry content knowledge in vocational context was in the form of a multiple choice test of 35 questions. The test covers basic concepts content of petroleum, the applications of petroleum in the automotive field, the basic concepts of polymer and polymer applications in the automotive field.

Instrument validation was done theoretically through expert judgment by seven chemists and chemistry education experts while the empirical validation was done by trying out instruments outside the sample. The results of reliability analysis showed that the tests of curriculum knowledge had a Cronbach's alpha correlation of 0.701 and 0.878 for the test of chemical content knowledge of vocational context. It can be concluded that both are valid and reliable tests that can be used as an instrument of research data collection.

2.4 Data Analysis Technique

The first data analysis technique used in this research was the normalized gain calculation, as follows:

$$< g >= \frac{posttest\ score - \ pretest\ score}{\text{maximum score} - \ pretest\text{ score}}$$

Hake, [15].

Then, there was an analysis of t-test difference test using SPSS 21 program over the n-gain of experiment and control classes.

3. Results and discussion

3.1 Chemistry Preservice teachers' Curriculum Knowledge

Based on the results of data analysis, it is concluded that the chemistry preservice teachers'

curriculum knowledge in the experiment class has increased by a mean of n-gain of 0,523. It means that, most of the candidates have increased scores in their curriculum knowledge at medium improvement criteria. Figure 1 presents the complete distribution of the increase in curriculum knowledge of preservice teachers both in the experiment and control class. The highest percentage (58.33%) with n-gain on the medium and smallest criteria (8.33%) with n-gain on the fixed criteria. There were 22.22% of the preservice teacherss having an increased n-gain in the high criteria and the remaining of 11.11% had an increase in the low criteria.

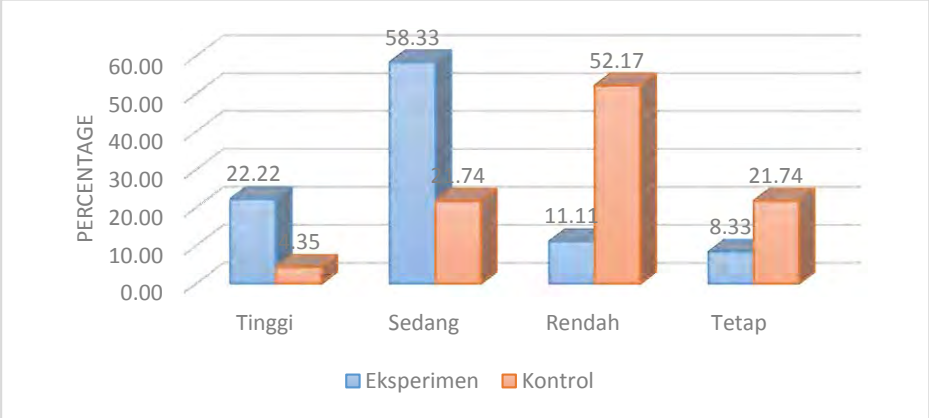

Figure 1. n-gain percentages of curriculum knowledge

The results of the data analysis on the control class also showed an increase in n-gain with an average of 0.179. The increased curriculum knowledge of chemistry preservice teacherss is included in the low criteria. Most of the chemistry preservice teacherss in the control group had an n-gain increase in the low criteria of 52.17%. The percentage of n-gain increase in the medium criteria is at 21.74% and there were only 4.35% of the preservice teacherss who have increased in high criteria. The remaining, 21.74% of the chemistry preservice teacherss did not have any increase in their curriculum knowledge after attending the course. Furthermore, the normality tests were conducted as the requirement of t-test for n-gain data of the experiment and control classes. Based on the analysis in Table 1, it shows that the significance of Kolmogorov-Smirnov test for the experiment class is 0.194 and 0.054 for the control class. It can be concluded that the n-gain data of both classes have a normal distribution. Table 2 shows the results of t-test with t-calculation of 6,100 at the significance of 0,00 which means that there are some differences in the curriculum knowledge of the preservice teachers in the experiment and control classes.

Table 1. Results of n-gain normality tests of curriculum knowledge

	Group	Kolmogorov-Smirnova			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	Df	Sig.
Ngain	Experiment	.122	36	.194	.939	36	.048
	Control	.179	23	.054	.860	23	.004

Tabel 2. Results of *t-test* of Curriculum knowledge

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Ngain	Equal variances assumed	1.698	.198	5.775	57	.000	.34321	.05943	.22421	.46220
	Equal variances not assumed			6.100	54.623	.000	.34321	.05626	.23043	.45598

3.2 Chemistry in vocational context knowledge of the chemistry preservice teachers

The data of analysis results of vocational context chemistry knowledge shows that in the experiment class obtained the n-gain average of 0.362 and an average of 0.083 for n-gain of the control class. The chemistry knowledge of preservice teachers' in the experiment class has increased into the medium criteria, whereas the control class increased into the low criteria. Figure 2 presents a detailed comparison of the distribution of the n-gain percentage in the experiment and the control classes. Most of the preservice teachers in the experiment class (58.33%) have increased their knowledge of chemistry into the medium criteria, whereas in the control class into the low criteria (52.17%). In the experiment class, the increase of the chemistry knowledge of the preservice teacherss which is in the high criteria is in the second position with a percentage of 22.22%, whereas in the control class is only 4.35% (low). The increase of n-gain into the medium criteria for the control class is at 2 l7 4 %In the experiment class, there are 11.11% of the preservice teachers who have their n-gain in the low improvement criteria. In addition, the results of data analysis also showed the preservice teacherss who did not experience any increase in their n-gain, which means that the beginning of the preservice teachers' knowledge about the vocational context chemistry is same with the final knowledge after attending the course. The percentage of the preservice teacherss with fixed n-gain criteria consecutively for the experiment and the control class is at 8.33% and 21.74%.

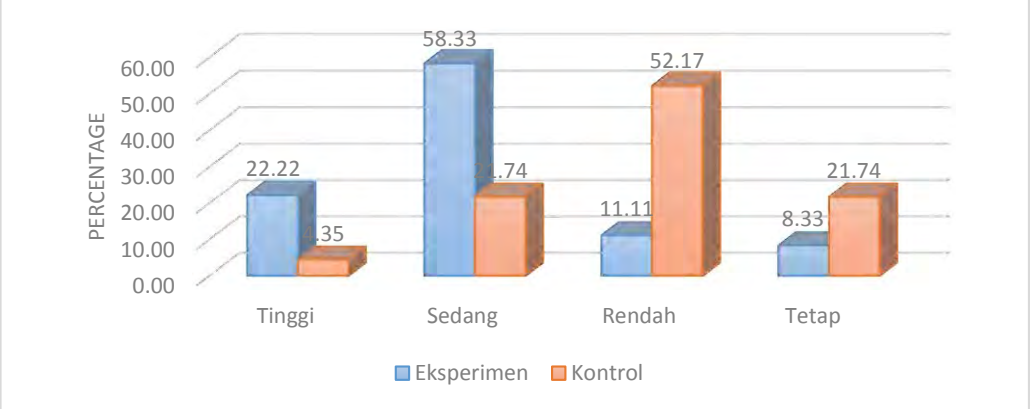

Figure 2. N-gain percentage of the vocational context chemistry knowledge

The following results of the research are normality test results and the difference test of the n-gain of chemistry knowledge in experiment and control classes. Based on the analysis in Table 3, it can be concluded that with the Kolmogorov-Smirnov test, n-gain data of the experiment class is normally distributed (significance of 0.151). Meanwhile, for the n-gain data of control class is not normal (significance of 0.02). Therefore, the difference test to determine whether there is any difference in the increase of chemistry knowledge of the experiment and control classes were analyzed with the *Mann Whitney U* test. The results of difference test analysis as presented in Table 4, show that the significance of *Mann Whitney U* test results was 0.00. Thus, we can conclude that the null hypothesis is rejected, which means that there is a difference between n-gain of vocational context chemistry knowledge between the experiment and the control classes.

Table 3. Results of n-gain normality tests of vocational context chemistry knowledge

	Group	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Ngain	Experiment	.127	36	.151	.969	36	.396
	Control	.197	23	.020	.821	23	.001

Table 4. Results of Mann-Whitney U test of vocational context chemistry knowledge

	Ngain
Mann-Whitney U	72.000
Wilcoxon W	348.000
Z	-5.317
Asymp. Sig. (2-tailed)	.000

3.3 The effectiveness of pre-service teachers training models based on PCK-CL to improve knowledge of chemistry curriculum andchemistry contentin vocational context

The results showed that implementation of the pre-service teachers training models based on PCK-CLis effective in increasing the curriculum knowledge and chemistrycontent invocational context for the chemistry preservice teachers. The implemented preset training models are comprehensive in the effort to improve the preservice teachers' understanding about the curriculum and chemistry in vocational context. In the implementation of these models, in the early stages, the preservice teachers are involved in collaborative activities to analyze the structure of the vocational school curriculum and basic competence in various fields of chemistry and vocational schools integrate the basic chemistry competence with basic vocational competence. The direct experience in understanding the curriculum documents played its important role for the chemistry preservice teachers to understand the characteristics of the curriculum in vocational schools, both in general and specifically related to the chemistry curriculum. Furthermore, in the final stage, the preservice teacherss collaborate in small groups to explore the idea of PCK and practice preparing CoRe documents and PaP-eRs chemical content suited with the vocational context. Thorough curriculum content training starts from reviewing the curriculum document, analyze, integrate and determine the chemistry content suited with the vocational context and followed by the arranging practices of learning documents design for the specific and applicative chemistry content in the automotive field which is able to improve the knowledge of preservice teachers in vocational schools chemistry curriculum. Likewise, the preservice teachers' knowledge about the chemistry in vocational context(automotive engineering) that has increased significantly because it is supported by the chemistry content enrichment applicable to the automotive field. The effectiveness of this implementation of pre-service teachers training models based on PCK-CLis caused by several factors which are the advantages of the model implemented and will be described in the following exposure.

Training Strategy Factor. The implemented collaborative learning is more effective in improving preservice teachers' knowledge than the learning using lectures. It is consistent with results of previous studies which concluded that collaborative learning for the preservice teachers make learning more meaningful, increase knowledge retention, increase understanding of the curriculum and the ability to prepare a lesson plan, develop the ability of self-reflection and achieve good mastering in the concept of science and science process [5,6,13,29,30]. Collaborative learning is an instructional strategy that is based on the activity of preservice teachers students. In collaborative learning, each student interacts in small groups to help each other and learn from each other to achieve a common goal. The activities in collaborative learning emphasize on student activities in exploring or developing the implementation of learning materials by developing the reasoning, practice the use of high-level thinking skills and be creative to their knowledge [4,23]. Constructivism paradigm supports the results of this study in which knowledge is constructed by the preservice teacherss will improve understanding and retention of knowledge they have better. By collaborating in groups, they exchange their ideas each other with their peers in order to broaden as well as to correct the initial understanding possessed. Meanwhile, the results of Saunders' research [27] conclude that the collaborative becomes the attention of the most important factors in the success of the professional development program of vocational school teachers. Furthermore, Zhang et. al [30] the results of the research concludes that the two most important aspects in supporting the effectiveness of collaborative learning is the ability to ask questions and express aspects of the idea. Therefore, it can be stated the importance of professional development of chemistry teachers and chemistry preservice teachers

through collaborative learning in a learning community.

Training Contents Factor. The appropriate selection of the debriefing content gives a positive impact on the effectiveness of the implementedmodel. The content provided directly related to the knowledge base that must be owned by the preservice teacherss, the curriculum and the knowledge content (subject matter) as well as pedagogical content knowledge. The debriefing contents are relevant to the needs of the pre-service teachers. This is in accordance with the law of relevance, where the effective learning for adults (including the pre-service teachers) is the learning that is relevant to the life and work will be entered [8]. The use of stimulus linking learning situations with the workplaces increases the positive response from the preservice teachers. The activity of analyzing basic competencies, determining the content that will be taught and developing it in the form of learning design are the definite activities and should be done by the teacher in the workplace. With the training similar to the situation in the future will foster the preservice teachers' motivation and interest to follow it well. It is supported by the results of the questionnaires given at the end of the course of the experiment class. The pre-service teachershave responded very well to the aspect of the training contents relevance. The training contents are considered to support the development of professional and pedagogical competencies, supporting vocational content of automotive engineering as well as providing deeper insights related to the vocational school curriculum.

However, the fact that the persistence of pre-service teacherss who have not experienced any increase in their knowledge of chemistry curriculum and chemistry content in vocational context, showing that the pres-service teacher training models implemented still has some weaknesses. Here are the descriptions of the analysis results to the factors that can be a source of weakness of the effectiveness of the model.

Group Effectiveness. In this study, collaborative learning is done in the same group during the training period. Group forming is done randomly and is expected to be heterogeneous. The initial assumption that the longer a person interacts with others will build more intensive communication and thus the effectiveness of the group will be better. However, it cannot always be worked because there are some other factors that play important roles in supporting the effectiveness of the group. The forming the same group would lead to mutual dependence which is not good in the group dominated by students which has high cognitive abilities and it is individual. In these conditions, students with low ability tend to be quiet and follow the ideas of other students and clearly give negative impact on the understanding of the learning. The principle of mutual learning in collaborative learning is not manifested in such case. This is supported by the results of interviews with some of the students who expressed that the same group makes bored and uncomfortable because only certain members are active. A few students want a different group for each meeting. Different views of comfort in this collaborative study cannot be separated from the principles of behavioral tendencies within the framework of student learning groups according to social interdependence theory, i.e., social interdependence to achieve common goals, apparent social interdependence, as well as being members of the group pretending to be interdependent [8]. Furthermore, as it will be described in the first principle, the group members work together to achieve the common goal, the achievement of individual goals will be positively correlated only if the other members also reach their goals. Thus, each group member will find the beneficial results for all of his/her colleagues in the group. The second principle, members learn in group but basically each individual with his/her own ego wants to achieve his/her own achievement. Such individuals incorporated in the structure with a competitive nature, which means that the individual works by competing with each other to achieve the goal, so that only a few individuals who successfully achieve the learning goals. The last principle, the individual actually just joined the group, pretending to be interdependent, but in fact these individuals are learning and using their own ways. In this case, the individual works in his/her own way to achieve the goals that are not related to the other individual goals. The second and third principles of behavior will hinder both the achievement of the group effectiveness and achievement of each individual.

Time Effectiveness. The learning speed of each individual is different. There are some pre-service teachers who can quickly adapt to new knowledge and are able to develop it optimally, but there are also some of them who need practice in many times. The pre-service training models are applied to combine various methods and learning contents, so the traning models are effective (ranging from the preparation of chemistry content, the analysis of the vocational

context chemistry content, the enrichment vocational context of the chemistry content of to prepare a document for the preparation of teaching) and practical (based activity, not only theoretical). However, the number of training material requires a longer time to be optimal, especially in exploring and developing PCK. Because PCK is the knowledge that is completely new for students so it needs more time to interpret it so skilled in preparing the CoRe documents and PaP-eRs as a representation of PCK. In addition, the learning habits experienced by preservice teacherss in the form of lectures causing some students have adaptation difficulties in collaborative learning. Based on the interview, students with low achievement of knowledge states still require a special meeting for the lecture because they feel more comfortable and understand if the material is given by lectures. While the briefing is being conducted, lecturers do not speak; just give a basic explanation and reinforcement, learning to summarize the results after the students collaborating in groups. If the debriefing should add a special lecture session for each piece of content debriefing (curriculum, vocational context chemical content and PCK) then it requires a longer time, while its implementation is limited to 14 sessions in a semester so it needs further development to improve the effectiveness of time

4. Conclusion

The results of the research showed that the implementation of pre-service teachers training models based on PCK-CLis effective in increasing knowledge ofchemistry curriculum and chemistry contentin vocational context for preservice teachers. The implemented pre-service teachers training model is comprehensive in the effort to increase understanding of the curriculum and chemistry in vocational schools and collaborative learning provides the preservice teacherss the opportunity to construct their knowledge. Therefore, it can be stated that the importance of professional development of chemistry teachers and preservice teacherss through collaborative learning in a learning community with training content that relevant with the needs of preservice teacherss. The main obstacle in the implementation of pre-service teachers training models based on PCK-CLare related to the group effectiveness and the use of time.

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THE ROLE OF HOMEWORK ON LEARNING OUTCOMES OF MATHEMATICS

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Abstract

The role of homework on learning outcomes in mathematics elementary school Cilangkap 2. The purpose of this study was to determine whether there is any positive effect giving a homework assignment on learning outcomes of students of mathematics at elementary school Cilankap 2 samples in this study were 40 students who shared belar into two groups, the experimental class and each class dick numbered 20 students. In kealas treated control by giving homework and not covered and do not allow that, while the experimental class was given the task also discussed and gave homes and sanctions are not working. Research methods and techniques with experimental data analysts using two different test average. So it is concluded there is an influence on the outcomes of learning mathematics homework.

Keywords: Homework, Learning outcomes, Mathematics

1. Introduction

In the current era of globalization, the information is so easily accessible and increasingly open world wide competition will require humans to imhome workove the competence and ability of self to be able to adjust to the times that continues with continuous with all aspects of social, economic, culture and culture as well as whether or not the release of the development of education. Education today began to follow the development in line with the demands of the times that began to enter the world of the free market.

Education today began to move in line with the equity increase in education began as an example with education budgets increased by 20%, which was launched govermence. In the home workocess of imhome workoving and equity of education is not without home workoblems. There are so many home workoblems that arise when education in Indonesia imhome workoved quality and standards set by the government. In accordance with Act No. 20 of 2003 Article 3 which stated "National Education serves to develop the ability and character development and civilization of dignity in the context of the intellectual life of the nation, is aimed at developing students' potentials in order to become a man of faith and fear of God Almighty Esa, noble, healthy, knowledgeable, skilled, creative, independent, and become citizens of a democratic and responsible.

The home workesent educational pattern began demanding activity of students in the learning home workocess, so expect students to have a great curiosity so active students in the learning home workocess students will be maximal. In this case the learner-oriented education. Teachers only as a facilitator of education and the role of teachers in learning rather diminish. Remove centralized or teacher-centered anymore but has centered on the learner.

In this case there are some ideal learning activities in which the teacher is no longer the center of learning information but as a facilitator of learning in the classroom or more dinal on the epidemic is competency based curriculum. Another thing to note back is supporting facilities teacher learning as a vehicle for exploring strategies, methods and learning how to make it more attractive, effective and efficient.

Good learning home workocess will support good learning outcomes is also therefore learning outcomes depend on the quality of learning that takes place in class. In addition there are several internal factors that can affect student learning home workocesses such as motivation of the student's own and curiosity high willingness learners.

According to Rahmat Hidayat said, "advanced curriculum without the support of teachers who advanced the same as an impossible dream. The future of education in Indonesia is on the quality of teachers are qualified. Teacher education is the future torch.

There are so many things that affect the results of students' mathematics learning in Elementary School Cilangkap 2 as a way of teaching the teachers, the method used in the learning home workocess. Therefore felt very important to know to what extent more effective learning home workocess in Elementary School Cilangkap 2.

Math requires a lot of home workactice so that students will get used to do the questions in the exam with pemahan concept is good and true to the subject matter of mathematics, then from that homework is expected to be one of the solutions for teachers to imhome workove learning outcomes in school mathematics.

The purpose of this study was to see whether there is a significant positive effect of giving homework assignment for mathematics learning outcomes in Elementary School Cilangkap 2.

2. Literature review

Mathematics Learning Outcomes According Oemar Hamalik (2003: 27) states that, "Learning is a modification or reinforce behavior through experiential learning is a home workocess, an activity, and not a result or purpose". From the above understanding that learning is a home workocess that will eLearning will reinforce the behavior and experiences in life that a learning home workocess that will change the behavior of the learners themselves.

According Thursan Judge (2002: 1) states that, "Learning dalah a home workocess of change in the human personality and the changes ditampakan in the form of imhome workoved quality and quality of behavior such as an increase in skills, knowledge, attitudes, habits, understanding, skills, thinking and other -Other capabilities ". Based on the opinion of the learned tersbut require changes in behavior and habits and it is the home workimary indicator of the implications of the learning home workocess.

According to Nana Sudjana (2002: 106) states that, "Learning is a home workocess of change in a person, this change is caused by the home workesence of an experience".

According Dimyati, et al (2006: 12) states that, "The results of student learning is a capability consisting of verbal information, keterampulan intellect, motor skills, cognitive attitude and tactics."

According to S. Nasution (2001: 25) states bahw, "learning results is a change that occurs in individuals who learn, not just a change of knowledge but also some skills, habits, attitudes understanding, mastery and aphome workeciation within the person of individuals who learn".

According Rusefendi (1991) in Heruman (2007: 1) menyatkan that, "mathematics is the language of symbols; deductive science that does not accept inductive home workoof; the study of patterns of regularity, and the organized structure, ranging from elements that are not defined to the element is defined to axioms or postulates, and finally to the home workoposition."

According Riedesel stated that, "Mathematics is a collection of truths and rules, mathematics is not just arithmetic. Mathematics is a language, generating activities and home workoblem solving, finding and studying the activity patterns and relationships.

Mathematics learning outcomes in this study is the degree of success or a student's mastery of the subject areas of mathematics after a learning home workocess that looks at the value obtained from the test results of learning. Where mathematics student learning outcomes can be measured using an evaluation tool which is usually called the achievement test.

Of the opinions above it can be concluded the results of learning mathematics is a change in behavior, skills, attitudes, habits, intelligence and an understanding and attitudes for the better for deductive thinking in solving home workoblems related to abstract mathematical science. Homework

According to Mary Leonhard (2003: 15) argues that, "there is homework easily disenangu children (tasks that aphome workeciate their talent, exciting tasks and they describe the satisfaction of having completed the job interesting and fun) but most homework is very boring, children are asked to do dozens of exercises number, write essays rigid and memorize words and facts plurality."

According to Femi Olivia (2007: 15) states that, " homework is a tool for communication between parents and teachers to know the extent of the child's development."

According Kesumawati (1996: 40) states that, " homework is a task given by the teacher to be done by students at home."

Of the opinions above it can be concluded homework is homework is a task given by the teacher to be done by students at home as a training tool for communication between teachers and parents as monitors children's educational development

3. Research methods

This research was conducted at the State Home workimary School Cilangkap 2 Tapos District of Depok. The research was carried out within four months, ie from Ahome workil 2010 until July 2010.

The method used in this research is experiment with data analysis techniques of two different test average. The population in this study were students of Elementary School Cilankap 2 Class V school year of 2009/2010. Samples were taken in stages in this study, the population of the class V students in academic year 2009/2010 there were 162 students. And diamil randomly with random sampling of 40 students and divided menajadi two groups for the experimental classes and control classes.

The collection of data for the variable results obtained from the study seblumnya test has been validated by 20 multiple choice items.

4. Results and discussion

From the results of the test pegukuran learning outcomes at each grade experimental and control classes obtained the following results:

For the experimental class obtained maximum value of 10; value minumim 7; the average value of 8.9; the mean; 9.25 and the value of mode 10; standard deviation of 0.981. As for the maximum value obtained control class 6; The minimum value of 2; the average value of 4.30; median 4.50; and the value of mode 5; standard deviation of 1.031. Thus dilihatdari average values obtained from the two groups of the class turns experimental class average higher value when compared with the average value of the control class.

Home work or to testing the hypothesis test data analysis requirements that include normality and homogeneity. Normality Tests performed with SPSS 16 with his result is significant value in the experimental class 0,243 and significant value in the control class is 0.255 and thus the two sets of data are normally distributed. and further testing homogeneity by F test where the results obtained both homogeneous data sets. For hypothesis testing is done with two different test average with the help of SPSS 16, wherein the calculation of significance is 0.000 so the results can be known that there is a significant relationship between homework for math learning outcomes.

From the results of these studies have found that giving homework assignments home workovide significant positive pengruh for mathematics learning outcomes of students. This shows that the mathematics learning outcomes will be better if students diberian homework. However, the remarks are not too many teachers give homework because it will be borne by the students. A good teacher is to give homework in home workoportion to the ability of learners.

In this experimental study in which both groups are equally given perlkuan given homework by his teacher learning setleh ends and the experimental class homework given the next morning chores were discussed by teachers and for students who do not sanctioned form of additional training again by the teacher. While in the control class is still given homework teachers just do not directly address the homework and those who do not mengerjan tiadk sanctioned so that it will be seen how much the students a sense of responsibility towards the tasks given.

Thus it can be seen with the homework and the teacher began discussing the learners will be eager to do it, teachers also give a plus to students who work on time. So there is a sense of home workide learners to ap had done.

In home workoving learning outcomes in school mathematics teachers should always pay attention to their students in order to keep in mind the lessons that have been implemented in schools therefore giving homework assignment has an important role to review or recall the lessons that have been done diseolah. Learning at home will be more effective and efficient if it continues to be repeated. Because in mathematics there is no need in an instant all the reviews back to be more memorable and lasting diingatan learners. Good learning is learning that home workovide memories of planting mathematical concepts. Hence mathematical science merupan not merely memorize but also to understand, comhome workehend and learn more on mathematical concepts.

As for some of the benefits of their homework for students include: 1) Learning to manage time; 2) Train to be responsible; 3) meriview lesson; 4) Knowing the interest of the child; 5) Imhome workove the skills; 6) Learn to overcome the home workoblem.

Homework given by the teacher is a tool that bridges between teachers and parents at home because of the success of learning should be the involvement of stakeholders, namely teachers, parents and learners themselves. So that education becomes more optimal. So the role of parents at home is very important as monitoring and supervising functions when learners are at home. Judging from its function of homework to be one way to foster a sense of responsibility learners to load tasks that have been assigned by

the teacher because of her status as a student is to have the main task of learning to be a growing sense of heightened awareness to students as a student status.

There should be some things that need to be teachers in giving homework. Homework should be designed so that the teacher and made something interesting, causing keminatan in learning so that students can sharpen their skills.

5. Closing

The results of the above analysis and hypothesis testing shows that there is a significant positive effect of giving homework assignment for mathematics learning outcomes. Thus if the homework is increasingly frequent and discussed again at the next meeting will be the higher value of the study of students in class V elementary school Cilangkap 2.

Based on the results of this research, advice and hope that researchers can convey that the teacher can give a homework assignment on an ongoing basis and discussed at the next meeting so that it will be able to imhome workove the results obtained studying mathematics classroom learners elementary school Cilangkap 2.

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SMART CHEMIST:THE MEDIA FORCHEMISTRY LEARNING ON ATOMIC STRUCTURE AND PERIODIC SYSTEM OF ELEMENTS

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Abstract

This research developedthe mobile game "Smart Chemist" as chemistry learning media for senior high school on atomic structure and periodic system of elements. The media was evaluated by chemistry teachers for the eligibility of use as learning media. The game was developed using ADDIE (Analysis, Design, Development, Implementation, and Evaluation) model. First product of the game was reviewed and commented by supervisor lecturer, a chemistry expert, amultimedia, technology and information expert, and 3 peer reviewers. Product revision was done based on the comments, and evaluated by 5 Chemistry teachers on the aspects of subject matter, language, operational process, audio-visual, and software designby using a Lykert quistionnaire. Finally, the mobile game was produced and easily played on Android mobile phone.Based on teachers evaluation, the score of criteria was $\bar{X} = 109.2$ ($\bar{X} > 105.1$). The criteria suggest that the mobile game was very good, close to ideal learning criteria, as indicated by the ideal percentage of 87,36%.

Keywords: Learning Media, Mobile game, ADDIE,Android, Atomic structure, Periodic system of elementer

1. Introduction

Within the past five years, the use of mobilegames as learning media has snowballed. [1].Games can now be played everywhere in technology-rich environments equipped with laptops, smart phones, game consoles (mobile and stationary), set-top boxes, and other digital devices. From this phenomenon, it is believed that the intrinsic motivation that young people show towards games could be combined with educational content and objectives into what Prensky calls "digital game based learning [2].

Based on observation in Magelang regency, The use of mobile game as learning media is still fairly new. Mostteachers have not used a mobile game as a learning media yet. The use of mobile game is expected to be an interesting learning media. It introduces chemistry lesson. Learning process byusingmobile gamemakes the students interestedandfun. The learning processwill beeffectivewhenstudentsarehappycondition [3].

Therefore, it was necessary to make learning media that can simpifly the learning material. The research was to develop Android Mobile Game as chemistry learning media on atomic structure and periodic system of elements. The mobile game was evaluated by 5 chemistry teacher to determine the quality of mobile game.

2. Literary Review

2.1 Research and Development

Research and development (R and D) is a method that used to result a certain product

and to review the effectiveness of the product [4]. There are two models in research and development. They are conceptual model and procedural model [5].

2.2 ADDIE Model

ADDIE is one of procedural model in research and development. In this model, there are five phase to result certain product. There are analyze phase, design phase, development phase, implementation phase and evaluation phase [6].

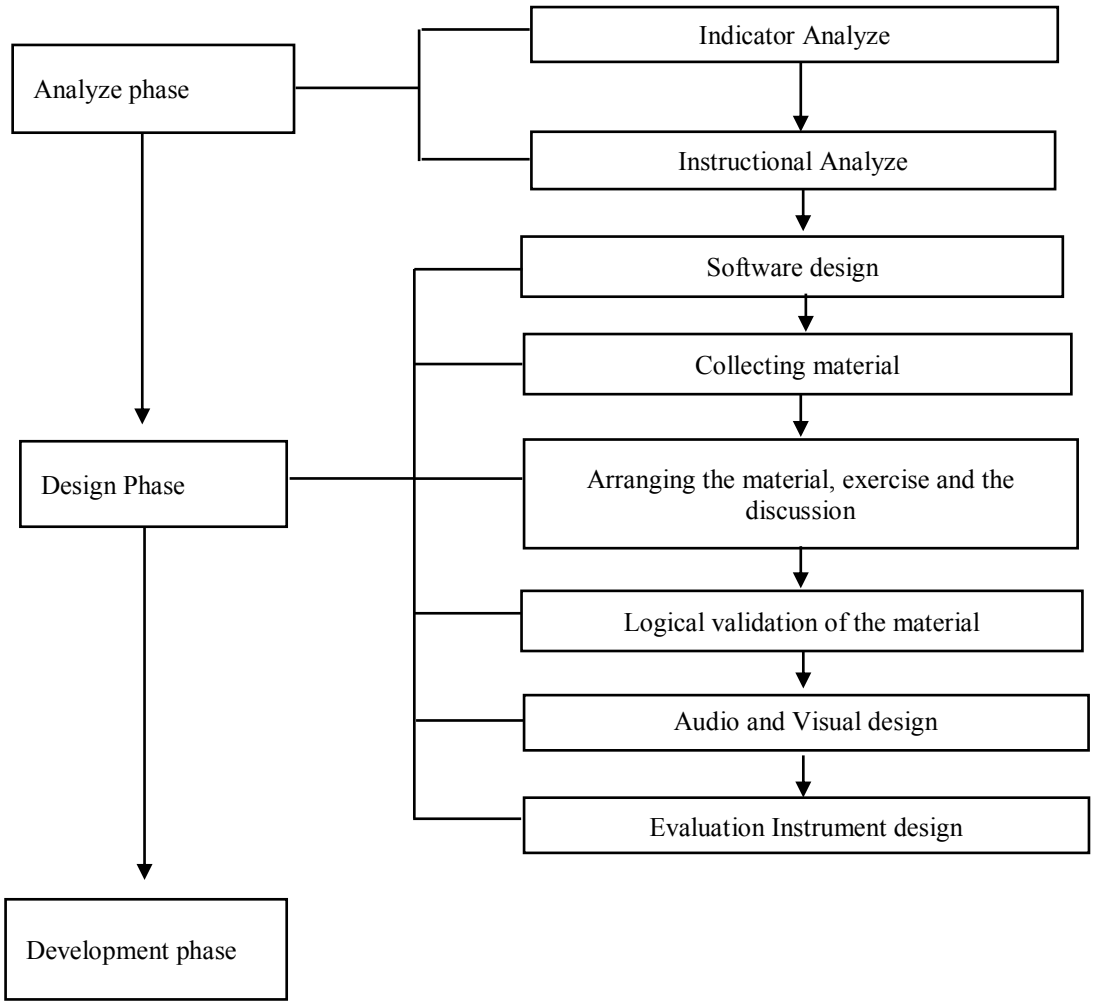
2.3 Learning Media

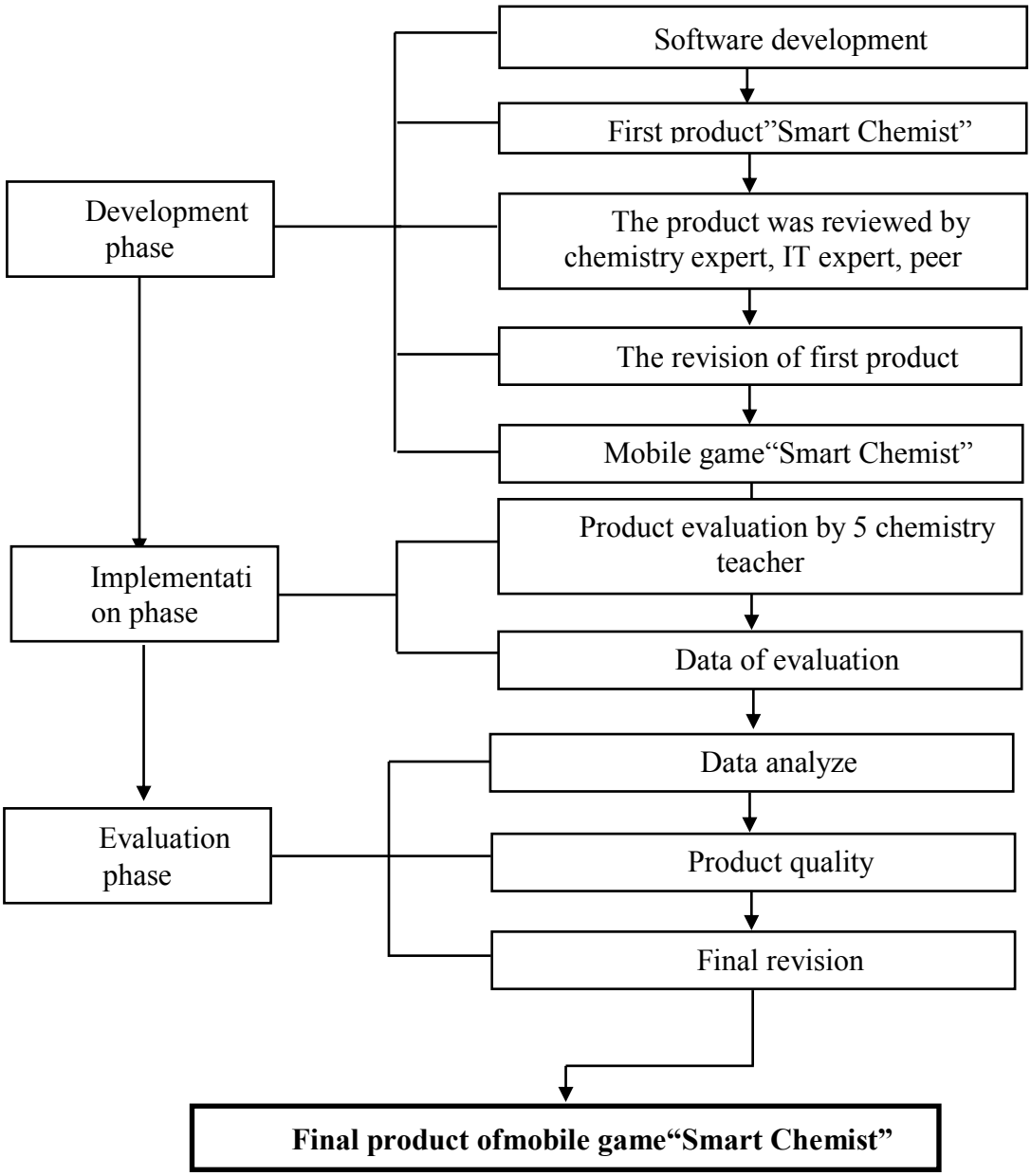
Learning media is something that used to deliver information between teacher and students [7].Learning mediacanrepresentthe role of teacher. Evenlearningmaterials can be made more tangible bythe presence ofthe media. Thus, the studentsmore easilyunderstand the material. The level of difficulties of materials can be reduced by using learning media[8].

2.4 Chemistry lesson

Chemistry is a branch of science that learn the chemical and its changing. Elements and solution are the component that include in chemical changing [9]. The first material of chemistry in senior high school is atomic structure and periodic system of elements.

3. Diagram of research methods





4. Result and Discussion

4.1 Result

The mobile game was evaluated by 5 chemistry teachers. The aspect that evaluated were subject and matter, language, operational, audio visual, and software design.The evaluation data of each aspect by teachers can be seen at Table 1.

Table 1. Evaluation data of teachers

No	Aspect	Average Score ($\bar{X}$)
1.	Subject Matter	26.40
2.	Language	8.20
3.	Operational	18.00
4.	Audio and Visual	33.40
5.	Software design	23.20
Total Score		**109.20**

4.2 Discussion

The result of this research was the product of mobile game "Smart Chemist". This mobile game was developed by using Construct 2 program. The first product game was reviewed and commented by supervisor lecturer, a chemistry expert, a multimedia, technology and information expert, an instructional design expert and 3 peer reviewers. Then, the product was evaluated by 5 chemistry teachers.

a. Subject matter aspect

Subject matter aspect was only evaluated by teacher. Based on the data, the average score of subject and matter evaluation was 26.40 ($\bar{X}$ > 25.20). The maximum score of this aspect was 30. The criteria suggest that subject and matter aspects were very good, closed to ideal learning criteria, as indicated by the idealpercentage of 88%. It means that subject matter provided in the game was appropriate and in line to the indicator of curriculum. It means that the subject matter in the game was good and appropriate as learning materials for students in the point of levels of width and depth of materials. Each exercise of this game has only one answer [10].

b. Language aspect

There are 2 indicators in this aspect. The maximum score of this aspect was 10. Language aspect was evaluated by teachers and students. Based on teacher's evaluation, the average score of this aspect was 8.20 ($6.80 < \bar{X} \leq 8.39$). So, the criteria suggest that language aspect is good, close to ideal learning criteria. Good languageis language that arranged by communicativesentence, using good and true Indonesian, does not causea doubleinterpretation, and does notoffendthe student [11].

c. Operational aspect

There are 4 indicators in operational aspect. The maximum score of this aspect was 20. Based on the evaluation, the average score was 18.00. The criteria suggest that operational aspect is very good, close to ideal learning criteria, because the average score $\bar{X}$ >16.80.

d. Audio visual aspect

There are 8 indicators in this aspect. The result of evaluation, the average score was 33.40. The maximum score of this aspect was 40. So, the criteria suggest that audio visual aspect is good, close to ideal learning criteria because the average score $27.20 < \bar{X} \leq 33.59$. Based on learning cone of Edgar Dale, audio visual was included enactive category. Enactive category is the experience that people get as the own experience. Enactive is placed in the bottom of Edgar Dale's cone. It means that the knowledge that people get is higher than ionic or abstract category [12].

e. Software design aspect

Total indicator in this aspect was 5. The maximum score of this aspect was 25. Based on the evaluation, the average score of software design was 23.2. So, the criteria suggest that software design aspect is very good, close to ideal learning criteria. Because the average score $\bar{X} > 20.99$. This aspect get highest score than other aspect, because in software design aspect teachers and students assume that the mobile game is the new learning media that they have been never used before.

5. Conclusion

The mobile game "Smart Chemist" was developed and easily played on Android mobile phone. The game was very good based the review of teachers.Based on teachers evaluation, the score of criteria was $\overline{X} = 109.2$ ($\overline{X} > 105.1$). The criteria suggest that the mobile game was very good, close to ideal learning criteria, as indicated by the ideal percentage of 87,36%.

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DEVELOPMENT OF FIELD DEPENDENT AND FIELD INDEPENDENT COGNITIVE STYLE-BASED LEARNING MODEL

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Abstract

Individual differences such as intelligence, ability, interest, memory, emotion, motivation and cognitive style may influence the students' learning outcome. Learning models or strategies that can accommodate individual differences will help students to reach a success in their learning. This research aims to develop a cognitive styles-based learning model that is feasible based on it's validity, effectivity and practicality. Dick & Carey's design was apllied, begining with arranging the draft of model and it's tools, then continuing with validating the model to experts, and finally conducting try out in learning redox at SMA 2 Banjarmasin. This try out comprising three steps namely one to one a try out, small group try out and field tryout. This research concluded that the learning model is feasible to be appllied: (1) The learning model is valid (2) The learning model is effective where the students' cognitive learning outcomes in good category, eventhough the students' affective learning outcomes were still in enough categories. In addition, students with field dependent and field independent cognitive style gave a positive response to the application of the model (3) The learning model is practice where both of the teacher and students activities are exellent.

Keywords: cognitive style-based learning model, cognitive style, field dependent, independent field, redox reaction

1. Introduction

Learner is individually different with the others both in the physical and psychological aspects such as intelligence, ability (aptitude), interest, memory, emotion. So, in class we will always face both exelence and lack students in learning, as well as students who appropriate to the specific learning styles while the others do not.

Individual characteristics according to many researchs will affect to stdents' learning outcomes. Implication of the individual differences in learning is teaching the same material, the same method and the same assessment technic to everyone, they may not achieve the same learning outcomes. Thus, learning which more respect to individual differences will develop students optimally base on their ability and potential.

Our schools at all educational levels tend to apply the conventional strategy, less active students, and content knowledge oriented. In addition, learning conducted classically in which the students are considered have the same ability, readiness, maturity and speed. Consequently, in a class all children are given the same treatment in learning activities [1]. As a result there are many students in class can not master the competency optimally, especially students with low ability.

One of the individual characteristics that may influence the learning outcome is cognitive style. Cognitive style refers to the way a person to process, store and use the information to respond a task or various types of environmental situations. Style refer to how people process information and solve problems and not refer to how the best of problem solving process. Cognitive styles according to [2] and [3] is a individual characteristics in perceiving, remembering, thinking, and solving the problem consistently and is bipolar that are field dependent (FD) and field independent (FI)

Students with FI cognitive style tend to have ability in abstracting elements of context or context background, analytical, competitive, independent, have goals/objectives and strategies, intrinsically motivated, lack of social skills/prefers individual tasks, and structured and organized in learning. While students with FD cognitive style tend to think globally, easily influenced by the field or context, sensitive to the environment, like a group task or sensitive to social environment, extrinsically motivated, less structured and less independent in learning [2], [3], [4], [5].

Researchs proved that FI students tend to achieve better learning outcomes than the FD in various disciplines such as mathematics or science [6], [7], a science-physics [8] and some of the subjects as English, Spanish, math, science, and social studies [9]. According to [10] the effect of cognitive style on student achievement related to attentional function. FI students showed better efficiency than the FD in adapting active memory space with multiple functions that store and process information; regulating attention to the relevant stimuli, directing attention precisely on the task which display and measure the visual and spatial orientation; and detecting the stimulus, organize and focus on relevant particular aspects. Both the cognitive styles have the same storage capacity information. Thus, both FD and FI may succeed in learning, if it use the appropriate strategy and adequate scaffolding.

Students' cognitive styles should be consider in learning so that students can achieve the learning competences optimally. Aptitude Treatment Interaction (ATI) learning model is designed to achieve the academic competences optimally, through giving a defferent treatment to students with different abilities (aptitude). ATI models developed by Cronbach & Snow [11], provides treatment to students based on each individual's ability (high, medium and lower ability), so they will receive a different treatment. ATI models proved successful in improving chemistry learning outcomes of high school students about buffer solution concept[12] and ICT learning in junior high school students [1].

This study develops learning model of cognitive style Field Dependent (FD) and Field Independent (FI)-based, that is modified from ATI, not based on the students' ability or intelligence. The syntax of the learning model are as follows:

1. Begining by carrying out the measurement of cognitive style of each student using Group Embedded Figure Test.
2. Dividing and grouping students into two groups, according to their cognitive style (FD or FI)
3. Conducting the pre-test to determine the students' entry behavior as a guide for facilitating students in adaptation process (assimilation and accommodation).
4. Providing learning treatment to each group of students according to their cognitive style.
5. Conducting and analyzing posttest in order to determine the success of learning.
6. Following-up in the form of remedial or enrichment as an educational service to improve learning achievement and provide new opportunities to construct students knowledge.

This study aims to produce a feasibility of learning model to be implemented in learning base on it validity, effectivity and practicallity.

2. Method

This study implemented the Dick and Carey's model of development [13]. Try out of the learning model and it tools conducted through the stages (1) One-to-one a try out involve two students who have different cognitive styles, FD and FI respectively. This try out to determine the legibility and understandable of the learning tools arranged. (2) Small group try out involve 10 students of class X2 which have different cognitive styles. This try out to identify the weaknesses of learning models as base of futher revision (3) Field try out held in a class X4 SMAN 2 Banjarmasin involve 9 students of FI and 29 students FD. This try out use the One Group Pre-testt-posttest design [14] to determine the feasibility of the learning models.

Collecting data instruments of this research concist of (1) validation sheet of the learning model, given to 3 experts and 2 teachers/practitioners to determine the validity of the developed learning model and it tools (2) Group Embedded Figure Test (GEFT), which developed by Witkin, Oltman, Raskin and Karp [2] to determine the cognitive styles of students (3) Cognitive Test in the form of an objective test concist of 30 questions (4) Questionnaire which is filled out by students at the end of the lesson to determine students' response to the application of the developed learning model (5) The observation sheets, to observe the teacher and student activities, and affective learning outcomes include behavioral character and social skills.

Learning process applied syntax of develped-model as described above. The difference core stage of model between FD and FI student as follow: for FD (1) conducting initial debriefing (2) learning by using group discussion, (3) evaluating and making conclusions, meanwhile for FI (1) conducting initial debriefing (2) learning individually or self learning and, (3) evaluating and making conclusions.

3. Result

The validation results of the model and it learning tools (worksheets, test instruments, observation sheets of teacher and student activity and affective learning outcome and student response questionnaire) showed that all the item of statement or question have the Content Validity Ratio (CVR) of 1. It means that the model and it leaning tools are valid, because the minimum CVR value have been requaired for 5 raters is 0.99 [15].

3.1 One to one try out

In one to one try out with 2 students of FD and FI cognitive style indicated a need of learning tools revision in order to be easily understood,

especially student worksheets. Students are still having difficulty to understdent the learning materials. Students who have not been understood well and answered tasks in worksheets, caused by incomplete guidance and less varied examples. In a limited learning, both FD and FI students showed the same cognitive learning outcomes, enough category, for indicators (1) explaining oxidation reduction conceps in terms of gain and release of oxygen, gain and release of electron as well as increase and decrease of oxidation number and (2) determining oxidation number of atoms in a compound. Meanwhile, both FI and FD students showed character learning outcome that includes independence, thorough, and discipline in enough category.

For futher try out, revision to guidelines and content of worksheets have been conducted by rearranging and simplification of it sentence. In addition, students, especially FD, are not very independent in learning, need scaffolding gradually from the teacher in order to engage them more active.

3.2 Small Group Try Out

Cognitive learning outcomes

Table 1 The Level of Students' understanding of Redox Reactions

Indicator	% Right Answer of FD Student		% Right Answer FI Student	
	Pretest	Posttest	Pretest	Posttest
3	40,00	60,00	56,67	83,33
4	15,00	70,00	35,00	75,00
Average	27,50	65,00	45,84	79,17
Category	Bad	Enough	Bad	Good

Specification:
3 = Determines oxidizing and reducing agent in a redox reaction
4 = Give the IUPAC name of the compound according to oxidation number

Criteria:
80-100 = Excellent; 70-79 = Good;
60-69 = Enough; <60 = Bad

Affective learning outcomes

a. Character

Table 2 The Average Score of The Students' Character

Character	The Average Score of Students' Character		Average	Cate-gory
	FD	FI		
Self-reliance	1,24	2,47	1,86	Enough
Thorough	2,10	2,34	2,22	Enough
Discipline	2,30	2,20	2,25	Enough

Criteria:
2,40-3,00 = Good; 1,70-2,30 = Enough; 1,00-1,60 = Bad

b. Social Skills

Table 3 The Average Score of The Students' Social Skills

Social Skills	The Average Score of Students' Social Skills		Average	Cate-gory
	FD	FI		
Cooperating	2,14	1,20	1,67	Bad
Questioning	1,80	1,80	1,8	Enough
Communica-ting	2,07	2,03	2,05	Enough
Arguing	2,00	2,03	2,02	Enough
Average	2,00	1,77	1,89	Enough

The observation results of teacher's and student's Activities

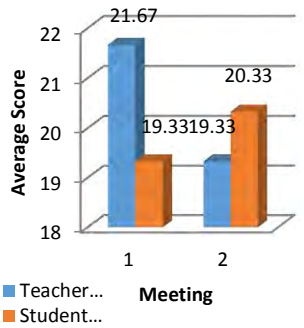


Figure 1 Teacher's and Student's Activities

Criteria:
21 -24 = Exelence; 16 -20 = Good;
11-15 = Enough; and 6-10 = Bad

The results of small group try out above are summarized in Table 4.

Table 4 Summary of Small Groups Try Out Result

Cognitive Style	Cognitive Learning Outcome	Character	Social Skills	Teacher Activity	Student Activity
FD	Enough	Enough	Enough	Exellent	Good
FI	Good	Enough	Enough	Exellent	Good

Field Try out

Cognitive learning outcomes

Table 5 Level of Students' Understanding of The Redox Reactions

Indicator	% Right Answer of FD Student		% Right Answer FI Student	
	Pretest	Posttest	Pretest	Posttest
1	39,90	79,31	32,00	79,37
2	25,00	93,00	26,00	85,19
3	29,89	78,74	33,33	92,59
4	22,41	83,62	25,00	88,89
5	30,69	85,86	23,33	87,78
Average	29,57	84,10	27,93	86,76
Category	Bad	Good	Bad	Exellent

1. *Specification:*
2. *Explain the concept of oxidation reduction in terms of gain and release of oxygen, release and gain of electrons as well as increase and decrease of oxidation number*
3. *Determines the oxidation number of atoms in a compound or ion*
4. *Determines oxidizing and reducing agent in a redox reaction*
5. *Give the IUPAC name of the compound according to oxidation number*
6. *Describe the concept of redox in solving environmental problems*

Affective learning outcomes

a. Character

Tabel 6 The Average Score of The Students' Character

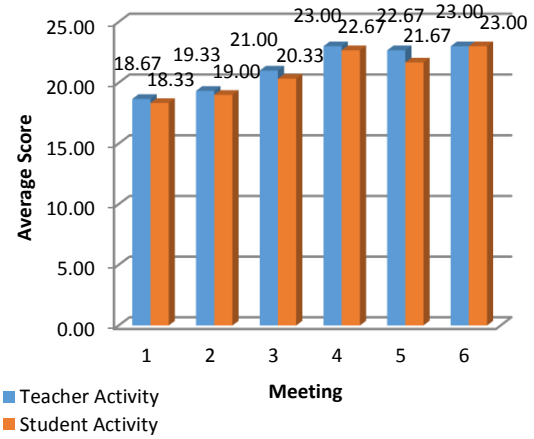
Character	The Average Score of Students' Character		Average	Category
	FD	FI		
Self-reliance	1,15	2,52	1,84	Enough
Thorough	2,51	2,51	2,51	Good
Discipline	2,34	2,48	2,41	Good

b. Social Skills

Tabel 7 The Average Score of The Students' Social Skills

Social Skills	The Average Score of Students' Social Skills			Average	Cate-gory
	FD	FI			
Cooperating	2,61	1,32	1,97		Enough
Questioning	1,97	1,98	1,98		Enough
Communica-ting	2,34	1,98	2,16		Enough
Arguing	2,34	2,00	2,17		Enough
Average	2,32	1,82	2,07		Enough

The observation results of teacher's and student's activities



Figur 2 Teacher's and Student's Activities

Students' response to application of cognitive style FD and FI-based learning model

Tabel 8 Students' Response to Implementation of Cognitive Style FD-FI-Based Learning Model

Score Range	Criteria	Number of Students		%
		FD	FI	
16 – 28	Bad	0	1	2,63
29 – 40	Enough	0	2	5,26
41 – 52	Good	18	3	55,26
53 – 64	Exellent	11	3	36,84

The results of field try out above are summarized in Table 9.

Table 9 Summary of field Try Out Result

Cognitive Style	Cognitive Learning Outcome	Character	Social Skills	Teacher Activity	Student Activity	Students' Response
FD	Good	Enough	Enough	Exellent	Exellent	92,10% Good to Exellent
FI	Exellent	Good	Enough	Exellent	Exellent	

Discussion

Validation model and it tools by experts showed that the cognitive style FD and FI-based learning model as well as it's tools are declared valid. Indicators of learning model validation include supporting theory, syntax, social system, principle of reaction, support systems, instructional effect, nurturent effect [16]. Meanwhile, it's tools include syllabi, lesson plans, worksheets and evaluation instruments need a bit of revision.

Learning model applied based on syntax described in page 2. The difference core stage of model between FD and FI student as follow: for FD (1) conducting initial debriefing (2) learning by using group discussion, (3) evaluating and making conclusions, while for FI (1) conducting initial debriefing (2) learning individually or self learning and, (3) evaluating and making conclusions.

Initial debriefing stage, through questions that explore the students' prior knowledge, aims to make students actively participate in class, draw attention and arise student's curiosity towards learning topics. For example,

"Did you ever see the rusty iron?"

"What are the factors that cause iron to be rust?"

"Is the iron rust process a chemical reactions?"

Figure 4 Rusty Iron

Refer to Figure 4, it can be also submitted questions as follows:

"Look at Figure 4, is the iron undergo a oxidation or reduction reaction?"

"Based on the above phenomenon, what are the oxidation and reduction?"

In the initial Initial debriefing stage, teachers effort to explore the answers and reasons given by student. She also guide students to reach an idea that "iron rusting process is one of the chemical reactions". Initial debriefing stage have conducted very good because the students gave the correct answer that "rusting of iron is a redox reaction process". Answer and question activity involve the analytical think, so it tends to appropriate to FI than FD students.

In the learning process, FD student are given opportunity to work together in small groups, conventional teaching and tutorials, while FI student have worked individually using relevant chemistry books. This stage is carried out in the core of learning activities where student fill out worksheet or answer the practice questions. Students are required to explain the development of redox reactions, write IUPAC nomenclature and explain the application of redox reactions in solving environmental problems, determine the oxidation number of atom in compounds or ions and determine oxidizing-reducing agent in the redox reaction. In addition, through the laboratory activity FD and FI students are required to analyze the events that occur, are they classified as redox reaction or not? and write down their reaction equation. By arranging data in table and answering questions through discussion groups, FD and FI students are required to be able to make conclusion. For F1 students laboratory activity were done in groups, but data analysis in worksheets were done individually.

At the presentation stage, students have to present their work. Some students representate their groups both FD and FI competitively, where students who dared to present and answer correctly will get a gift as a way to activate and motivate students. During this stage teacher role as a mentor and facilitator. Finally, teacher give a feedback to provide a common understanding for all students toward redox reaction concepts. This process take place very good, because most of the FD and FI students can answer and solve a problems in their worksheet correctly and timely. A long the learning process, FI students appear more enthusiastic to join the competition. This is in accordance with one of the FI characteristics who tend to favor competition than cooperation [17].

In the end of learning, teacher conduct evaluation test to evaluate students' individual understanding of the material that has been studied by provide a series of questions. This characteristic of evaluation is competitive, so it is favored by the FI than FD students. Furthermore, students are required to conclude abaout concepts has been studied. Both evaluating and making conclusion can also reflect the students difficulty in learning.

One to one try out is conducted after all the instruments passed the stages of revision according to experts/practitioners suggestion. In this try out student appears to be still having trouble in understanding concepts, even the

presented-task in worksheet and learning process have been in accordance with redox concepts and their sequences. The student difficulties mainly due to the lack of clarity of worksheets guidance and less varied sample questions that may not lead them to understand and complete the task well. So, They need revision of worksheets guide. In addition, teachers explanation in teaching should be more varied, especially in providing relevant examples.

Futher try out, the small group try out, involved 10 students who was devided to two group consist of 5 FD and FI students respectively. Learning activities can take place well, where the teacher activites as well as FD and FI students activites in learning are very good. Average cognitive learning outcomes or students' understanding of the redox concept has achieved a mastery. FI students achieve better learning outcomes than FD students, by good and enough categories respectively. This fact was consistent with many studies in the world which have been reported that FI students generally achieve better results in the acquisition of content knowledge [7], [7], [8], and [9]. Meanwhile, the affective learning outcomes have not developed satisfactorily yet. Students' character and social skills still in enough category. This fact indicate that to train a characters or social skills need relatively longer time than knowledges.

Field try out carried out at the class X4 of SMAN 2 Banjarmasin involving 38 students and including 29 FD students and 9 FI students. In these try out, students seem very enthusiastic that showed by very good students activity. In other hand teachers could apply the learning with two different approaches simultaneously in the classroom based on students' cognitive styles. Cognitive learning outcomes showed satisfactory results both FD and FI. On average, FI students achieve a better understanding than the FD. There are only 3 FD students who did not achieved mastery score, so that they need remedial teaching to improve their understanding.

The Character of FI students in this field try out have achieved good category in all indicators, namely self-reliance, thorough and disciplined, while students FD are still troubled by aspects of self-reliance and discipline aspects. Some characteristics of the FD students are learning less structured, less independence, enjoy learning in groups, need to be taught how to solve problems, need to be taught how to use memory aids, while the characteristics of FI students in learning tend to be independent, individual, enjoy learning in individually, and in proving something use the reasoning skills, have autonomy over their actions and able to solve the problem without guidance [17], [18].

Social skills learning outcomes in both groups still not develop optimally and just achieve enough category. Although the FD student learning in small groups, but apparently they have not been able to optimize the social skills, yet. It is necessary to improve the performance in a group through providing more scaffolding and challenging awards, such as free of midterm test for a groups that able to reach a certain average criteria.

The unique thing of this learning model is separated FD students with FI students, where the FD students work in small groups with relatively homogeneous cognitive style. It needs to be studied by combining the FD and FI students in a group, by giving special attention to each student based on the learning activity characteristic and their cognitive style. When learning activities more suitable with the FI cognitive styles, so FD students need to be given adequate scaffolding and vice versa. For example, the activity of problem analyzing tends to be favored by students FI compared to FD, so the teacher must provide sufficient assistance for FD students in order to perform learning activities optimally. Group heterogeneity is expected to increase the interaction between students dynamically.

Implementation of cognitive style-based learning model was getting a positive response from both FD and FI students. Most students', 92.10%, gave a good to very good responses. It means that learning model was able to engage students, facilitate student in learning, motivating and appropriate to the students' characteristics. Mailisa, on of the FD students, state that "it can make me understand when learning suit to my own style, and I prefer learning in discussion group where teacher explains the material before than just provide a guidance". Conversly with Mailisa, Amalia, one of the FI students, state that "I prefer to learn indidually, because I can more focused", and I prefer teachers who guide students to the matter, so I can learn more independent and confident". This learning model in order to facilitate students' learning to suit their cognitive style so that students learn more enyoy and make students more confident and motivated in learning. So it will have an impact on their achievement.

4. Conclusion

Field dependent-Field Independent cognitive style -based learning model is feasible for applying in learning. (1) The learning model is valid based on the experts assessment (2) The learning model is effekctive based on cognitive learning outcomes of students who achieve good categori, students's character is good and social skills in the enough category and both FD and FI students gave a positive response to application of the learning model (3) The learning model is practice base on both of the teachers and students' learning activities have been reach excellent category.

5. Recomendation

It need more extensive field try out in order to improve the effectiveness and practicality of the learning styles field dependent and field independent-based learning model.

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INTEGRATION OF ICT-BASED MULTIMEDIA INTO HYBRID MULTIMODAL LEARNING AT SENIOR HIGH SCHOOL TO IMPROVE STUDENTS'ACHIEVEMENT

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Abstract

Nowadays, Indonesian students use Information and Communication Technology (ICT) massively, including the usage of 2.0 web applications such as Facebook, Twitter, YouTube, and others which allows every user of those applications to interact and to share contentseach other. E-learning started to attract a lot of attentions from researchers as well as practitioners. Many of existing model of e-learning systems are mainly based on plain client-server or peer-to-peer architectures.In this paper we provide a model of study called multimodalby combining some strategies of learning model through face-to-face and online integrating ICT-based multimedia learning, and by facilitating collaboration among teacher, students, and parents in current times. The ICT-based multimedia used in this research were android mobile aplication, flash media animation, powerpoint presentation, and prezi online presentation, that were developed by researchers. The purpose of this research is to analyzestudents' achievement and the improvement of achievement due to the multimodal learning. The samples of this research were grade XI students of SMA N 1 Mlati Sleman, divided into two groups of experiment with 25 students and control containing 25 students.This study showed that multimodal learning affected students' achievement in which students had higher achievements results from multimodal learning.

Keywords:e-Learning Multimodal Learning, ICT- Based Multimedia, Students' Achievement

1. Introduction

The implementation of chemistry learning activity in school should be an active, interactive, fun, and can increased student's learning motivation which purposed to improve quality of student's chemistry learning achievement through actively. [1]. Variousforms oflearning modelcanbe usedtoenhance thelearning experienceintoa better direction[2].The use ofa particularteaching modelallowsteachersto reachspecificlearning objectives. One of thelearning modelthatcan beusedinthis caseis a modelof cooperative learning.

Cooperative learning is a strategy in which small groups of students with different levels of ability engage in a variety of activities to improve their understanding of the topic [3]. There are certain types of cooperative learning. One of them is think pair and share type (TPS). It is a collaborative learning strategy in which small groups of pairing learners with different levels of ability work together to achieve a shared learning goal [4].

Rapid technologicaldevelopmentsnow provide avariety ofalternativemedia and learning environement thatcan beusedin the learning process.. One of themediathatcanbe usedtosupportamodel oflearningone of them isthrough theweb-basedinternet media.Integration various teaching was a teaching–learning is known as multimodal learning[5].

The combination ofcooperative learning modeland internet technologyas aweb-basedmediasharing is expected to increasestudentachievementin studyingthe chemistry ofthe material, especially onthe concept of constant of solubility product (K*sp*). In the implementation of multimodal learning, teacher can use some related media that suitable

with chemistry matter or even use one of learning management system (LMS) like edmodo.

This research investigates the use of various strategies of learning accomplished by the media run in the methods of cooperative TPS and its effect on the students' achievement. The purposes in this research is to determine the differences of students' learning achievement between the experimental class and the control class.

2. Research method

This research is an experimental research which has one factor, two samples, and one covariable. The factor is the implementation of cooperative multimodal learning of think pair and share (TPS) based on web. Two samples are students from class experiment and control. The experiment class was class that used cooperative multimodal learning of think pair and share (TPS) based on web and control class is class that implement cooperative of think pair and share (TPS) without web. The covariable is students' chemistry prior knowledge taken from the school documentation.

There are three variables in this research. They are independents variable, controlled variable, and dependent variable. The independent variable is the implementation of cooperative multimodal learning of think pair and share (TPS) based on web. The controlled variable is the students' chemistry prior knowledge and also the cooperative learning, and the dependent variable is the students' achievement on chemistry learning. For the students' learning achievement was measured used by achievement test of learning.

The population of this research was grade eleven of science class student of SMA Negeri 1 Mlati in 2013/2014 academic yearconsisting of 50 students. The sample were represent all of those population which was then divided into class experiment and control.The instruments of this research consist of lesson plan, questionnaire and achievement test of learning. The lesson plan was prepared for five meetings for each class. The lesson plan for class experiment is the lesson plan that implement cooperative multimodal learning of think pair and share (TPS)based on web and the lesson plan for class control is the lesson plan that implement cooperative of think pair and share (TPS) type without web. The instrument should be valid and reliable.

The media that used in this experiment class are powerpoint slide presetation, prezi presentation, e-book, android aplication, lectora, video and flash animaton. This media has been validated by the validate(chemistry teachers and peers).Data analysis included normality and homogeneity tests, before the paired sample t-test and the independent sample t-test.

3. Result and discussion

3.1 Design of the cooperative multimodal learning of think pair and share (TPS) type based on web

Cooperative multimodal learning of think pair and share (TPS) based on the web was conducted for six meetings. i.e. five times of meetings was for teaching learning and once for the final test. Teaching and learning were always delivered with a pairing group setting. Teacher divided students into some equal heterogen groups with different levels of students competencies. According to Ibrahim [2], think pair and share (TPS), learners are grouped into several groups with diverse members of ability, gender, race and ethnicity. The fisrt part of this learning model is thingking. in this step teacher give a chance for students to solve the problem of material individually.Second part is pairing, in this step student pairing which other to discuss about the result from the previous step. The last part is sharing, the students present their result and get the feedback from other students and teacher.At the end of meeting, all learners acquired individual quiz on teaching materials and at the time the individual should not help each other.

Each group received instruction consisting of the list of work procedures, learning materials in the format of multimedia (Powerpoint slide, Android app, video, e-book, Prezi and flash animation files) in Edmodo, so the group can start to investigate, analyze, and synthesise the topic. In this experiment, there were four of learning strategies has been implemented. They were demonstration, experiment, discussion, and games based on quiz.

3.2 The Effect of Multimodal Learning toStudents' Learning Achievement

Analysis of data using univariate analysis of variance test using SPSS 16.0 for $0.009 < (\alpha)$ of 0.05 which means that H_0 is rejected and Ha accepted. From these results it can be concluded that there is a significant difference on the learning achievement of students in implementing multimodal learning through cooperative learning think pair and share (TPS)

with a web-based classes using cooperative think pair and share (TPS) on the constant of solubility product material, if the learners' prior knowledge was statistically controlled.

Some of the factors that cause differences in learning achievement between the experimental class and the control class is the higher intensity of interaction between teachers and students in the experimental class because learning is done not only in the classroom when teaching, but also done outside of class using Edmodo. Students can choose their preferred media because teachers provide some instructional media that they can use. Sri Hartantiningrum [9] said that the selection and use of instructional media appropriate to the characteristics of the students can enhance their learning achievement. Experimental model of learning in the classroom more varied such as the experiments, demonstrations, discussions, and games so that the learning process is not monotonous and boring. Learning styles of the learners, the characteristics of the constant of solubility product material, and other factors that affect student learning outcomes also influence in students' learning achievement.

4. Conclusion

The conclusion of this research is there is a significant difference on the learning achievements of students who apply multimodal learning through cooperative learning think pair share (TPS) web-based as compared to a learners who implement cooperative learning think pair share (TPS) without web on the K*sp* material class XI SMA Negeri 1 Mlati if the initial chemical knowledge learners were statistically controlled.

Authors would like to suggest:

1. If further research or similar research is carried out, the media should be validated empirically beforehand to see how effective the media when used by learners.
2. If a similar study is conducted, should be determine psychomotoric aspects of the student, that show how learning process happen in the class.

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IMPROVING LOGICAL-MATHEMATICAL INTELLIGENCE THROUGH COOKING ACTIVITY

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Abstract

The objective of this action research is to study whether logical-mathematical intelligence of children can be improved through cooking activity and whether gender differences affect mathematical skills while doing cooking activity. The research was conducted at TK Islam Al Musyawarah Serang with 8 students. It was done in two cycles with reference to Kemmis and Taggart model. The research found how children's play can support the development of the foundations of logical-mathematical Intelligence. Researcher observed young children's from age four to five years in cooking activities and attempted to learn about their spontaneous mathematical interests and questions. Preschoolers explore classification, enumeration, magnitude comparation, and patterns and shapes. The children in this study spent a good deal of time on exploring cooking activity. Basic questions framed this research is how to improve logical-mathematical intelligence through cooking activity?and is there any difference between boys and girls? The result of this study at the end of cycle I show that the increases of classification (74%)as the greatest, followed enumeration (73,7%), magnitude (63%) and pattern and shape (46%). But at the end of cycle II, study shows the improvement of magnitude is the greatest(16%), followed enumeration (15%), classification (12,5%),and pattern and shape (12,4%). In gender differences, Statistical analyses show that boys and girls are differ in specific types of mathematical activity, which are enumeration and pattern and shapes skills.

Keywords: logical mathematical, cooking, action research

1. Introduction

Play is the most natural of childhood activities and one of the most frequently observed. (Hughes: 2003). When children play through fun cooking, they are practicing mathematical skills. Children can learn some cooking basics and use their logical-mathematical skills as they help combine ingredients for recipes. Teachers also can use the time to talk about good nutrition and why we chose the ingredients we're using. It can lay the groundwork for healthy eating later on. In selecting materials with different sizes and shapes and comparing surface and volumes in cooking areas, e.g., they are unwittingly using classification and seriation.

Logical-mathematical intelligence of children can be improved through fun cooking. For many of us, maths was a torture, something we had to do, and something we didn't understand and couldn't do. Play on the other hand was something we loved. But in fact, the environtment often notice that children engage informal mathematical activity during play. Children engage in different types of play as they develop (Monighan-Nourot 1987; Piaget 1962). Playing in the cooking area is a great way to build skills of mathematical. Children enjoy playing with kitchen tools weather at home or in the classroom. Through cooking activity, children learn about size, shape, length, weight, balance and spatial relationships of objects . children also extend their skills and gain a deeper understanding of logical-mathematical concepts by giving them shape cutters for making sandwiches and when showing children how to create a layered jelly

The researcher begin by observing children to see how much and what kinds of mathematics we can actually find in the cooking activity of children. The apparent contradiction found at one class consist of eight children that the ability in logical-mathematical of children are not develop significant. children use toys obsolete and one way methods used by teachers also less attractive children. in fact, children still doubtful in classify the object around them, unknown about the shape and comparing the size of kitchen tools, cannot saying number words and creating pattern of satay.

In parent and toddler groups and pre-school settings, children have many opportunities to enjoy and learn maths through play. Early childhood mathematics should offer "challenge and joy, not imposition and pressure … it invites children to experience mathematics as they play, describe, and think about their world"(Clements 2001, 270). Play can support mathematics learning if it stimulates learning and integrates the interests of children and educators (van Oers 1994).

In the cooking area, teachers role as a leader, facilitator, and support system for children working there. To encourage children to learn and make choices in cooking area, Dodge, Colker dan Heroman (2002: 256) :

In planning cooking activies for preschool children, you need to be sure that children have knowledge of basic techniques. Once they have these skills, cooking will be both easier and more sophisticated.

The objective of this action research is to study whether logical-mathematical intelligence of children can be improved through cooking activity and whether gender differences affect mathematical skills while doing cooking activity. Cooking is an activities skill that helps children read, do math and organize their work logically. Through fun cooking, teachers spend more time with children in the kitchen and teach them how to cook with fun.

2. Findings and Discussion

This study uses a quantitative and qualitative approach and the data is collected through the document reviews, and the questionnaires to obtain information on the logical mathematical intelligence of children. The children in this study spent a good deal of time on exploring four types of mathematical activity. Cooking provides wonderful opportunities to help child learn mathematical vocabulary. How better to learn phrases like 'more than' or 'less than' than by weighing out ingredients.

2.1 Classification

This category includes grouping, sorting, or categorizing by attributes. (Sarama and Clements, 2009). Fun cooking activities undertaken by children, i.e. a child classified foods, by sorting fruits by colour and by size. They also grouping snack and lunch food, fruits and vegetables.

At first, children grouping fruits without any common attribute or characteristic (color, size, and taste). After treatment, The study show that child took the fruits and sorted them by color and then by size, follow grouping type of foods by designation based on the order of a teacher (Fig.1). The observed data in terms of the classification skills is presented in the following table:

Table 1. Classification

No.	Initials	Pre	Cycle I	Cycle II
1	AJ	6	10	11
2	FY	5	8	10
3	EL	6	10	11
4	AU	5	12	12
5	BY	6	11	12
6	NM	6	9	11
7	DK	6	10	11
8	CA	6	10	12
	Σ	46	80	90
standard deviation		0.46291	1.195229	0.707107

From the table above, the study showed the improvement of classification in logical mathematical intelligence that are better if compared with pre-research and the cycle I data. Data on the results of observations are presented in the following histogram visualization:

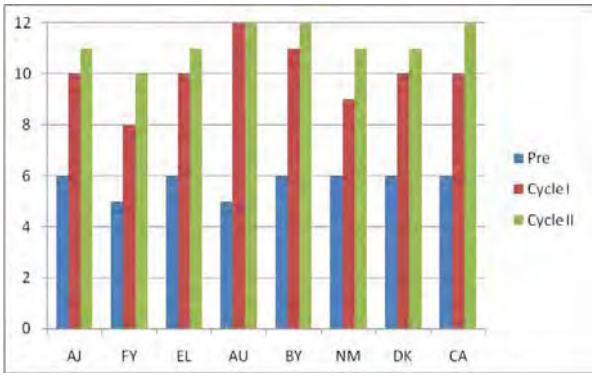

Figure 1. The improvement of classification ability

Mean (Pre-study)	Mean (cycle I)	Mean (cycle II)
5,75	10	11,25
	Improvement 73,91 %	Improvement 12,5 %

As shown in figure 1, it can be interpreted that the ability of the child in terms of classification increases as much as 73,91% at the end of cycle I and 12,5% at the end of cycle II.

In Seo and Ginsburg's studies, classification is the least occurring in mathematical activity (Seo and Ginsburg, 2004). But in this study, classification is the most occurring in mathematical activity while children do fun cooking.

2.2 Magnitude

Children engaging in activities under this category are describing or comparing the size of objects. (Sarama and Clements, 2009). Fun cooking activities undertaken by children, i.e children comparing the size of fruits and describing the taste of foods.

After treatment, the researcher asking two group of children, girls and boys, each one having their own fruits. One said to the other, "Look at mine. I have a big apple!" The other protested, "Mine is bigger!" They said to their teacher, "we need more biggest apple to defeated the other group". In this case, they learn to compare them side by side. These boys and girls were considering the mathematical concept of magnitude (fig.2). The observed data in terms of the magnitude skills is presented in the following table:

Table 2. Magnitude

No.	Initials	Pre	Cycle I	Cycle II
1	AJ	4	6	7
2	FY	4	5	7
3	EL	3	6	6
4	AU	4	6	7
5	BY	4	7	8
6	NM	4	6	8
7	DK	3	7	7
8	CA	4	6	7
	∑	30	49	57
standard deviation		0.46291	0.64087	0.64087

From the table above, the study showed the improvement of logical mathematical intelligence that are better if compared with pre-research and the cycle I data. Data on the results of observations are presented in the following histogram visualization:

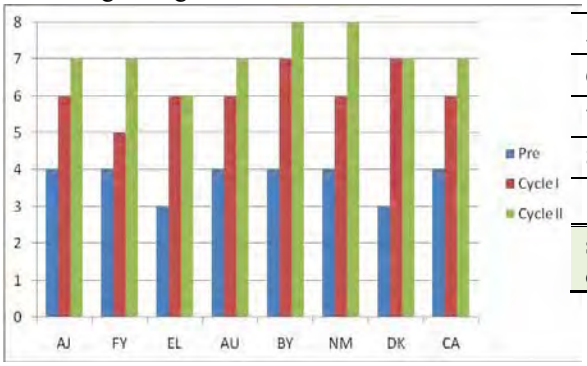

Figure 2. The improvement of magnitude ability

Mean (Pre-study)	Mean (cycle I)	Mean (cycle II)
3,75	6,12	7,12
	Improvement 63 %	Improvement 16 %

As Shown in figure 2, it can be interpreted that the ability of the child in terms of magnitude increases as much as 63% at the end of cycle I and 16% at the end of cycle II.

The frequency with which children engaged in mathematical play was not the same in the different categories of Ginsburg's studies. The greatest frequency was in pattern and shape 21%,followed magnitude 13% (Seo and Ginsburg, 2004).

2.3 Enumeration

This category includes saying number words, counting, instantly recognizing a number of objects (called *subitizing* in mathematics), or reading or writing numerals. (Sarama and Clements, 2009). In this case, teacher observed children while they measure how many teaspoons are in the tablespoon and how many cups are in the quart. They also asking to recognize a number of mangosten and counting total fruits they had.

Two girls handling some fruits with different type. they discussed how many rambutans and dukuh do they had and how about orange (fig.3). These kids were enumerating. The observed data in terms of the enumeration skills is presented in the following table:

Table 3. Enumeration

No.	Initials	Pre	Cycle I	Cycle II
1	AJ	7	12	13
2	FY	7	11	13
3	EL	7	11	14
4	AU	8	14	16
5	BY	7	10	13
6	NM	8	13	15
7	DK	7	15	15
8	CA	6	13	15
	∑	57	99	114
standard deviation		0.64087	1.685018	1.164965

From the table above, the study showed the improvement of enumeration in logical mathematical intelligence that are better if compared with pre-research and the cycle I data. Data on the results of

observations are presented in the following histogram visualization:

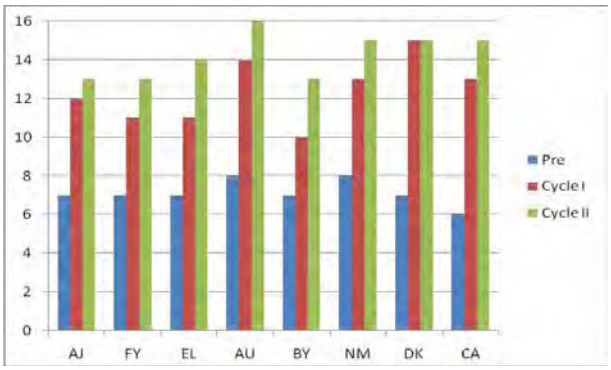

Figure 3. The improvement of enumeration ability

Mean (Pre-study)	Mean (cycle I)	Mean (cycle II)
7,12	12,38	14,25
	Improvement 73,68 %	Improvement 15,15 %

As Shown in figure 3, it can be interpreted that the ability of the child in terms of enumeration increases as much as 73,68% at the end of cycle I and 15,15% at the end of cycle II.

2.4 Pattern and Shape

This category includes identifying or creating patterns or shapes or exploring geometric properties. In one example, a child made a bead necklace, creating a yellow-red color pattern. (Sarama and Clements, 2009).

Ginsburg complement Sarama claims that pattern and Shape activity involves identifying or creating simple pattern or shape or exploring geometric relations such as balance, symmetry, foundation, or enclosure (Seo and Ginsburg, 2004).

In this study, teacher asking children to set the table for the same number of children as there are chairs at the table and teacher giving them shape cutters for making sandwiches. Another day, children showing how to create a layered jelly and to make a satay. These children were playing with pattern and shape (fig.4).

Teacher ask the children, "What are you doing?" And a child answered, "I'm making a sandwich". What is the shape of your sandwich? One group of children answered, "star". And other group children say that, "mine is squares". The observed data in terms of the pattern and shape ability is presented in the following table:

Table 4. Pattern and shape

No.	Initials	Pre	Cycle I	Cycle II
1	AJ	8	10	11
2	FY	7	9	11
3	EL	8	11	11
4	AU	8	13	15
5	BY	8	11	11
6	NM	7	10	14
7	DK	8	12	13
8	CA	7	13	14
	∑	61	89	100
standard deviation		0.517549	1.457738	1.690309

From the table above, the study showed the improvement of pattern and shape in logical mathematical intelligence that are better if compared with pre-research and the cycle I data. Data on the results of observations are presented in the following histogram visualization:

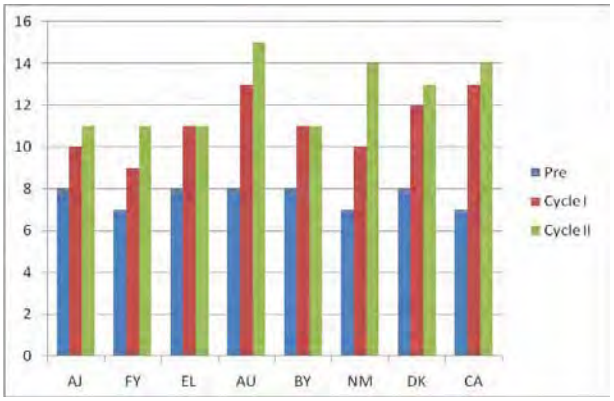

Figure 4. The improvement of pattern and shape ability

Mean (Pre-study)	Mean (cycle I)	Mean (cycle II)
7,63	11,13	12,5
	Improvement 45,90 %	Improvement 12,36 %

As shown in figure 4, it can be interpreted that the ability of the child in terms of pattern and shape increases as much as 45,90% at the end of cycle I and 12,36% at the end of cycle II.

In contrast, Seo and Ginsburg's studies, patterns and shapes is the most frequently occurring mathematical activity comparing magnitudes, and making numerical judgements. Statistical analysis showed that the greatest frequency was in pattern and shape (21 %), magnitude (13 %), enumeration (12%),

dynamics (5 %), spatial relations (4 %), and classification (2 %) (Seo and Ginsburg 2004).

2.5 Gender differences

We also examined gender differences in specific types of mathematical activity. The relative frequency of different types of mathematical activity is differ across gender (Fig. 5). Data on the results of observations base on gender differences are presented in the following histogram visualization:

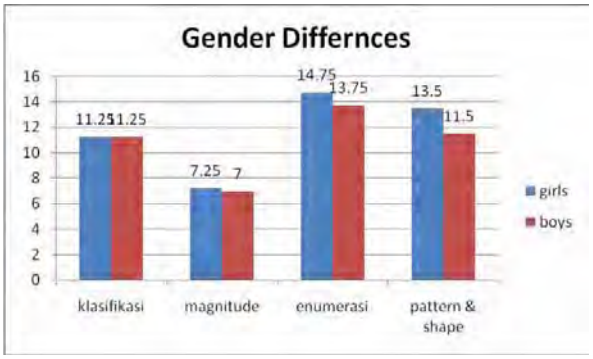

Figure 5. Relative frequency of four types of mathematical activity: gender differences

Finally, gender differences were examined in the complexity of four types activity. In gender differences, statistical analyses show that boys and girls are differ in specific types of mathematical activity, which are magnitude, enumeration and pattern and shapes skills. Girls exhibited a slightly higher score in term of enumeration (mean of average level = 14.75) than did boys (mean of average level = 13.75), pattern and shape (mean of average level = 13.5) than did boys (mean of average level = 11.5), and magnitude (mean of average level = 7.25) than did boys (mean of average level = 7). except in term of classification, the analysis show that boys and girls are not differ. But all activity showed the difference was not statistically significant (Fig. 5).

Our study support the theory that statistically, gender is not associated with overall frequency of mathematical activity. Boys and girls engage in similar amounts of mathematical activity, 41.3% and 43.5% respectively on the average of percentages of minutes of mathematical activity (Seo and Ginsburg 2004).

3. Conclusions

The researcher observed four categories of mathematics content in the children's play activities. The frequency with which children engaged in mathematical through fun cooking was not the same in the different categories.

The result of this study at the end of cycle I show that the increases of classification (73,91%) is the greatest, followed enumeration (73,68%), magnitude (63%), and pattern and shape (45,90%). But at the end of cycle II, study shows the improvement of magnitude is the greatest(16%), followed enumeration (15,15%), classification (12,5%) and pattern and shape (12,36%).

In gender differences, Statistical analyses show that boys and girls are differ in specific types of mathematical activity, which are magnitude, enumeration and pattern and shapes skills. But all activity showed the difference was not statistically significant. On the other word, gender is not associated with overall frequency of mathematical activity. Observations also indicate that fun cooking can support mathematics learning if it stimulates learning and integrates the interests of children and educators.

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THE USE OF MULTIPLE MODELS INSTRUCTION BASED LEARNING PROGRAM IN EXPERIMENTAL FUNDAMENTAL PHYSICS COURSE FOR IMPROVING STUDENTS UNDERSTANDING ABOUT KINEMATICS CONCEPTS

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Abstract

The study was aimed to find the effectiveness of MMI based learning program of Experiment of Fundamental Physics 1 course in improving students understanding about Kinematics concepts and improving their chart literacy. Experimental method with pretest and posttest control group design was used in the study. There were 58 students involved and comprised into two groups, they were 38 students as an experiment group and 20 students as control group. The *t*-test analysis result shows that implementation of the MMI model was significantly improving the students understanding on kinematics concept. In line with the result, the normalized N-gain of the experiment group is 0.71 (high category) and the control group is 0.20 (low category) which shows that the use of MMI on Experiment of Fundamental Physics 1 course significantly improve the students understanding about Kinematics concepts. This research shows that the MMI model is effective in improving students understanding about Kinematics concepts in Experiment of Fundamental Physics 1 course.

Key Words: Multiple Models Instruction (MMI), Problem Based Learning (PBL), Kinematics Concepts

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1. Introduction

One of the experimental sessions in the Experiment of Fundamental Physics 1 course was about kinematic. In this session, the students are taught about the concept of motion presented graphically. In order to master the physical aspect of the graph illustrated from the kinematics cases, the student should have a good understanding about the concept of kinematics. Therefore it is necessary to design a learning program that is able to improving students understanding about kinematics concepts and improving their chart literacy. The chart literacy is the students ability in conducting experiments by obtaining data, processing data, creating graphs, creating mathematical equations, interpreting and conclude the chart. In order to support the kinematics learning activities that develop graphs literacy and kinematics concepts understanding, it would require a combination of several learning models. This is because the learning process starts from the problem ofkinematics which students derived during lectures, and students attempt to solve these problems through activities in the laboratory. When the students create a chart, it would require computer software aid to present the data in graphically in order to support interpreting the chart. Thus, in this study, multiple models of instruction were used in the learning program in order to improve the student understanding about

the kinematics concepts. Based on the preliminary study on undergraduate and postgraduate student of Physics Education of Indonesia University of Education obtained the fact that students are still experiencing difficulties in making and interpreting graphs [9]. Various attempts were made by the researchers to minimize the difficulties of the student's understanding about graph literacy. Research on the ability to read charts in prospective teachers is still not obtain the maximum results yet, so we need to focus on learning the model representation and interpretation of physical phenomena, social, and mathematics [2]. Empirical facts show that there are obstacles faced by the physics teacher candidates in mastering the chart skills. Most of physics teachers student who are able to read the chart, are not able to present similar data into a new graph [5]. Common errors that occur usually happen in the determination of the absolute value, the form of graphs at different intervals, and the value of a function of a point outside the interval [6]. The conclusion from these facts, that the concept of science process skills can be understood by prospective teachers, but not yet implemented in their performance [12].

Research shows that understanding the graph is strongly influenced by the context of the interpretation of their data [8, 11]. For example, whether or not the student to understand the content will affect the ability to analyze and to describe the data. While research scientists recommend that in order to scientifically literate students, then they should know the facts and the process of science as well as having the ability to communicate science effectively uses the graphical representation, as in [1]. Through appropriate learning, the student is able to be encouraged to have a critical and literate nature of the graph. Based on the synthesis of the findings of previous research, multiple models based instruction (MMI) design was proposed to improve the student understanding of kinematics concepts.

The research method used in this research is experimental research with pretest and posttest control group design. The number of samples of this study is 58 students; they are 38 students in experimental group and 20 students in control group. In the experimental group experience multiple models based instruction (MMI) based learning program, whereas in the control group experience problem-based learning (PBL) learning program. Result of the MMI-based learning program kinematics [10] is shown in Figure 1.

In Figure 1, it can be explained that the learning characteristics of kinematics-based MMI is an elaboration of the three learning models, namely the laboratory inquiry, problem-based learning and computer-assisted. MMI learning program applied in the subjects Physics Experiment 1 especially in kinematics, i.e. uniform rectilinear motion and uniformly accelerated free fall motion, circular motion and the motion of projectiles. MMI Design-based of kinematics learning program is as follows: in the first stage of learning, the students explores issues, determine the variables and hypotheses of the study, this activity was conduct in the laboratory. At this stage students were also tested the experimental equipment and posing the problem simultaneously based on empirical facts. Fourth tool kinematics experiment is equipped with sensors to detect motion and time. While the development of a tool to experiment free fall motion, circular motion and the motion of projectiles equipped with a computer-based interface that allows the student can directly convert the data into a chart. Thus, the main activity in this stage is incorporates inquiry lab. (Lab. Inquiry) and problem-based learning model (problem based learning).

In the second stage of learning, students in groups (3-4 students) conduct laboratory experiments to address the problem and prove the research hypothesis. The learning procedures in this stage are doing experiments and observations, putting the data in the table, and presenting them in the form of graphs, writing mathematical equations, interpreting the graphs, predicting the charts, and concluding the result. Task of experimental activities are student activity sheets to be collected at the end of the session. Meanwhile, the next steps are to prepare a written individual lab reports and to prepare materials for the presentation of experimental results as well as to proposed design of improvements of existing equipments. In the third phase of this study, the students present the results of laboratory activities in front of the other groups, discuss the results of the lab, and deliver proposed tool design to enhance existing tools. This presentation activity is a reflection of problem-based learning model (problem based learning).

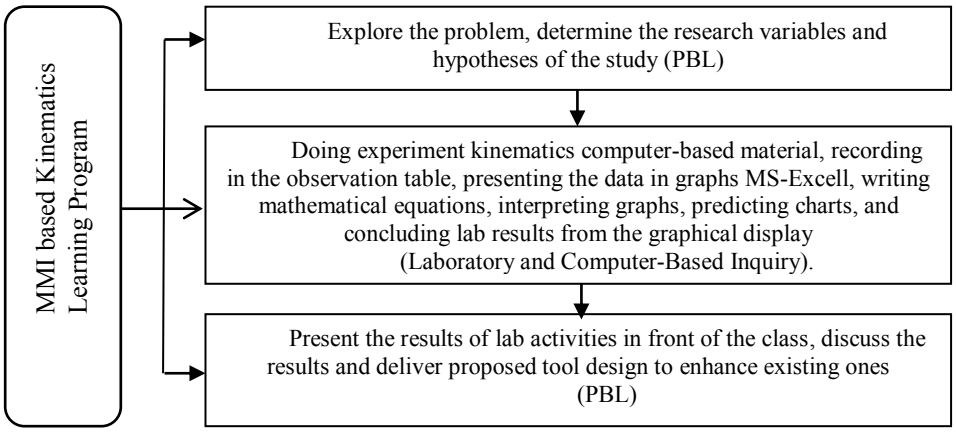

Figure 1. MMI based KinematicS learning program

While the results of an increased understanding of kinematics concepts of physics education students to apply learning program kinematics based multiple models instruction (MMI) and problem-based learning (PBL) is shown in Table 1.

Table 1. Test results MMI based understanding of the concepts of kinematics and PBL students of physics

	Pre test		Post test		N gain	
	E	K	E	K	E	K
N	38	20	38	20	-	-
$\bar{x}$	58.00	53.90	66.80	86.10	0.71	0.20
SD	12.29	8.92	6.95	10.66	-	-
Highest score	72.50	75.00	97.50	78.00	0.94	0.24
Lowest score	10.00	57.50	75.00	67.50	0.39	0.12

Description :
E : The experimental group by applying the learning model,
K : The control group by applying the learning model PBL learning model.

Based on Table 1 it appears that the implementation of the MMI-based learning program kinematics can improve student understanding of kinematics concepts of physics education. This is indicated by the N gain for the experimental group (based MMI) by 0.71 as high category. As for the control group who implement PBL-based learning program kinematics get a gain of 0.20 N as lower categories. Similarly, the N gain final test scores kinematics of motion for the experimental group (apply based learning MMI) of 0.94 (high category) and control group (apply based learning PBL) of 0.24 (lower category). The results of this study reinforce the previous findings [7] that the development of learning programs prospective science teachers through inquiry learning model laboratory and reflective laboratory are able to improve understanding of the concept of science teacher candidates. The similar research show that examined the integration capabilities (laboratory activities), the ability of pedagogical and content simultaneously capable in supporting professional attitude of teacher candidates [4]. However, for N gain students who receive the lowest test scores both the control group and the experimental group learning program has not significantly enhances learning outcomes of students who obtained the lowest score. This shows that students who have a low ability are not have the spirit to solve problems independently. Thus, for students who have low capability should be provided remediation and motivation in understanding the kinematics problem of motion through guided inquiry as found in research findings that introduces mini journaling inquiry-based learning [9].

Effectivenesss testing of the MMI kinematics based learning programs for both groups, the experimental and control using the t test are presented in Table 2.

Results of *t*-test for the significance of the effectiveness of the use of the MMI-based learning program kinematics to improve students understanding of the concepts of kinematics.

Model	N	$\bar{x}$	*SD*	*t*	*p*
MMI	38	70.06	8.75	3.24	0.02
PBL	20	62.40	8.17		

Based on the results of t test analysis in Table 2 it can be seen that the $t(58) = 3.24$; $p =$

0.02 or p <0.05. Students who experince the experimental group-based learning program kinematics MMI ($\bar{x}$ = 70.06; *SD* = 8.75) better in terms of understanding the concept of motion kinematics than the control group (experience kinematics-based learning program PBL) it can be seen from $\bar{x}$ = 62 , 40; SD = 8.17. Therefore it can be concluded that the application of the MMI-based kinematics learning program can improve the student understanding of concepts than PBL-based kinematics learning program. The characteristic of MMI-based kinematics learning program built in this study is breakthrough learning that is continuing learning in the classroom to the laboratory. Such learning program is helping students to solidify the concepts found from laboratory activities to be finalized in class discussions. However there are weaknesses, which require more time than the learning process has been done. Efforts that can be taken to deal with time is to design a laboratory activities in accordance with the theoretical material in class, so the concept possessed by student will well connected.The correlation between the literacy skills of kinematics graphs to the understanding of kinematics concepts of physics students can be presented in Table 3.

Table 3. Results of correlation test (Pearson) on the literacy skills of kinematics graphs to understanding the concept of physical education student kinematics.

		Understanding the literacy skills	Understanding the consepts of kinematics
Understanding the literacy skills	Pearson Correlation	1	0.998 **
	Sig.(2-tailed)	-	0.000
	N	58	58
Understanding the consepts of kinematics	Pearson Correlation	0.998**	1
	Sig.(2-tailed)	0.000	-
	N	58	58

The results of correlation analysis about the relationship between literacy skills kinematics graphs to understanding the concept of physical education students from Table 3 showed a very strong correlation, it is r(58) = 0.998 and significant at p = 0.000 or p <0.001. It can be concluded that the graphic literacy skills will help students understand the concept of physical education in motion kinematics. When studying the kinematics, the concept will be more easily displayed in graphical form rather than mathematical equations. To understand graphs well, then the student is required to have the ability to predict, the adequate ability to interprete and. Research results as in [10] showed that the ability to predict and infer the graphic display a high position for physical education students, as compared to other graphic literacy skills. This is because the physical education students have a good understanding of the concept of kinematics in accordance with the data in Table 3.

2. Conclusions

The use of MMI based kinematics learning program effective in increasing understanding of the concepts of motion kinematics in physics education students. Literacy skills highly correlated with kinematics graphs on student conceptual understanding of physics education. Graphic literacy skills that will help students understand the concepts of physical education in motion kinematics.

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PEER PRESSURE AND CONFORMITY AS PREDICTORS OF ACADEMIC MISCONDUCT AMONG UNIVERSITY STUDENTS

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Abstract

Academic misconduct has been a serious problem for academic integrity. Many studies has been undertaken to find the reasons and solve this problem. The aim of this study was to complement existing research by examining the relationships between peer pressures and conformity with academic misconduct. Undergraduate participants (N=101) drawn from various universities in Jakarta, completed the adaptations of Perceptions of Academic Misconduct Questionnaire and the Peer Pressure, Popularity, and Conformity Scale. By using descriptive, correlation, and regression statistical analysis, it was found that academic misconduct were low, peer pressure were high, and conformity were moderate; peer pressure ($r=.698$; $p< 0.01$) have significant influence for academic misconduct and serves as the strongest predictor ($\Delta R=.488$; $p<0.01$), while conformity ($r=.061$; $p>0.05$) is not significant. To some extent, this research supports the social influences explanations on the effect of group for adolescents' unethical behavior. Findings and limitations of this study were discussed both in terms of theoretical and practical implications.

Keywords: academic misconduct, peer pressures, conformity, social influence

1. Introduction

Academic misdemeanor is a serious offence towards academic integrity, and many studies have been done to find the root of the problem and solve it. It is not a new problem, but it is something that became very concerning, moreover with the fast development of technology. The easy access to information on the Internet represents a great temptation for copyright violation and academic dishonesty (Szabo & Underwood, 2004). It is imperative that something needed to be done to at least lower the inclination towards academic misconduct.

One of the most famous proverb said; a thousand friends are too few, one enemy is one too many. It is one of many proverbs existed that told how precious friends is. There is no lack of evidence that peer relationships matter (Burkowski, Buhrmester, & Underwood, 2011). Adolescents and adults typically share the most basic activities and experience in their lives with person their own age (Burkowski, Buhrmester, & Underwood, 2011). This of course includes their academic lives and experience. As such, it is not strange that students influence each other thoroughly, whether in academic matters or non-academic one and whether in positive behavior or even misdemeanor. This also applied to academic misconduct among students. The dishonest pursuit of obtaining good marks could be due to the pressure students experience to prove their worth to themselves or to others (Davis, Grover, Becker, & McGregor, 1992; Newstead, Franklyn-Stokes, & Armstead, 1996, cited from Curtis & Popal, 2011).

Academic integrity involves all acts upholding ethical values and maintaining a good moral character within the academic environ and context (Ressureccion, 2012). Many universities have manifested the need for integrity, whether in the form of vision, mission or even rules. One of the closest examples is Psychology faculty of Tarumanagara University's missions (2015) which is to "organize educational process that promotes entrepreneurship, professionalism, integrity and caring community.

Academic misconduct is a construct that encompasses multiple forms of academic deviance, including but not limited to test cheating, plagiarism, and inappropriate collaboration (Kisamore, Stone, & Jawahar,

2007). Considering that undergraduate students would be leaders in the future, it is necessary for them to learn how to do things ethically as they would be a role models for others (McCabe, Butterfield & Treviño, 2006).

When students engage in academic misconduct, they compromise not only their personal integrity, but also that of the courses for which they are enrolled, the degree programs for which they belong, and the institution for which they inhabit (Royal, Parrent & Clark, 2011). Continuous academic misconduct could end up producing paper (certificate) documentation of skills with inaccurate assessment of competence (Szabo & Underwood, 2004).

The purpose of this study was to add into the numbers of contextual researches concerning academic misdemeanor. Although the research on academic misconduct is vast and rather comprehensive, most of the research dealt with individual factors. Most of contextual researches concerning academic misdemeanor focuses on the factors of institutional attitudes, pressure; be it time or competition, and probability of being caught. The following research questions are proposed: (1) Is there any correlation between conformity and peer pressure with academic misdemeanor? (2) Is there any difference in effects towards academic misdemeanor between peer pressure and conformity? (3) How strong is peer pressure and conformity effect towards academic misdemeanor?

2. Methods

2.1 Participants

The participants taken as sample consisted of 101 undergraduate students from various universities aged 18-24 (M= 19.65; SD=1.108) Majority of the samples are undergraduate students from University Tarumanagara with Psychology major, with the minority from Medical, Technical, Art and Design, Economic, Law and Communication major. The participants are chosen randomly with accidental sampling method. Of the 101 participants, 66 individuals are female, while the other 35 individuals are males.

2.2 Measures

The measures used in this research is an adaptations of Perceptions of Academic Misconduct Questionnaire (Royal, Parrent & Clark, 2011) and the Peer Pressure, Popularity, and Conformity Scale (Santor, Messervey & Kusumakar, 2000 cited from Miller, 2010) are self-report measures in the form of questionnaire.

Adaptations of *Perceptions of Academic Misconduct Questionnaire* used is a 37 items questionnaire on a 7-point Osgood scales which has also been modified to have two bipolar adjectives, "never = 1" and "always = 7". This modification was made to improve measurement precision and with added consideration to the difference between cultures and languages. Perceptions of Academic Misconduct Questionnaire is originally constructed to modeled undergraduate students' perceptions of academic misconduct and contained three parts: 1) a section containing demographic items; 2) a section which contained 38 items asking whether various situations constituted academic misconduct, and whether students had engaged in each of these actions while in college; and 3) a section with 20 items that asked students about the extent to which they believe a series of factors would affect the frequency of academic misconduct (Royal, Parrent & Clark, 2011). Possible scores ranged from 37 to 259, with higher numbers indicated greater tendency towards academic misconduct.

Table 1. Some of Perceptions of Academic Misconduct Questionnaire

No	Items
1	Copying from others during tests
2	Preparing cheat sheets but not using them
3	Using cheat sheets during tests
4	Having someone else do your homework

The *Peer Pressure, Popularity, and Conformity Scale* indicated how participants felt about the experiences they had with peer pressure, popularity, and conformity, with 30 items divided into the three topics of peer pressure, popularity, and conformity (Miller, 2010). The adaptations of Peer Pressure, Popularity, and Conformity Scale used contain only 18 items, opposite of the original 30 items. The reason behind the reduced items is due to the fact that popularity was not a variable within this research, and thus, items about popularity are regarded as unneeded. The rating scale used is a 5-point Likert scale with "1" being "strongly disagree" and "5" being "strongly agree." Possible scores ranged from 18 to 90, with higher numbers indicated greater peer pressure when making choices.

Table 2. Some of Peer Pressure, Popularity, and Conformity Scale

No	Dimensions	Items
1	Peer Pressure	My friends could push me into doing just about anything.
2	Peer Pressure	When at school, if a group of people asked me to do something, it would be hard to say no.
3	Conformity	If a teacher asks me to do something, I usually do it.
4	Conformity	I usually do what I am told.

2.3 Procedures

Participant in this study have voluntary agreed to become part of samples. They were asked verbally to participate and sign their willingness to participate under the informed consent waiver. The purpose of the self-report questionnaire was also explained in informed consent waiver. The participants complete each scale and survey questions in about 20 minutes. Data collections were along two days duration.

The item-total correlations ranged from .297 to .729. The Cronbach Alpha for each scale was as follows: peer pressure .841, conformity .658, and academic misconduct .942. All measures have high levels of reliability standard, with the exception of the first and seventh items from conformity dimensions and the sixteenth and thirty third from academic misdemeanor dimensions. The unreliable items were deleted for its unreliability.

2.4 Statistical Analyses

This research use quantitative approach and all data were analyzed using the SPSS (Statistical Package for Social Sciences) version 15.0. The method used is Linear Regression, to know the influence of independent variables (peer pressure and conformity) towards dependent variable (academic misdemeanor). According to SPSS, peer pressure and conformity can be held responsible as one of the factors of academic misdemeanor, for their percent of effect is 48,8 percent.

3. Results

The subsequent table is the findings of research.

Table 3. The Descriptive of Peer Pressure, Conformity and Academic Misdemeanor

	Min	Max	Mean	Std. Deviation
Peer pressure	1.27	5.00	2.72	.653
Conformity	2.20	5.00	3.38	.521
Academic Misdemeanor	1.03	6.20	2.45	.860

The descriptive findings suggested that peer pressure were moderate, conformity were high and academic misdemeanor were low.

Table 4. The Correlation between Peer Pressure and Conformity towards Academic Misdemeanor

Variables	r	p
Peer Pressure	. 698	< 0.05**
Conformity	. 061	>0.05

Note: r = coefficient correlation, p = significance

**. Correlation is significant at the 0.01 level (two-tailed)

The research findings indicated that there was a statistically strong and positive correlation between peer pressures with academic misdemeanor among undergraduate students.

Analysis of the study also shown that there was a significant difference of influence between peer pressure and conformity, with peer pressure serving as the strongest predictor ($\Delta R=.488$; $p<0.01$) of academic misconduct.

Table 5. The Regression between Peer Pressure and Conformity towards Academic Misdemeanor

Variables	R	F	t
Peer Pressure	.488	346,655 p <0.05	9.623, p<0.05
Conformity			-.448, p>0.05

Note: R = r-square, F = stimulant effects, and t = partial effects

The effect of peer pressure towards academic misdemeanor is significant. The stimulant effects of peer pressure and conformity is also significant, while when apart, only peer pressure have significant effect towards academic misdemeanor.

4. Discussion

The results supported the hypotheses that participant with higher peer pressure and conformity commits more academic misconduct. The results indicate that the higher peer pressure the participants have, the more significant the effect towards academic misconduct. Also, the results indicate that participants' conformity have no considerable effect on academic misconduct. Therefore, the results suggested that undergraduate students are more affected by their peers than their family, at least in educational setting.

Baron and Branscombe (2014) defined conformity as pressure to behave in ways that are viewed as acceptable or appropriate by a group or society in general. Peer pressure, as defined by Franzoi and Klaiber (2007, cited in Miller, 2010), is an influence on the decision of others, causing them to conform to what peers or society desire. When examined, it is clear that the difference between conformity and peer pressure is minimal. The only notable difference being peer pressure is caused by a specific group of people, namely peers, while conformity may have wider interpretation, ranging from big group, such as nationality, to small group, such as family.

The similarity between peer pressure and conformity is, surprisingly, not sufficient to ensure equal opportunity as predictor for academic misdemeanor. Peer pressure has a significant effect on academic dishonesty, while conformity only has limited effect. Yet, this support the findings in developmental and social psychology that stated that as children ages, they spent less time with their family and more time with their friends as they establish autonomy from parents (Bukowski, Buhrmester, & Underwood, 2011). They relied on friends as much as they relied on parents for closeness and support during middle and late adolescence, and friendships became closely linked to adolescents' psychological well-being and development (Furman & Buhrmester, 1992, cited from Bukowski, Buhrmester, & Underwood, 2011).

Many of college students' reckless behavior and tendency to take unneeded risk are influenced by peer pressure, not only among male but also among female (El-Tahch, 2009). Undergraduate students also showed tendency to have inaccurate perception of their performance in situations involving peer pressure and conformity compared to when they are actually involved in the situation (El-Tahch, 2009). Thus, there are possibilities that undergraduate students are more likely to conform to peers pressure than their self-report questionnaire indicated.

4.1 Limitations

Limitations of this study need to be considered. *First*, this study occurred in a small accidental sampling and thus, making the results unsuitable to generalize. Researcher suggested future study should find higher number of samples and use different sampling techniques that would enable better generalization. *Second*, the study has limited demography factors. Most of the subjects didn't remember their GPA thus there was no way to determine if a correlation between GPA and variables studied was present. *Fourth*, this study didn't take into account other factors that can affect academic misdemeanor.

Future researchers that are interested in replicating this study can use more demographic factors for better understanding. Different subjects criteria, such as high school or middle school, could also be used in order to further find the correlation between peer pressure and academic misdemeanor, and to find the degree of effect peer pressure have on different age bracket. Lastly, this study should be made experimental to discover if manipulating the variables and demographic factors has any effect on academic misdemeanor.

5. Conclusion

The research findings indicated that there was a statistically strong and positive correlation between peer pressure and conformity with academic misdemeanor among undergraduate students and the strongest predictor of academic misdemeanor is peer pressure. Unexpectedly, only peer pressure has significant effect on academic misdemeanor, while conformity effect is insignificant. Reasons for this weak correlation may be due to the developmental stage of the participants. Participants are at the developmental stage where they learn to became autonomous from parents, and spend more time with their peers.

The preset study is useful, for this study compare peer pressure, conformity and academic misdemeanor against each other in order to determine if there is a significant relationship present. This study also shows the difference between peer pressure and conformity clearly, and serves as reminder that despite the resemblance, peer pressure and conformity do have difference.

Researchers believe that with this study, future researchers will be able to learn about the factors, if any, that affect academic

misdemeanor, which can then be applied to decrease, and even stop, academic misdemeanor.

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INTEGRATED ASSESSMENT INFORMATION SYSTEM TO SUPPORT THE APPLICATION OF SCIENTIFIC APPROACH IN THE HIGH SCHOOL LEVEL

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Abstract

Based on the results of monitoring and evaluating the implementation of Curriculum 2013 conducted by researchers through the assignment of the Directorate of Junior Secondary Education Ministry of Education and Culture of the Republic of Indonesia, found that the most difficult problems faced by teachers is a matter of assessment. To resolve these problems, researchers through research grants competence by using the cost of the Directorate of the Community Research and Service (Ditlitabmas), developing information systems for the assessment of secondary school (SIPSMA). System assessment information was compiled based on the Regulation of the Minister of Education and Culture No. 104 of 2014 on the assessment of learning outcomes (Permendikbud No. 104 of 2014). This system describes how the acquisition value, the range of values and report writing. With this system facilitated the assessment of teachers because teachers are asked to enter the data value, after the data processing system to generate output data is for high school report book.

Methods of Research and Development (R & D) used in developing the model of assessment for learning information system using a scientific approach (Curriculum 2013), using the five phases of design activity spiral model adapted from 'Five phases of instructional design'. In the spiral model is known to five (5) the development phases: (1) define, (2) design, (3) demonstrate, (4) develop, and (5) deliver. The developer starts from the definition phase (which is the starting point of activity), moving towards the design phase, demonstration, development, and presentation are in the process takes place in a spiral and involve users, experts from the fields developed (subject matter experts), and education stakeholders.

Keywords: *information systems assessment, scientific approach, high school*

1. Introduction

Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 3 of 2013 on the criteria for graduation of students from the Education Unit and Implementation Exam Schools/Madrasah/Educational Equality and the National Examination, stating that the final score for the passing of the Education Unit obtained from the combined value of S/M/PK (Value Schools/Madrasah/Education Equality) of subjects tested nationally and Value UN, ie the weighting of 40% value of S/M/PK of subjects tested nationally and 60% of the value of the UN (Article 6, paragraph 3).

National Exam is one of the external assessment used by the government to collect data on student learning achievement, the extent of achievement of learners achieving Graduate Competency Standards (SKL). At school students should be familiar with the learning outcomes assessment conducted by the school teachers. As mandated by Government Regulation Number 19 Year 2005 on National Education Standards Article 63 paragraph (1): Assessment of education in primary and secondary education consists of: 1) assessment of learning outcomes by educators; 2) assessment of learning outcomes by educational units; and 3) assessment of learning outcomes by the government (Wibowo, 2011: 9).

Assessment of learning outcomes by educators conducted on an ongoing basis to monitor the process, progress, and improvement of the results in the form of daily tests, midterms, final exams and exam grade. Assessment of learning outcomes by educators used to assess achievement of competence of learners; material statements of learning outcomes; and improve

the learning process. Assessment of learning outcomes by education unit aims to assess the achievement of competency standards for all subjects. Assessment of learning outcomes by the government in the form of a national exam aims to assess the achievement of national competency in specific subjects in the group of subjects in science and technology. The national examination conducted in an objective, fair, and accountable.

The problem that then arises in this regard is the lack of equality of quality assessment used for assessment at school (3 semesters (three) to 5 (five) for the secondary/high school/vocational school), so it can not guarantee fairness because of differences in quality tests are given. It is very urgent to find a solution, because the value of school is used also in the new admissions system (SNMPTN) the invitation. Because that's necessary in order to equalize the quality of standardized tests and sense of justice. One way to do is to integrate the item response theory in school assessment system using CMI.

a. Based on the results of monitoring and evaluating the implementation of Curriculum 2013 conducted by researchers through the assignment of the Directorate of Junior Secondary Education, found that the most difficult problems faced by teachers is a matter of judgment. To resolve these problems, researchers through research grants competence by using the cost of the Directorate of the Community Research and Service (Ditlitabmas), developing information systems for the assessment of secondary school (SIPSMA). System assessment information was compiled based on the Regulation of the Minister of Education and Culture No. 104 of 2014 on the assessment of learning outcomes (Permendikbud No. 104 of 2014). This system describes how the acquisition value, the range of values and report writing. With this system facilitated the assessment of teachers because teachers are asked to enter the data value, after the data processing system to generate output data is for high school report card.Chapter titles, except the Introduction, Conclusions, and Future Works, should explicitly declare the contents. However, it is not necessary to be explicitly expressed as a Basic Theory, Design, and so forth.

2. Methode and Discussion

CMI-SIPSMA application is a system based on client-server where the client computer machine only integrated with the end-user CMI-SIPSMA and client requirements. While the machine can be integrated with a server computer system database and server requirements. CMI-SIPSMA Applications can also be applied to a single machine ajayang computer has a whole section of the system: the system end-user CMI-SIPSMA, server and client requirements, along with the base system database.

At CMI-SIPSMA applications, security and access rights are developed with user-level security and User Roles. Each user is based on each individual teacher at each school. Only the user "admin" who act as Super User, and Administrator user role as the user "default" by not based on the individual teacher.

Type of User Roles and access rights in the form of:

1. ADMINISTRATOR

   Administrator user role almost have full access rights to all menus, functions, and modules that exist in the application. Most of the powers and duties of the Administrator in the form:

   b. Open and close the school year
   c. Management school profile
   d. User Management
   e. Management of teachers
   f. Management learners
   g. Classroom management
   h. Management of subjects
   i. Pengelolaaan extra-curricular
   j. The management group of subjects
   k. Teaching management
   l. Management change schools

2. HOMEROOM TEACHER

   User Roles Guardian Class Teachers have access rights in the form of individual authority of teachers who also act as a homeroom. Most of the powers and duties of the Master Guardian Class include:

a. Management change schools
b. overall assessment
c. Reports Learning Outcomes

3. SUBJECT TEACHERS

   Subject Teachers user role permissions in the form of individual authority of teachers who simply act as subject teachers. Most of the powers and duties of Master Subjects include:

   a. daily Rate
   b. Assessment aspects of knowledge
   c. Assessment aspects of skills
   d. Assessment of spiritual attitudes and social aspects

Applications designed and has been in ujicobakan is the CMI (Computer Management Instruction) development of a rating system for high school (SMA) hereinafter referred to as Information Systems and High School Assessment (SIPSMA), with the following configuration:

Installation Instructions SIPSMA Based CMI

Minimum specifications (hardware) to run the application CMI-SIPSMA and features are:

1). Machine computer with an Intel Core or AMD Processor and RAM 2 GB
2). Printer.

The minimum specification of software (software) to run the application CMI-SIPSMA and features are:

1). Operating system Windows XP Professional Service Pack 3 (client)
2). The operating system Windows Server 2003 Standard Service Pack 2 (server).
3). Microsoft.NET Framework 3.5 or Microsoft.NET Framework 4.5.1.
4). Microsoft SQL Server 2008 Express with Microsoft SQL Server Management Studio
5). Crystal Reports 2008 Runtime.
6). Microsoft Office Word and Excel.
7). Adobe Reader.
8). The printer driver.

1. **Installation and Configuration**

1.2. Installation

1.2.1. Pre-Installation

Before starting the whole installation, make sure that the Windows user account that is used to install a user to type the Administrator. Be sure Also to the configuration of the Windows Control Panel -> Regional and Language, the Formats tab -> format is the format of English (UnitedStates) and the Administrative tab -> Current Language for non-Unicode programs is formatEnglish (United States).

Installing Microsoft.NET Framework 3.5 or 4.5.1

Microsoft.NET Framework 3.5 installed on the computer server and client machine .. Installation Microsoft.NET Framework 3.5 for Windows XP operating system uses file system dotnetfx35.exe and 4.5.1 for operasiWindows XP, Windows Vista, Windows 7 or Windows 8 using File NDP451 -KB2858728-x86-x64-ENU.exe-Allos. If the computer has been installed Microsoft.NET Framework then no longer need to be installed as long as there is no problem. Click 2 times on the file to start the installation process (Figure 1).

1.2.2. Check the option "I have read and accept the license terms". Click the Install button to start the installation process. Installing Microsoft SQL Server 2008 Express With Tool.

Installing Microsoft SQL Server 2008 Express With Tool uses SQLEXPRWT_x86_ ENU.exe files to a computer with the x86 architecture and SQLEXPRWT_x64_ENU.exe for computers with x64 architecture. Click 2

Click on "System Configuration Checker" to check the configuration of the computer system at the time of the pre-installation (Figure 2).

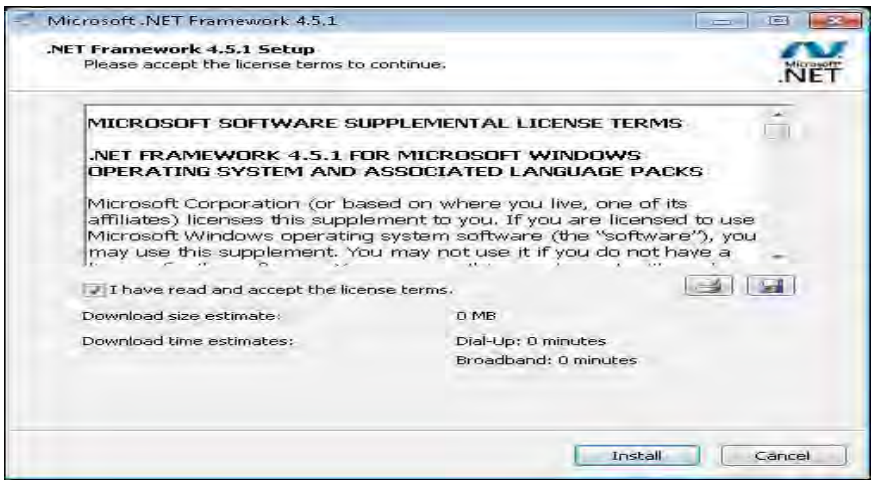


Figure 1. Installation Microsoft.NET Framework 3.5 for Windows XP

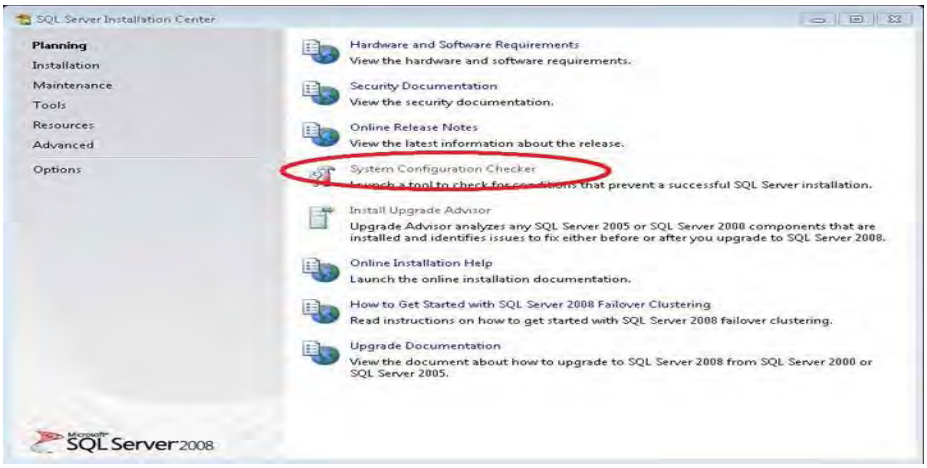


Figure 2. Installing Microsoft SQL Server 2008 Express

If there is still a status report which has the status of "Failed", the installation can not continue. Therefore, the problem must be fixed before continuing the installation process. Click OK to proceed to the next stage. In the following stage, the engine server and client computers have different processes and configurations.

To machine the server computer, click Select All to select the entire selection, so that the entire option must be selected as the Database Engine Services, SQL Server Replication, Management Tools-Basic, and SQL Client Connectivity. As for the client computer machine, just check the option of Management Tools-Basic and SQL Client Connectivity alone.

Click Next to proceed to the next stage.

Crystal Reports 2008 Runtime only be installed on the client computer machine. Installing Crystal Reports 2008 Runtime using CRRedist2008_x86.msi files to a computer with the x86 architecture and CRRedist2008_x64.msi for computers with x64 architecture. Click 2 times on CRRedist2008_x86.msi file to start the installation process.

1.2.3. Installation CMI-SIPSMA

CMI-SIPSMA only be installed on the client computer machine. CMI-SIPSMA installation using the setup.exe file or the file SetupCMI-SIPSMA.msi. Click 2 times on the setup.exe file to start the installation process.

Make sure the pad installation folder is "C: \ andihermantyo \ CMI-SIPSMA \". For CMI-SIPSMA application that is used only for the Windows user account, check Just Me. For applications CMI-SIPSMA used for more than one Windows user account, check Everyone. Click Next to proceed to the next stage (Figure 3).

1.3. **Configuration**

1.3.1. Configuration Database

This configuration instructions are only used for server and client systems that are on the computer machine. To configure the system with server and client systems that are on different computer machine, please consult first to CMI-SIPSMA Application Developer.

To start the configuration database, click 2 times shortcut SQL Server Management Studio on the Windows Start Menu -> Microsoft SQL Server 2008. The main window will display the Microsoft SQL Server Management Studio to Connect to Server window. If the Connect to Server window does not appear, click Connect Object Explorer tab, and then click Database Engine (figure 4).

Figure 3. Installation CMI-SIPSMA

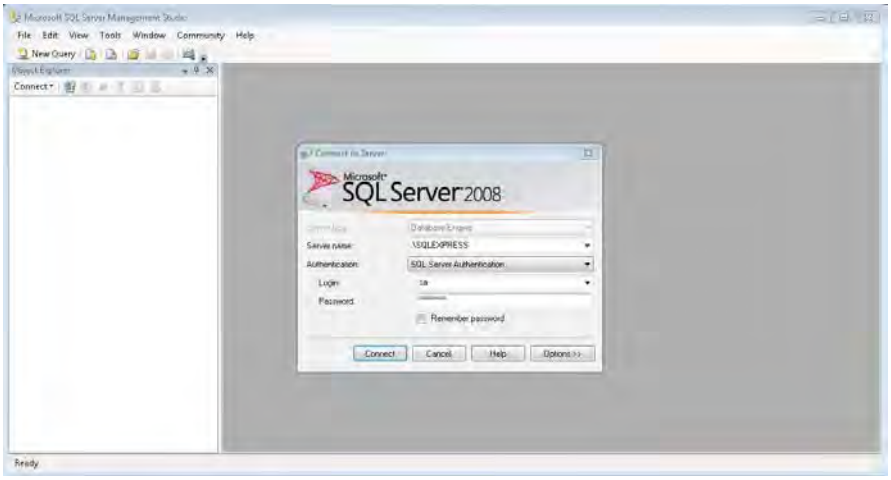


Figure 4. Configuration Database

Fill Server name with ". \ SQLEXPRESS". Select Authentication with SQL Server Authentication. Fill Log in with "sa". Fill password with the password previously entered on the stage of the installation of Microsoft SQL Server 2008 Express. Click the Connect button on the Connect to Server window.

After a successful login Connect to Server, SQL Server will appear description Database Engine Object Explorer tab in folder-folder. Right click on the Databases folder. Click on the New Database.New Database window will appear. Fill Database name with "CMI-SIPSMA". Click OK to proceed to the next stage.

On the main page, click on the File menu, select Open, then click File. Search files with ekstensi.sql DB_CMI-SIPSMA.sql. Select the file and click Open.

The next window will appear DB_CMI-SIPSMA.sql on the main page. Click Execute on the toolbar. If successful it will exit status footer Query executed successfully on the Messages tab. Close the Microsoft SQL Server Management Studio after the configuration process is complete.

1.3.2. System Configuration CMI-SIPSMA

This configuration instructions are only used for server and client systems that are on the computer machine. To configure the system with server and client systems that are on different computer machine, please consult first to CMI-SIPSMA Application Developer.

Make sure the configuration of Windows Control Panel -> Regional and Language, the Formats tab -> Format is a format English (United States) and the Administrative tab -> Current Language for non-Unicode programs is a format English (United States).

To start CMI-SIPSMA configuration that has been installed, click 2 times CMI-SIPSMA shortcut on the Start Menu -> CMI-SIPSMA or click 2 times CMI-SIPSMA shortcut on the desktop. Will appear CMI-SIPSMA application with the Main page and Dialog window with the message "Error: The ConnectionString property has not been initialized". Click OK to proceed to the next stage.

After the Server Configuration window will appear. Select the LAN Connection (SQL Server Authentication), then fill in the Server Name to ". \ SQLEXPRESS". Log in with "sa". Fill password with the password previously entered on the stage of the installation of Microsoft SQL Server 2008Express. Click the Save / it will display a page-SIPSMA Log In CMI and CMI-SIPSMA application is ready to use.

1.4. Uninstallation

To uninstall the application CMI-SIPSMA, select and click 2 times CMI-SIPSMA the program list in the Windows Control Panel -> Programs -> Programs and Features (Uninstall or change a program). Click the Yes button to confirm.

2. Usage

2.1. Starting the Application CMI-SIPSMA

To start the application, click 2 times CMI-SIPSMA shortcut on the Start Menu -> CMI-SIPSMA or click 2 times CMI-SIPSMA shortcut on the desktop. If the correct configuration stage, it would appear CMI-SIPSMA application with the Main page and login page.

At the start and log-SIPSMA CMI application for the first time, there is only one user is "admin" which acts as the user "default", the Administrator user role and a Super User. It is important to remember, after the user "admin" after logging in, is expected to immediately change the user password "admin" via the menu System -> Change Password or on System -> User Management.

2.2. login

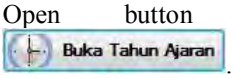
On the Login page, enter the data Username and Password.

- Once all the data has been fit, click on the Log In button / to login.
- After a successful login, the CMI-SIPSMA Main page along with the menu will be accessible.

2.3. School Year

2.3.1. Open School Year

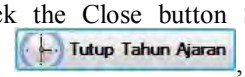
Page Open School Year are used to start the new school year.

- Enter the data and select the School Year Semester appropriate, and then click the Open button School Year 

.
- After the visible status Academic Year and Semester on the Main page footer will change according to the teachings of the period have been included.

2.3.2. Close the School Year

Cover Page School Year are used to close the school year.

- In Academic Year and Semester will appear teaching period is currently active.
- Click the Close button School Year 

, then look Academic Year and Semester status on the Main page footer will change.

2.4. School Profile

School Profile page, enter the data NPSN / NSS, School Name, Address School, School Zip Code, Phone School, Village, District, District / City, State, School School Website and Email.

- To enter data Principal, click the

Select button 

, Master List page will appear.

- Choose one of the corresponding teacher data and that will be the principal by clicking the Select button 

. • Once all the data has been completed, click Save / for storing data.
- To manage the data of teachers on Teacher List page, go to the page of Management Master in Management menu on the Main page.

2.5. User Management

User Management page and the user data table will appear in conjunction with the active buttons on the toolbar.

Click the Add / on the toolbar User Management page to add user application data. The page will appear Management User Details.

- Enter data into the User Name, Password, Password Reset and select User Roles.
- To enter data Teacher Name, click the Select button 

, Teacher List page will appear.
- Choose one of the corresponding teacher data and that will be the owner of a user account by clicking the Select button 

. • Once all the data has been completed, click Save / for storing data.

Click the Change / Show / User Management page toolbar to change the user application data. The page will appear Management User Details.

- Adjust Data User Name, Password, Password Reset and select User Roles.
- To adjust the data Teacher Name, click the Select button 

, Teacher List page will appear.
- Choose one of the corresponding teacher data and that will be the owner of a user account by clicking the Select button 

.
- Once all the data has been completed, click Save / to save the changes to the data.

2.6. Change Password

On the Change Password page, enter the data and adjust the Password and Password Reset. Once all the data are correct, click the Save / to save the changes to the data.

2.7. Change User

Used to log out of the application or use to change the user account.

2.8. Run Out

Used to exit the application and end use applications. Click the Yes button to confirm exit the application.

2.9. Management Guru

Page Management Teachers and teacher data table will appear in conjunction with the active buttons on the toolbar.

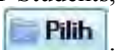
Click the Add / on the toolbar to add the page Master Data Management teacher. The page will appear Management Master Details.

• Enter the data Teacher Name, NIP and NUPTK.

- Once all the data are correct, click the Save / for storing data. Click the Change / Show / Teacher Management page toolbar to change the teacher data. The page will appear Management Master Details.
- Adjust Master Data Name, NIP and NUPTK.
- Once all the data are correct, click the Save / to save the changes to the data.

2.10. Management of Students

Page Management of Students and data tables learners will appear along with the active buttons on the toolbar. Click the Add / on the toolbar Students Management page to add data learners. The page will appear Details Management of Students.

- Enter the data Name of Students, National Student Identification Number, Place and Date of Birth, select Data Gender, Religion select the data, enter the data in the Family Status, Children to, Address Students, Telephone Numbers, School of Origin, Accepted at this school in Classroom and On Date.
- To enter data Photos of Students, click the Select button 

. Choose one that fits on the Open Dialog Explorer by clicking the

Open button.

- Enter the data Name of Father, Mother's Name, Address Parents, Telephone Numbers, Fathers, Mothers Work, Name Guardians of Students, Students Mayor Address, Phone Number Home, Work Guardians of Students. Select the data and then click the Save button Specialisation 

.
- Once all the data has been completed, click Save / for storing data of Students
- Adding subjects in the data table across subjects of interest using the Add / on the Details page of the Management of Students, and will display the List of Subjects. Choose subjects that will be included in the data cross-interest subjects that have been determined.
- Delete subjects in the data table across subjects of interest by using the Delete button / on the Details page of the Management of Students.
- Once all the data are correct, click the Save / to store data across subjects of interest.

2.11. Classroom Management

Classroom Management page, class data tables and data tables learners will appear along with the active buttons on the toolbar. Click the Add / Classroom Management page toolbar to add class data. The page will appear Management Class Details.

• Select Data Rate Class, Class Name enter the data.

- To enter data Guardian Class, click the Select button 

, Teacher List page will appear. Choose one of the corresponding teacher data and that will be the homeroom by clicking the Select button 

.
- Adding learners in the data table of learners using the Add button / Class Details Management page, and will display the list of Students. Choose students who will be put in a class that has been determined.
- Removing learners in the data table of learners by using the Delete / Class Details Management page.
- Once all the data are correct, click the Save / for storing data.

Click the Delete button / Classroom Management page toolbar to remove one of the data classes.

- Select the first class of data in the data table class.
- Click the Delete button on the toolbar Classroom Management page.
- Click the Yes button to confirm the deletion of data.

2.12. Management Subjects

Page Management Subjects and table data subjects will appear in conjunction with the active buttons on the toolbar.

Click the Add / on the toolbar Course Management page to add to the data subjects. The page will appear Management Course Details.

• Enter the name Data Subjects and Subject Group.

• Once all the data are correct, click the Save / for storing data.

Click the Change / Show / Management page toolbar Subject to change data subjects. The page will appear Management Course Details.

• Adjust Data Name Subjects and Subject Group.

• Once all the data are correct, click the Save / to save the changes to the data.

2.13. Management Extracurricular

Page Management Extracurricular and extra-curricular data table will appear in conjunction with the active buttons on the toolbar. Click the Add / on the toolbar Extracurricular Management page to add extra data curricular. The page will appear Extracurricular Details Management.

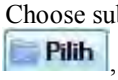
• Enter the name of data Extracurricular.

• Once all the data are correct, click the Save / for storing data.

2.14. Subject Group Management

Subject Group Management page and table of data subjects have been grouped will appear together with the active buttons on the toolbar. Select the first grade level will be changed grouping subjects.

- Adding to the list of subjects on the table subject groups using the Add / on the Subject Group Management

page, and will display the Details Grouping Subjects. Choose subjects with the Select key 

, List page will appear Subjects. Choose one of the data subjects in accordance with the click of a button Select 

. Enter the data completeness criteria predetermined minimum. Once all the data are correct, click the Save / for storing data.

2.15. Teaching management
Teaching Management page, data tables and data tables teaching teachers will come together with the active buttons on the toolbar. Select one of the teachers who will be managed and the appointment of the classes and subjects. Click the Change / Show / Teaching Management page toolbar to change the teaching of data. The page will appear Teaching Management - Change.

2.16. Move Management School

2.16.1. Moving Sign
Move Management Page School (Go) and move the data table entry will occur concurrently with the active buttons on the toolbar. Click the Add / Move Management page toolbar School (Sign) to add the data to change schools. Details page will appear Moving Sign.
• Select the data Name of Students by clicking the Select button 

.
• After Students have been, enter and select the data Academic Year Semester.
• Once all the data are correct, click the Save / for storing data.

2.16.2. moving Out
Move Management Page School (Exit) and data tables moved out will occur concurrently with the active buttons on the toolbar.
Click the Add / Move Management page toolbar School (Exit) to add the data to change schools. Details page will appear Moving Sign.
• Select the data Name of Students by clicking the Select button 

.
• After Students have been, enter and select the data Academic Year Semester.
• Once all the data are correct, click the Save / for storing data.

2.17. equating
Equating page and packet data table will appear in conjunction with the active buttons on the toolbar. Click the Add / on the toolbar page equating to add data about the packet. It will appear equating Details page.
• Enter the data package name.
• To enter data File item, click the Select button 

. Choose one of file.txt appropriate in the Open Dialog Explorer by clicking the Open button. If file.txt are selected according to the criteria of feeding data items will appear in the data table.
• Once all the data are correct, click the Save / for storing data.

2.18. Item analysis (Excel)
Used to open the file "ITEM ANALYSIS PROBLEMS WITH MS.EXCEL.xls"

2.19. Iteman

2.19.1. Run Iteman
Used to run a program or open a Iteman.

2.19.2. guidance
Used to open the file "CODE ANALYSIS OF GRAIN TES.docx"

2:20. Quest

2.20.1. Run Quest
Used to run or open the QUEST program.

2.20.2. Practice
Used to open the file "Practice QUEST.docx"

2.20.3. Theory and Method Readings
Used to open the file "Theory and Method Analysis Results Item Reading Program QUEST.pdf"

2:21. Notepad
Used to run or open the Notepad program.

2:22. Run the Program
Used to run or open the application file.

2.23. About CMI-SIPSMA
Used to display brief information about CMI-SIPSMA application. Because in the syllabus and curriculum has been accompanied by the achievement indicators Core Competence, Basic Competence and the Graduate

Competency Standards, then there should be certain about the quality of their standards that should be given to students to measure the achievement of competence, quality should especially difficulty level questions used in the same school or equivalent. Packets questions used empirically equivalent scores using the Test Score equating. Equalization score is an empirical procedure that is required to transform a set of test scores to score the test the others. As an empirical procedure then equalizing the score is based on the data skortes (Weiss, 1983).

Make about equal in two or more packages, certainly not easy or even impossible, because there must be differences. This is because almost not possible to organize a multi pack test really parallel (Petersen, Kolen, & Hoover, 1989). Although the authors tests using the same test specifications in writing items will only change the nature and number, there is no guarantee that the level of difficulty of these items will be the same (Kolen, 1984). Especially if that is different is the key word and the contents of the answer choices.

3. Conclusion

STUDENT CMI-new models can be developed for the high school level, so that development still requires review and test better, given the still very heterogeneous quality of schools in the territory of the unitary Republic Indonesia. Model this is a system based on client-server where the client computer machine only integrated with the end-user CMI-SIPSMA and client requirements. While the machine can be integrated with a server computer system database (database) and server requirements. CMI-SIPSMA Applications can also be applied to a single machine ajayang computer has a whole section of the system: the system end-user CMI-SIPSMA, server and client requirements, along with the base system database (database).

This system describes how the acquisition value, the range of values and report writing. With this system facilitated the assessment of teachers because teachers are asked to enter the data value, after the data processing system to generate output data is for high school report card.

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THE EFFECT OF ASSESSMENT TECHNIQUE AND COOPERATIVE LEARNING MODEL ON MATHEMATICS COMMUNICATION ABILITY

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Abstract

The objective of this study was to find out the effect of assessment technique and cooperative learning model on students' mathematics communication ability. The sample consisted of 92 senior high school students who were taken with a multistage random sampling with a 2 x 2 factorial design. Data were analyzed by using analysis of variance followed by t-Dunnett test. The research revealed these following conclusion: (1) the students' mathematics communication ability who were treated with portfolio assessment is higher than those who were treated with conventional assessment, (2) the students' mathematics communication ability who were taught with Two Stay Two Stray (TSTS) model is higher than those who were taught with Numbered Head Together (NHT) model, (3) there is an interaction effect between assessment technique and cooperative learning model on the students' mathematics communication ability.

Keywords: *assessment technique, cooperative learning, mathematics communication ability*

1. Introduction

As part of the Curriculum 2013, which emphasizes the importance of the balance of competence attitudes, knowledge and skills, mathematics learning are required to form a critical, creative, conscientious, dan law-abiding students who are able to communicate and collaborate with other students.

NCTM, as quoted by Masrukan [7] argues that mathematics communication is an activity of using vocabulary, notation, and mathematical structures to express and understand ideas and relevance of these ideas. In this case, communication is a synthesis of knowing and doing mathematics. Mousley and Sullivan (2013) asserts that the communication of mathematics is not merely express ideas through writing, but more broadly, the ability of students in terms of talking, explaining, describing, listening, asking, clarification, collaborating (sharing), writing, and finally reporting what they have been learned.

Mathematical communication skills in this research defined as the ability of students to use vocabulary, notation, and the mathematical structure in the form of reasoning, association or connection, as well as in solving problems to give specific information each other. It is measured by scoring the ability of students to provide interpretation and provide answers to the given questions by writing answers with their own language, drawing, and create a mathematical expression.

Facts on the field indicate that the learning process is still dominated by implemention of conventionall learning, where learning occurs not more than just a process of delivering information from the teacher to the student and in evaluation process the teachers asks their student to recollect those given information. This impact on students' knowledge that tends to be limited only to what the teacher, so when they are given some questions that require them to cultivate their own information into mathematical ideas, students feel hesitant to express their opinions, even though the ideas and concepts may actually existing in their minds already.

Reports results for the TIMSS study as stated by Mullis et al [9] shows that in 2011, the average math scores in Indonesia ranks 38 out of 42 countries, with score 386 on the average score of 500. Same results showed by the analysis of

PISA, that in 2012, the ability in mathematics of Indonesian student showed scores that are below the International average and ranks 65 out of 66 countries, with a score of 375 on the average score of 494 [13].

Based on these facts, it's time for math teacher to try to provide a forum for students to communicate their knowledge, so that if there is a mistake, the teacher can immediately correct.

One of the learning model that aims to improve students' mathematical communication is cooperative learning model. According to Lie [6], cooperative learning is a collection of teaching strategies that are used to help students with each other in a group to learn something. Thus, each group member will have a positive dependence. That kind of dependence which in turn will raise the responsibility of the individual to the group and interpersonal skills of each member of the group [11].

Some cooperative learning model that considered suitable are cooperative learning model Two Stay Two Stray (TSTS) and Numbered Heads Together (NHT). TSTS and NHT model are designed to solve the problems by involving other students without constant focus on teacher learning. In this way, students will learn to find answers and explain the answer they get, confirm it, negotiate and motivate each other when they participate as a member of the group. The development of communication skills is a result that is expected in the cooperative learning.

Comparison between TSTS and NHT model can be written as in the table below:

Table 1. Comparison Between TSTS and NHT Model

Distinctive Aspects	Cooperative Learning Model TSTS	Cooperative Learning Model NHT
How to form groups	Students are divided into heterogeneous groups consisting of 4 students per group	Students are divided into heterogeneous groups of 4-6 students per group and each student is given a number
Method of evaluation	Teacher pointing at one random member to represent the group to give a presentation	The teacher calls on students based on a pre-determined number
The course of the process of communication during the discussion	There is interaction with other group members	Interaction happens only among members of the group

Furthermore, it is still associated with the curriculum 2013, one of the things that came with the passing of the curriculum is the demand for teachers to conduct authentic assessment in students' learning process and outcomes. One kind of authentic assessment that can be applied is the teacher portfolio assessment.

In education, the portfolio is defined as a collection of the work of a student, as a result of the implementation of task performance, which is determined by the teacher or by students and teachers, as part of an effort to achieve learning goals, or achieve competencies which specified in the curriculum [5]. According Surapranata and Hatta [14], a portfolio assessment is a class-based assessment of student work that systematically arranged and organized taken during the learning process within a certain time, used by teachers and students to monitor the development of knowledge, skills and attitudes of students in certain subjects or courses. In contrast to the form of a written test which assessment is usually only done at the end of the study period, the use of portfolios in mathematics learning enables teachers to communicate more with their students. Student learning difficulties can be detected from the portfolio, so that teachers can assess student understanding in greater detail and provide solutions to the students concerned.

Learning process that is executed by integrating cooperative learning model and portfolio-based assessment provides a great opportunity for every student to be active so that the communication ability in mathematics will be increased.

2. Methods

This research was conducted at SMAN 1 and SMAN 15 Makassar on the second semester of academic year 2013/2014, which consist of 8 meetings. The method that used in this study is the experimental method. The research variables consist of independent variables and the dependent variable. The independent variable is the model of cooperative learning and assessment techniques, while the dependent variable is the mathematical communication skills. The design used was a 2 x 2 factorial post test only design. The population in this study were all students of class X of second semester of SMA 1 and SMA 15 Makassar in the academic year 2013/2014, as many as 10 classes at SMAN 1 Makassar and 6 classes at SMAN 15 Makassar. The research sample is determined by using the multistage random aside, and obtained the

subject of research as many as 23 students in each class treatment.

3. Result

From the existing data, it can be said that in each treatment group, there were no extreme data. The range of data from each group were in the range which is not differ much from each other. Research data also shows that it comes from normal and homogeneous population, so the differences between the variants of the research variables can be written as the following table:

Table 2. Results of Analysis of Variance Using Two-Way ANOVA

Source of Variances	JK	db	RJK	F_o
Between A	352.174	1	352.174	3.971
Between B	409.087	1	409.087	4.613
Interaction	2240.391	1	2240.391	25.264
In Group	7803.652	88	88.678	-
Total	10805.304	91	-	-

According to data on table 2, the value of F_{tab} is smaller than F_o, so it may be concluded that there are significant differences between all source of variance. And because there's an interaction effect between variables that have been tested on the results of hypothesis testing, then further tested using Dunnett's t-test, the obtained results as the following table:

Table 3. Results of Dunnet's t-test

Group of Samples	to	t_{tab}	Conclution
A1B1 & A2B1	4.963	1.662	Significant
A1B2 & A2B2	2.145	1.662	Significant
A1B1 & A1B2	2.035	1.662	Significant
A2B1 & A2B2	5.073	1.662	Significant

4. Discussion

The students' mathematics communication ability who were treated with portfolio assessment is higher than those who were treated with conventional assessment. This is in line with research conducted Busnawir and Suhaena [4], which provides that portfolio-based assessment on learning outcomes is higher than conventional models. The results are also consistent with the theory that has been stated before, that portfolio can facilitate students in presenting mathematical ideas that they have. Portfolio also could be a source of information for teachers and parents to determine the growth and development of students' ability, responsibility in learning, expanding the dimensions learning and learning innovation. It also supported the theory that has been proposed by Adams [1] and Santoso [12], that the portfolio is the right tool to measure students 'communication skills, as it provides a way to measure the students' reflections on their own abilities. Through this process, the teacher can see how far students understand the material and provide guidance if there are mistakes in the way students complete the task.

The students' mathematics communication ability who were taught with Two Stay Two Stray (TSTS) model is higher than those who were taught Numbered Head Together (NHT) model. These findings support previous research by Zainuddin et al [16] which states that the TSTS model is more effective than NHT model, and indirectly gives a different perspective on the research result by Umar et al [15], that in order to increase mathematics communication, TSTS model is more effective than NHT model.

There is the effect of the interaction between learning model assessment techniques. This finding is consistent with results of previous studies conducted by Royani [10], found that there is an effect of interaction between the assessment technique and learning model, which was not only affect the results of mathematics learning, but more specifically also to the mathematical communication skills.

Applying cooperative learning model TSTS gives an opportunity to the students to be more active in discussion. The existence of a stray system makes students not only glued to discuss with fellow group members, but more than that, the students are also given the opportunity to share learning experiences with students from other groups. The process of writing a learning experience to complete the portfolio would make the learning process experienced meaningfulness documented in a form of a collection of task discussion. With the help of teachers who perform regularly checking documents of each meeting, the process of student's self-reflection can be done better. From there, students can recognize their own abilities, know where your strengths and weaknesses in learning, so that on subsequent learning process, students know what they need to fix. In contrast, if the results of the student group discussions only considered as a complement to the course of the learning process in the classroom, and when the meeting is over,

the result of the discussion was not used anymore. This became the basis for the conclusion that the mathematics communication ability of students who were treated with portfolio assessment is higher than those who were treated with conventional assessment for the group of students who were taught with TSTS model.

By applying TSTS model, students can be more active than if it is implemented NHT model. Although it is not something that is expected to happen, but in excess it can actually be a shortage. If teachers were remiss in control the course of the discussion, the students may be only be discussed without discussion interpret lived. Moreover, if the assessment techniques that used do not support the learning model. Given the communication process on NHT model more ongoing among the members in the group, the conventional assessment techniques considered more in line with this model, with the consideration that it would be better if the students focus on the quality of discussion only, without allocating more time to complete their portfolio document. Therefore, the mathematics communication ability of students who were taught with TSTS model is lower than those who were treated with the NHT model for the group of students who were treated with conventional assessment.

5. Conclution

Based on the findings of the data and discussion of the results, it could be concluded as follows:

(1) the students' mathematics communication ability who were treated with portfolio assessment is higher than those who were treated with conventional assessment, (2) the students' mathematics communication ability who were taught with Two Stay Two Stray (TSTS) model is higher than those who were taught Numbered Head Together (NHT) model, (3) there is an interaction effect between assessment technique and cooperative instructional model on the students' mathematics communication ability, (4) the mathematics communication ability of students who were treated with portfolio assessment is higher than those who were treated with conventional assessment for the group of students who were taught with TSTS model, (5) the mathematics communication ability of students who were measured with portfolio assessment is lower than the students who were measured with conventional assessment for the group of students who were taught with NHT model, (6) the mathematics communication ability of students who were taught with TSTS model is higher than those who were taught with the NHT model for the group of students who were treated with portfolio assessment, and (7) the mathematics communication ability of students who were taught with TSTS model is lower than those who were treated with the NHT model for the group of students who were treated with conventional assessment.

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DEVELOPMENT OF ANDROID MOBILE GAME "THE PROFESSOR" AS CHEMISTRY LEARNING MEDIA IN SENIOR HIGH SCHOOL ON HYDROCARBON AND PETROLEUM

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Abstract

This development research was to develop android mobile game "The Professor" as chemistry learning media in senior high school on hydrocarbon and petroleum.The game "The Professor" was developed by using ADDIE (analyze, Design, Development, Implementation, and Evaluation) model. After the product was revised based on reviews and commentsfrom supervisor, an expert of subject matter, an expert of technology-information and multimedia, an expert of instructional design, and 3 peer reviewers, the product was evaluated and reviewed by 5 chemistry teachers.The mobile game "The Professor" on hydrocarbon and Petroleum well-developed and can be played on android smartphone. Teachers evaluated the game with average score of $\bar{X} = 108.4(\bar{X} > 105.1)$. Based on the statistic criteria, the score showeda very good quality of game withpercentage of ideality of 86.72%.

Keywords : Learning Media, Mobile Game, Android, Hydrocarbon and Petroleum, ADDIE

1. Introduction

Development in technology and science are rapidly bringing changes in human life. It impact to educational aspect, especially in the use of learning media.Learning media has important part in education system. According to Daryanto Learning mediais a toolwhich usedtofacilitatestudents to easily understand the learning material [1]. Media makecommunicationprocess between teacher and students becomeoptimal.Therefore, using good media are expected to achieve the learning objectives at school. The impact of using audiovisual resources on teaching and learning rests on the fact that the teachers stimulate interest and improve learning [2].

Media thatcanincreasemotivationandinterestthe learnersone of them isas a game [3]. Nowdays, smarthphone generaly used by people. The operating system on smartphones used by most people includes Symbian, Java, iOS, BlackBerry OS, and Android. Android is an operating system that is being widely used because of its excellence in providing a wide range of applications and games.

Based on observation in Purworejo Regency, most of student have mobile phone, but they only used it for send text messages, make a call, social media, and gaming. Whereas it can use for learning processespecially gamescalled "Game-Based Learning"

Digital Game-Based Learning is precisely about fun and engagement, and the coming together of and serious learning and interactive entertainment into a newly emerging and highly exciting medium [4]. Game-based learning (GBL) is a form of learner-centred learning that useselectronic games for educational purposes [5].

Therefore, it was necessary to make learning media that can simpifly the learning material. The research was to develop android mobile game as chemistry learning media on hydrocarbon and petroleum chapter. The mobile game was evaluated by 5 chemistry teacher to determine the quality of mobile game.

2. Literature Review

2.1. Research and Development

Research and development (R and D) is a method that used to result a certain product and to review the effectiveness of the product [6]. There are two models in research and development. They are conceptual model and procedural model [7].

2.2. ADDIE Model

ADDIE (Analyze, Design, Development, Implementation, Evaluation) model is one of procedural model in research and development. In this model, there are five phase to result certain product [8].

2.3. Learning Media

Learning media is something that used to deliver information between teacher and students [9]. According Gagne' and Briggs (1975) in Arsyad [10] stated that learning media includes physical tools that are used to deliver the subject and matter.

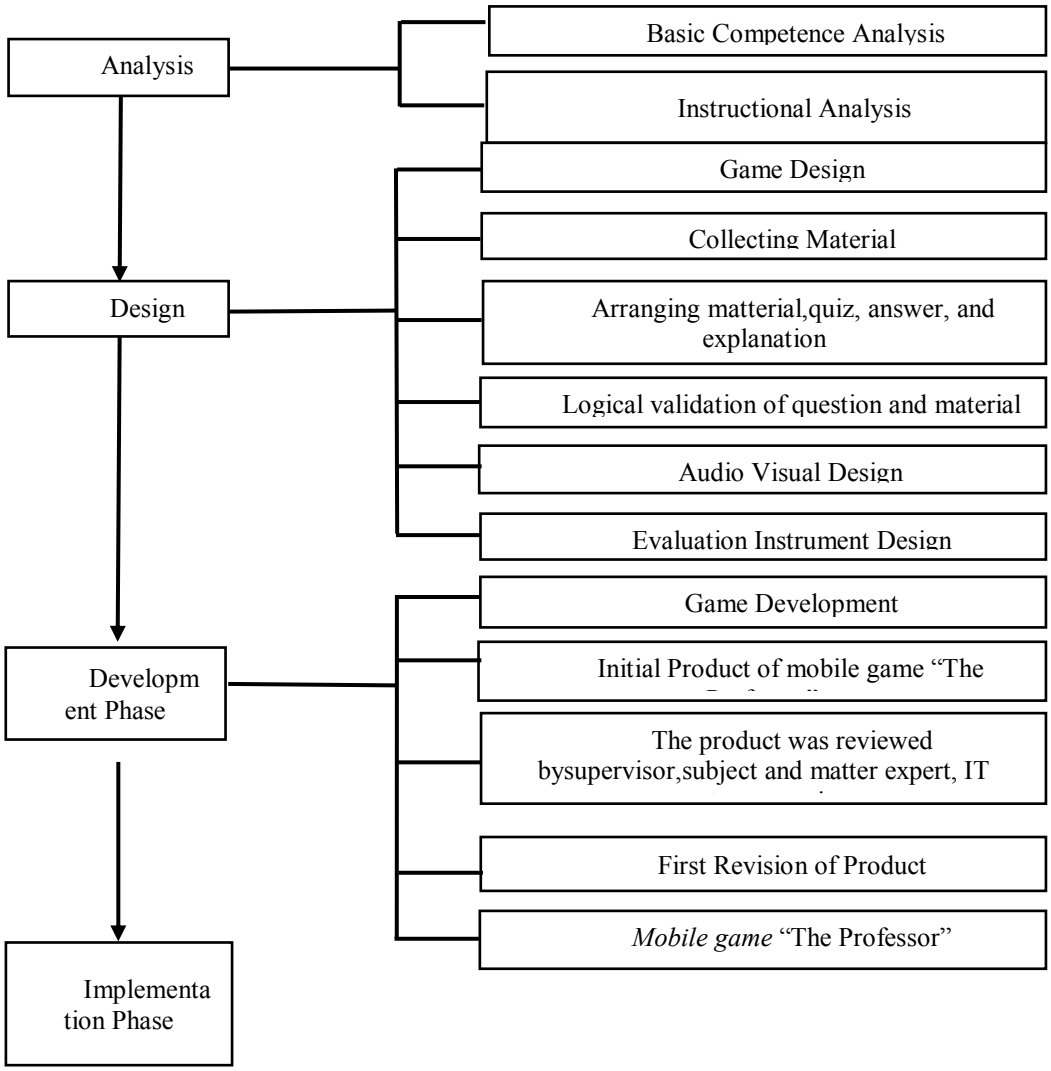
2.4. Chemistry Lesson

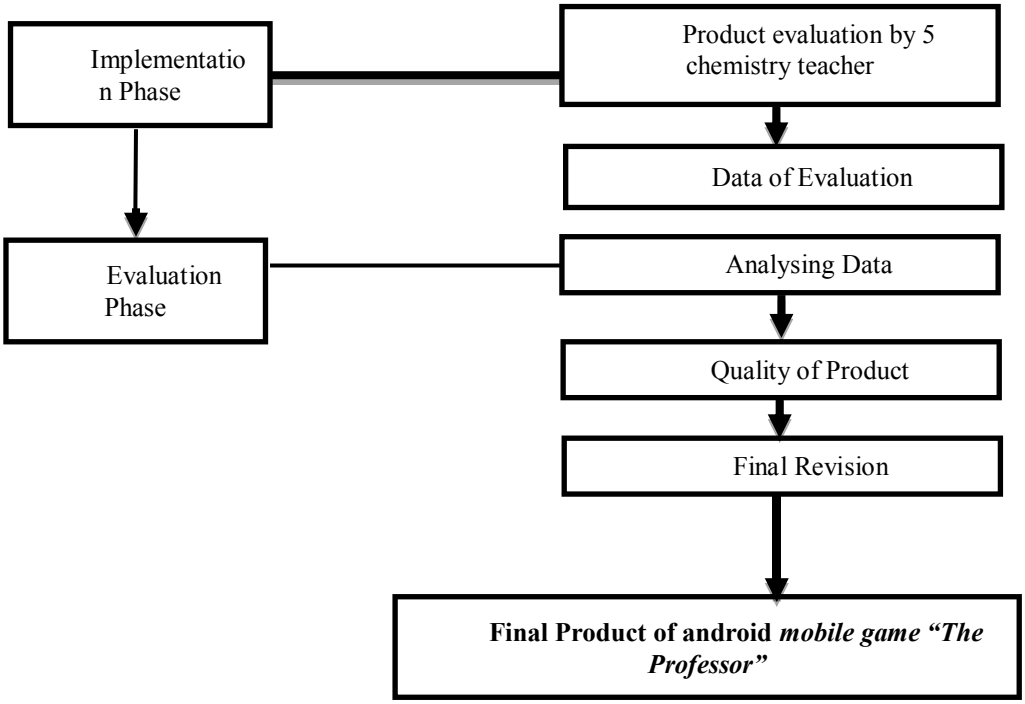
Chemistry is a branch of science that learn the chemical and its changing. Elements and solution are the component that include in chemical changing [11]

2.5. Game

Game (games) are each context between players that interact with each other to follow certain rules to achieve certain goals [12].

3. Diagram of research Design





4. Result

The mobile game was evaluated by 5 chemistry teachers. The aspect that evaluated were subject and matter aspect, language aspect, operational aspect, audio visualaspect, and software design aspect. The evaluation data of each aspect by teachers can be seen at Table 1.

Table 1. Evaluation Data By Teachers

No	Aspect	Average Score ($\bar{X}$)	Max Score
1.	Subject Matter	26	30
2.	Language	8.4	10
3.	Operational	17.4	20
4.	Audio and Visual	33.6	40
5.	Software design	23	25
Total Score		**108.4**	**125**

5. Discussion

The result of this research was the product of mobile game "The Professor". This mobile game was developed by using Construct 2 R178 program. The first product game was reviewed and commented by supervisor, an expert of subject matter, an expert of technology-information and multimedia, an expert of instructional design, and 3 peer reviewers. Then, the product was evaluated by 5 chemistry teachers.

f. Subject Matter Aspect

Subject matter aspect has 6 indicator of evaluation. Based on the data, the average score of subject and matter evaluation waswas$\bar{X}$=26 ($\bar{X}$>25.2). The maximum score of this aspect was 30. The criteria indicated that subject and matter aspects were very goodquality with percentage of ideality 86.7% It means that subject matter provided in the game was in line to the indicator of curriculum. It means that the subject matter in the game was good and appropriate as learning materials for students.

g. Language Aspect

There are 2 indicators in this aspect. The maximum score of this aspect was 10. Language aspect was evaluated by teachers and students. Based on teacher's evaluation, the average score of this aspect waswas$\bar{X}$=8.4 ($6.8 < \bar{X} \leq 8.4$), so the criteria suggest that language aspect is good with percentage of ideality 84%. Languagecategorized good if it was arranged by communicativesentence, using good and true Indonesian, does not causea doubleinterpretation, and does notoffendthe student [13].

h. Operational Aspect

There are 4 indicators in operational aspect. The maximum score of this aspect was 20. Based on the evaluation, the average score was $\bar{X}$=17.4 ($\bar{X}$> 16.8). Based on the criteria, it shows that operational aspect is very good, close to ideal learning criteria.

i. Audio Visual Aspect

There are 8 indicators in this aspect. The result of evaluation, the average score was 33.6. The maximum score of this aspect was 40. The criteria suggest that audio visual aspect is good, close to ideal learning criteria because the average score ($27.2 < \overline{X} \leq 33.6$).Based on criteria aspect audio visual has good quality with percentage of ideality 84%.

Software Design Aspect

Total indicator in this aspect was 5. The maximum score of this aspect was 25. Based on the evaluation, the average score of software design was 2, so based onthe criteria interpreted that software design aspect is very good, close to ideal learning criteria. Because the average score ($\bar{X}$> 21.0). This aspect get highest score than other aspect, because in software design aspect teachers and students assume that the mobile game is the new learning media that they have been never used before.

6. Conclusion

The mobile game "The Professor" was developed and easily used on Android mobile phone. The game was very good based the review of teachers. Based on teachers evaluation, the score of criteria was $\overline{X} = 108.4$ ($\overline{X} > 105.1$). The criteria suggest that the mobile game was very good, close to ideal learning criteria, as indicated by the ideal percentage of 86.72%.

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DEVELOPMENT OF 3-DIMENTION ILLUSTRATED TEXTBOOK AS ENRICHMENT MATERIALS FOR MADRASAH TSANAWIYAH STUDENTS

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Abstract

Media has potential function on science learning. In the last five years, ICT-based media were developed in dramatic numbers and types, including ICT-based 3-dimention (3D) objects. The 3D objects related to science learning materials can assist significantly students on bringing tangibility of science phenomena. This research and development produced 3D objects which were used to complete the illustration of a textbook on the topic of scientific performance and motion of objects. To develop the model, the researcher followed 10 development stages adapted from Borg and Gall. The 3D objects were developed using the computer application of Google Sketchup with Augmented Reality Plugin. The 3D objects were linked to relevant marker that was inserted into related paragraphs on the textbook as illustration. When the marker on the textbook was captured by a digital camera of laptop, android smartphone (minimum OS 4.0.3), or other ones, the 3D object appeared obviously and interestingly. The 3D objects can be seen from different angels of observation as the need of learning. The 3D-illustrated textbook was successfully developed and reviewed by the expert of multimedia and instruction. It can be concluded that the media reached the criteria of good media as enrichment materials for students at Madrasah Tsanawiyah .

Keywords: ICT, media, 3-dimention objects, enrichment material, science learning.

1. Introduction

Quality of education in madrasah (Islamic schools) can be created properly by conducting instructional processes effectively, meaning that those processes can run smoothly, in a directed manner and in conformity with instructional objectives. Many factors affect instructional processes, either the students themselves or other factors such as the teacher, the facilities, as well as instructional media. Instructional media as means of improving the quality of education is crucial for those instructional processes.

Today's teachers are expected to master computer technology to help them complete their job. Teachers use computers to prepare instructional documents, process data for assessment as well as save various data sources and instructional media electronically. Using computers, teachers can create interesting instructional media in order to realize instructional objectives.

Development of media are intended to facilitate teachers in the instructional processes. Development of instructional media depends on the instructional objectives, instructional materials, ease of obtaining the necessary media as well as the ability of teachers to develop them during instructional processes. Innovative instructional media can now be presented in the form of 3-dimensional illustrations. These 3-dimensional illustrations are intended to bring the real world displayed through computers or android smartphones supported at least by OS 4.0.3.

The media being developed are instructional media in the form of supplementary textbooks with 3-dimensional illustrations. The use of such instructional media during instructional processes in the classroom supported by a computer/ laptop and a projector is expected to raise students' curiosity and critical-thinking skills. In addition to using a computer/ laptop and a projector, the supplementary textbooks with 3-dimensional illustrations are also designed to be used in conjunction with android smartphones supported at least by OS 4.0.3.

2. Literature Reviews

2.1 Instructional Media

Instructional media are one of the important components in instructional processes. The use

of instructional media is strongly recommended in order to make instructional processes between the teacher and students not boring and can stimulate activity, interest, and creativity of the students. Particular media are considered as instructional media if they are used to distribute or deliver messages for instructional purposes.

According to Reference [1], the definition of media has something to do with the giving/ passing of information (messages) between the source (the messange sender) and the recipient. Media are any forms and channels that can be used in a process of presenting information. Instructional media are any tools (aids) or objects that are used to deliver messages (information) from the source (either a teacher or other sources) to the recipient or the students.

Reference [2] writes that the term media comes from the Latin and is the plural form of the word medium which literally means an intermediary or introduction. Media are an intermediary between the sender and the recipient. Instructional media are anything that can be used to deliver a message from the sender to the recipient so as to stimulate minds, feelings, attention and interests of students in such a way that instructional processes occur.

Reference [3] writes that instructional media are all forms of information carriers which can be used to record, store, preserve, transmit, or retrieve information for purposes of teaching and learning. They are materials used by practising and trainee teachers to present, illustrate, and elucidate teaching posits.

Based on Reference [4], "...media are physical means which are used to send messages to the students and stimulate them to learn". Media are a means of communication which can be either printed or audiovisual. Good and interesting printed or audiovisual media are expected to stimulate the students' enthusiasm to learn.

According to Reference [5], "Media are the means for transmitting or delivering messages and in teaching-learning perspective delivering content to the learners, to achieve effective instruction".

Reference [6] states that "...instructional media are basically distribution systems, and the most critical consideration in selecting a medium is the preservation of instructional effectiveness".

Reference [7] says that media, in the broad sense, are humans, materials, or events which constitute conditions where students can successfully acquire necessary knowledge, skills, or attitudes. Teachers, textbooks and school environment are media. As for media in the teaching and learning processes, they are often defined as graphic, photographic or electronic devices to capture, process and rearrange visual or verbal information.

Instructional media synthesized from some experts are defined as all forms of information carriers which can be used to record, store, display, transfer, or retrieve information for effective teaching and learning processes.

2.2 Three-Dimensional Illustrated Textbook

Reference [8] writes that school textbooks can be classified into primary textbooks and supplementary textbooks. Primary textbooks are textbooks compiled by referring to the curriculum and are used by students and teachers as the primary source for teaching and learning processes. As for supplementary textbooks, they consist of any other reading materials that can be used to enrich students' learning skills and experience. Textbooks are a learning source which contributes substantially to an effort to expand educational opportunities while at the same time improving the quality of instructional processes and outcomes.

Supplementary textbooks are textbooks whose content supports the content of the primary textbooks. These textbooks are prepared to enrich, broaden and deepen students' knowledge and support the current curriculum. Supplementary textbooks may cover specific subjects of the curriculum but these subjects are discussed widely and deeply. These materials are necessary for students to better understand the concepts in the primary textbooks.

Development of supplementary textbooks with three-dimensional illustrations was supported by a number of supporting aspects, they are:

Augmented Reality

Reference [9] defines Augmented Reality as the incorporation of real and virtual objects in a real environment, running interactively in a real time and integrating objects in three dimensions, namely virtual objects which are integrated in the real world. The appropriate display technology enables the integration between real and virtual objects, interactivity is made possible through specific input devices, and good integration requires effective tracking.

Reference [10] in the book entitled Augmented Reality: A Practical Guide, defines that Augmented Reality is a natural way to explore 3D objects and data, AR is a concept which combines the virtual world and the real one. This makes two-dimensional (2D) or three-dimensional (3D) virtual objects look as if they

were real and fused with the real world. In Augmented Reality technology, users can see the real world around them with the addition of computer-generated virtual objects.

Reference [11] in the Handbook of Augmented Reality defines Augmented Reality as a live direct or indirect view of a physical, real-world environment improved/ added by adding computer-generated virtual world information. Augmented Reality is interactive and includes a 3D model and combines real and virtual objects. Augmented Reality is designed to simplify its users' life by bringing the virtual world information not only for the surrounding environment, but also for any direct views of the real-world environments, such as live video-streaming. AR improves its users' perception of and interaction with the real world.

Augmented Reality (AR) is a technology that combines two-dimensional or three-dimensional virtual objects into a real three-dimensional environment and projects those virtual objects in a real time.

b. Sketchup

Sketchup is a 3D modeling program designed for architects, civil engineers, film makers, game developers, and related professions. This application program is designed to be easier to use than other 3D programs. Files in Google SketchUp can be exported to various 3D formats with the following extensions: .3ds, .dae, .dwg, .dxf, .fbx, .obj, .xsi, and .wrl. including the format of Google Earth (.kmz). Google SketchUp can be used to save screenshots of an object into the following formats: .bmp, .png, .jpg and .tif.

ARmedia

AR-media is an Augmented Reality program developed by Inglobe Technologies named "AR-media Plugin". It is intended for the development of advanced Augmented Reality applications and solutions. This makes it possible to create solutions ranging from stand-alone, web and mobile as well as custom solutions to meet the complex needs of various scenario applications. To support different tracking techniques and software technologies in Augmented Reality, designed and used by Inglobe Technologies.

The necesary laptop/ computer hardware to run AR-media consists of:

The minimum hardware: 1 GHz processor, 512 MB RAM, 100% Compliant OpenGL Video Card with 128 MB RAM, 50 MB hard disk space, USB 2.0 Webcam

The recommended hardware: 2 GHz processor, 2 GB RAM, 100% Compliant OpenGL Video Card with 512 MB RAM, 50 MB hard disk space, USB 2.0 Webcam with 30fps @ 640x480 resolution.

Software: Microsoft Windows® XP/Vista/7/8, Video Driver, Android 4.0.3 or the latest version, DirectX103 or the latest version.

AR-media Player

The AR-media Player only uses some of the features of the AR-media platform. No specific skills are required to operate this AR-media Player. Complex and high quality of Augmented Reality can be displayed via the AR-media Player. Moreover, the AR-media Player can be used to view contents which have been created using the minimum android-smartphone version, i.e. version 4.0.3.

In short, three-dimensional illustrated textbook are textbooks used to enrich students' skills and experience with the addition of Augmented Reality to create the three-dimensional illustrations. Three-dimensional objects were created using Google SketchUp in which the Augmented Reality display was set using AR-plugin for SketchUp. The augmented reality made can be displayed using AR-media Player in laptops/ computers and android smartphones supported at least by version 4.0.3.

2.3 Curiosity

According to Reference [12], curiosity is most apparent in children who constantly explore their environment and frequently ask the question: Why? Curiosity is characteristic of scientists who often have many interest, even beyond that of unravelling the mysteries of natural phenomena.

Reference [13] writes that "Curiosity is broadly defined as a desire for acquiring new knowledge and new sensory experience that motivates exploratory behavior". Curiosity can be classified into two, namely perceptual curiosity and epistemic curiosity. The first is defined as a type of curiosity that leads to increased stimuli perception in animals and humans triggered by visual, auditory, or touch stimulation while the latter is defined as a stimulus to learning new things triggered by conceptual puzzles and gaps in knowledge.

Reference [14] writes that "Curiosity was conceptualized as a positive emotional-motivational system associated with the recognition, pursuit, and self-regulation of novelty and challenge". Curiosity is definitely a very pleasant experience. It makes people look for interest and desire that later will motivate them intrinsically.

Reference [15] writes that "... conceptualized curiosity as a reaction to novel

stimuli that involved feelings of interest or uncertainty". Curiosity is divided into epistemic curiosity and perceptual curiosity, which differ in terms of the type of stimulus activated, the emotional state and behavior triggered. The first is triggered by complex or conceptual ideas (e.g. scientific theories and intellectual puzzles) which encourage to ask a question or examine a hypothesis to gain knowledge. The latter is triggered by complex patterns or sensory stimulation (e.g. views and sounds) and motivated behavior such as visual inspection to obtain new information.

Reference [16] writes that there are four main attitudes necessary to be developed in science, namely: (a) curiosity, (b) inventiveness, (c) critical thinking, and (d) persistence. These four attitudes actually cannot be separated from one another as they are complementary. Curiosity encourages inventiveness in which if supported by critical thinking, it will strengthen persistence and dare to be different. Curiosity is indicated, among other things, by enthusiastically looking for answers, paying attention to the object under observation, feeling enthusiastic at processes of natural sciences and asking every step involved in an activity.

Reference [17] writes that "...curiosity as the threshold of desired uncertainty in the environment that leads to exploratory behavior". Spontaneous exploratory curiosity is a common method, but it requires critical factors, such as familiarity and stimulus characteristics. Curiosity is resulted from cognitive conflicts or gaps in knowledge arising from stimuli or situations.

Reference [18] writes that curiosity is one aspect that is conditional for student development. This is even the soul and essence of the learning culture. Without it, students will lose the motivation to learn and eventually will never learn. Instructional processes will be more interesting if such processes are accompanied by the will arising internally from the students themselves without any encouragement or coercion from others.

Reference [19] provides the definitions of real curiosity to students:

a. reacting positively to new, strange, odd, or mysterious elements in the environment which approach them through exploration and manipulation;
b. desire to know more about themselves and their environment;
c. scanning their environment to look for new experiences; and
d. continuously looking for and exploring stimuli to know more.

To put it in a nutshell, curiosity is the desire to acquire new knowledge which raises motivation and interest to make exploration. It is indicated, among other things, by enthusiastically looking for answers, paying attention to the object under observation, feeling enthusiastic at processes of natural sciences and asking every step involved in an activity.

2.4 Critical Thinking

Reference [20] states that critical thinking is the ability to solve problems; generate products which gain appreciations, which are flexible, creative, and original; thinking about an idea; finding the right path to achieve goals; capturing and transferring knowledge; as well as expressing views and feelings in an appropriate manner. Critical-thinking skills are not innate or natural in nature, but these skills can be taught and learned. Many people nowadays lack the ability to reflect on ideas and reexplain how to solve problems.

Reference [21] states that critical thinking always takes place in response to a particular task, question, problematic situation or challenge, including solving problems, evaluating theories, conducting inquiries, interpreting works, and engaging in creative task (Bailin 1990), and such challenges always arise in particular contexts. Dealing with these challenges in a critical way involves drawing on a complex array of understandings (what colleagues and I have termed intellectual resources), the particular resources needed for any challenge depending on the specific context.

Reference [22] states that one of the necessary skills to face the future challenges is the higher-order thinking skills which are often referred to as critical-thinking skills. These skills are related to the ability to identify, analyze and solve problems creatively and logically so as to result in the right consideration and decision. The 21st century skills include digital-age literacy (which consists of functional literacy, visual literacy, scientific literacy, technology literacy, information literacy, cultural literacy, and global awareness), creative thinking, higher-order thinking and sound reasoning, effective communication and high productivity.

Reference [23] defines critical thinking as "the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action". It is also known as metacognition, i.e. cognition

about cognition. Critical thinking skills are important because these skills allows students to effectively address social, scientific, and practical issues. The students who are able to think critically will manage to solve problems effectively.

Reference [24] states that critical thinking is the ability to use a set of intellectual abilities either in the context of problem solving, decision making or interactions with others. It is characterized by capabilities to debate and analyze arguments, assess credibility of particular sources, make inferences (drawing conclusions based on solid evidence and reason) and decide actions, as well as serve as disposition determining the critical spirit (what motivates critical thinkers to use their critical thinking skills in their own thinking and to think about others). Moreover, when thinking critically one is required to consciously and deliberately find and use knowledge and criteria related to the problem or question under consideration.

Reference [25] states that the best critical thinking skills are taught and assessed in individual subjects. Different materials consist of different types of arguments and criteria to verify the truth or credibility.

Critical thinking is not a skill that can evolve on its own as human physical development grows. It needs training through stimulus provision which requires one to think critically. Schools as an institution of education are responsible for helping students develop critical thinking skills.

The indicators of critical-thinking skills in Reference [16] are questioning the findings their peer reports, asking about any changes/ new things, repeating the activity they do and not ignoring every single data.

In short, critical thinking is the ability to use a set of intellectual abilities either in the context of problem solving, decision making or interactions with others. The indicators consist of questioning the findings their peer reports, asking about any changes/ new things, repeating the activity they do and not ignoring every single data.

3. Research Methods

This is developmental research which employs the method of research and development (R&D). The product to be developed here is an instructional medium, i.e. supplementary textbooks with three-dimensional illustration for natural science instruction for seventh graders related to the materials of scientific performance and the motion of objects. To display the three-dimensional illustrations needs computers or android smartphones which are supported at least by version 4.0.3. Without computers and smartphones as the aids, the resulting product will only serve a function as common textbooks like the others.

The development model used is the research-based development adapted from the model in reference [26] which comprises of ten steps: (1) collecting information (doing literature reviews, conducting classroom observations, designing a research framework); (2) designing the research including formulating the research objectives, estimating funding needs and the time required, as well as developing research procedures; (3) developing the initial product (designing the initial draft of the product); (4) conducting preliminary field testing; (5) revising the main product; (6) conducting maing field testing; (7) revising the results of the main field testing; (8) conducting operational field testing; (9) revising the final product; (10) disseminating and implementing the product.

The planned research steps in the development stage are described as follows:

1. Researching and Collecting Data

In this stage, the researcher conducted library research and field observations. The library research aims to look for theoretical concepts or foundations which support the product of the instructional media. Field observations are intended to obtain the real picture of the problems with science instruction in schools/ madrasah.

2. Planning

Based on the preliminary study that has been conducted, planning was made in relation to the product of the instructional media, which includes:

a. the purpose of the product utilization;

b. the users of the product; and

c. descriptions of the components of the product and its utilization

3. Developing the Initial Product

Initial product development is the rough draft of the instructional media product to be developed. Nevertheless, it has to be developed as completely and perfectly as possible.

4. Validating the Initial Product

The draft or the initial product was developed by the researcher and assistance from experts/ practitioners was asked according to their expertise. The validation process involved experts in media and materials, science teachers and peers. Results of this validation were used as guidelines in the first revision. The revised draft would be the second product to be tested on a limited basis.

5. Limited Testing for the Instructional Media

The initial product in the form of instructional media, i.e. supplementary textbooks with three-dimensional illustrations was tested on a limited basis to a small group. This aims to examine and measure these supplementary textbooks with three-dimensional illustrations during instructional processes in terms of their readability, clarity and usefulness.

6. Revising the Instructional Media

Results from the limited testing were used as guidelines in the second revision which later generated the main product. This main product was field-tested once more.

7. Field Testing

It was conducted in 2 groups, namely the control group and the experiment group. It aims to assess feasibility and effectiveness of the instructional media developed, i.e. supplementary textbooks with three-dimensional illustrations in relation to the curiosity and critical-thinking skills of MTs students.

8. Revising the Final Product of the Instructional Media

Results from the field testing were used as guidelines to revise and perfect the final product of the instructional media in the form of supplementary textbooks with three-dimensional illustrations.

9. The Final Product

It is necessary to perfect the final product greater to obtain a higher level of accuracy. In this stage, a product whose effectiveness can be ensured was finnally generated.

10. Limited Dissemination

In this stage, the product developed was distributed limited to schools/ madrasah where the testing was conducted.

4. Conclusions

Supplementary textbooks with three-dimensional illustrations have been successfully developed using SketchUp with AR-media Plugin displayed using AR-media Player. Using a laptop/ computer and an android smartphone supported at least by version 4.0.3, the illustrations of the three-dimensional objects represented by a marker in supplementary textbooks can be well displayed. The illustrations of the three-dimensional objects displayed can be seen from different points of view, by either rotating the marker or the camera.

A review of the multimedia and materials experts suggest that the instructional media in the form of supplementary textbooks with three-dimensional illustrations have met the criteria of being good media as enrichment materials for Madrasah Tsanawiyah students.. It is expected that the use of this instructional media in the form of supplementary textbooks with three-dimensional illustrations during the instructional activity will manage to raise the curiosity and critical-thinking skills of the students during the field testing.

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INFLUENCE OF COLLABORATIVE STRATEGIC READING (CSR) IN TEACHING READING COMPREHENSION

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Abstract

This study is aimed to find out whether there is a significant difference in reading achievement between the students who are taught by using CSR and that of the students who are taught by using another technique. This study used quasi experimental design. This research was conducted from January 13 to February 17, 2014. The participants of this study were the second year students of State Islamic Junior High School of Yogyakarta II. There were two intact classes taken as the subject of this study. Each class consisted of 32 students performing as experimental group and 32 students as a control group. The pretest and posttest were used as the instrument to collect the data. Descriptive and inferential statistics were used to analyze the data. The research findings showed that after students were taught by using collaborative strategic reading, the students' mean score of the experimental group was higher (68.12) than that of the mean score of the control group (60.75) with mean difference 7.22. The *F* value (12.74) was higher than the *F* table (4.00) with 5 % level in the degree of freedom was 60 and the p value (.001) was lower than (.05).

Keywords: CSR, reading comprehension, teaching reading

1. Introduction

English is an international language that is used around the world as a means of communication. It has become a Lingua Franca (Harmer, 2002:1). It means that it is used between two speakers whose native languages are different and where one or both are using it as a second or foreign language. There are four skills of language to be taught i.e. reading, writing, listening and speaking. In Indonesia, those four skills are taught in most schools. Reading is one of the skills that should be mastered by the students due to its benefit for their future. According to Maxom (2009: 139) reading is one of the key skills in language learning. It reinforces the skills that the students acquire in speaking, listening and writing. It is also a complex cognitive process of decoding symbols in order to construct or derive meaning. Snow (2002: 11) asserts that reading is a means of language acquisition, of communication, and of sharing information and ideas. It is a complex interaction between the text and the reader which is shaped by the reader's prior knowledge, experiences, attitude, and language community which is culturally and socially situated. The reading process requires continuous practice, development, and refinement.

Among the four skills in English, reading assists people to not only get access to more language input but obtain more knowledge concerning the world as well. It is the prominent method for learning new information and has the capacity of opening up new ways of perceiving the world and transforming the world (Grabe and Stoller, 2001; in Hsu, 2010: 11). For EFL learners, reading is an essential method for independent obtaining information from other countries. Even though majority of people learn to speak before they learn to read or write, most people have more needs and chances to read than to speak in learning second and foreign language (Goodman, 1986; in Hsu, 2010: 11).

In Indonesia, English is taught as a foreign language. It is also taught in State Islamic Junior High School of Yogyakarta II. It is taught twice

a week for the second year students. They learn four English skills namely speaking, listening, writing and reading. English teacher has some methods of English teaching especially in teaching reading i.e. scaffolding, direct instruction and lecturing. The teacher delivers the instructional materials by using some activities such as brain storming, pre-reading, while reading and post-reading. In addition, the teacher also uses some activities like small group discussion, role play and pair discussion to develop the students' ability and at the end of the lesson the teacher gives feedback to the students.

There are some problems found in teaching reading. The first is text difficulty. Middle and high school students are expected to read texts that have heavy concept loads and much technical vocabulary about topics that are new to the students. They not only must read these difficult texts with comprehension for initial understanding, but must also be able to think about meaning in such a way as to make inferences, draw conclusions, and acquire new learning (Lenski and Lewis, 2008: 42 – 43). The second is motivation to read. Lack of motivation to read is one of the most frequent contributors to the students' achievement. Motivation to read is a complex construct that influences readers' choices of reading material, their willingness to engage in reading, and thus their ultimate competence in reading, especially related to academic reading tasks. Motivation is often linked to the students' self-efficacy, or their belief in their own ability. Students with little motivation to read are often disengaged from learning and avoid reading. Because these students do not spend time reading, their progress tends to be slower than that of students who do read (Bandura, 1986; Beers, 2003; and Stanovich, 1986 in Lenski and Lewis, 2008: 43).

Woolley (2011: 211) points out that ineffective instruction are one of the issues in teaching reading. Many teachers have demonstrated the tendency to apply a whole class approach to instruction and seldom directly teach appropriate and personalized reading comprehension strategies to individual students with learning difficulties.

2. Collaborative Strategic Reading

With collaborative strategic reading (CSR), students learn to apply comprehension strategies that aid their understanding of expository text and others (Vaughn and Klingner, 1999: 285). The development of CSR was affected significantly by the approaches of reciprocal teaching and transactional strategies instruction. Initially, the teacher presents the strategies to the all class using modeling, role playing, and teacher think-aloud. After students have developed proficiency in using the strategies, the teacher then assigns the students to heterogeneous cooperative learning groups (Johnson & Johnson, 1989; Kagan, 1991 in Klingner et al., 2007: 139). Each student performs a defined role while collaboratively implementing the strategies. Thus, with CSR, all students are actively involved, and everyone has the opportunity to contribute as group members learn from and understand the text (Klingner et al., 2007: 139).

Klingner and Vaughn (1998: 33) state that the goals of CSR are to improve reading comprehension and increase conceptual learning in ways that maximize students' participation. CSR has been proven to be a valuable approach for students at varying achievement levels. Here are the strategies of CSR proposed by Swanson et al. (2011: 2).

1. Preview: The purposes of previewing are to help students identify what the text is about, tap into their prior knowledge about the topic, and generate interest in the topic. The teacher helps the students with previewing by reminding them to use all of the visual clues in the text, such as pictures, charts, or graphs, and to look at the headings and subheadings used throughout the passage.
2. Click and clunk: In this phase, students use the process of click and clunk to monitor their comprehension of the text. When students understand the information, it "clicks"; when it does not make sense, it "clunks." Students work together to identify clunks in the text and use fix-up strategies to help them "declunk" the word or concept. The clunk expert facilitates this process, using clunk cards. A different strategy for figuring out a clunk word, concept, or idea is printed on each card (Klingner and Vaughn, 1998: 34):
   a. Reread the sentence without the word. Think about what would make sense.
   b. Reread the sentence with the clunk and the sentences before or after the clunk, looking for clues.
   c. Look for a prefix or suffix in the word.
   d. Break the word apart and look for smaller words you know.

Students record their clunks in their learning logs to share with their teacher and peers.

3. Get the gist: It means that students are able to state the main idea of a paragraph or cluster of paragraphs in their own words, as succinctly as possible. In this way students learn how to synthesize information, taking a larger chunk of text and distilling it into a key concept or idea. Students are taught to identify the most important who or what in the paragraph, and then to identify the most important information they read about the who or what, leaving out details. Many teachers require that students state the main point of the paragraphs in 10 words or less.
4. Wrap-up: Students learn to "wrap-up" by formulating questions and answers about what they have learned and by reviewing key ideas. The goals are to improve students' knowledge, understanding, and memory of what they have read. Students generate questions about important information in the passage. They learn to use question starters to begin their questions: who, what, when, where, why, and how ("the five Ws and an H").

In applying CSR, students work in groups using CSR learning log and play their roles such as leader, clunk expert, timekeeper, encourager, gist expert, and announcer (Hsu, 2010: 23). Each role is specified as follows:

a. Leader: the leader leads the group in the implementation of CSR by saying what to read next and what strategy to apply next. He or she can ask the teacher for assistance if necessary.
b. Clunk expert: the clunk expert uses clunk cards to remind the group of the steps to follow when trying to figure out a difficult word or concept in the text.
c. Gist expert: the gist expert guides the group toward the development of a gist and determines that the gist contains the most important idea but no unnecessary details.
d. Announcer: the announcer calls on different group members to read or share an idea.
e. Encourager: the encourager watches the group and gives feedback, looks for behaviors to praise, encourages all group members to participate in the discussion and assist one another, evaluates how well the group has worked together and gives suggestions for improvement.
f. Timekeeper: the timekeeper lets the group members know how much time they have to write in their learning logs or complete a section of the text they are reading.

The goals of CSR are to improve reading comprehension and increase conceptual learning in ways that maximize the students' participation in a group. CSR was developed to enhance reading comprehension skills for students with learning disabilities and students with reading difficulties (Klingner and Vaughn, 1998: 33).

3. Method

This study belongs to quasi experimental design. It involves manipulation of an independent variable but differs in the subjects. It is not randomly assigned to treatment groups and does not provide full control (Ary et al, 2010: 316). Creswell (2012: 309) mentions that quasi-experiment includes assignment, but not random assignment of participants to groups. It is because the experimenter cannot artificially create groups for the experiment. Nunan (1992: 41) mentions that quasi-experiment is a quantitative research that has both pretest and posttest and experimental and control groups, but no random assignment of subjects.

4. 4. Findings and Discussion

The following table was the result of pretest and posttest for both experimental and control group.

Table 1. The Result of Pretest and Posttest

Method	N	Mean		SD	
		Pretest	Posttest	Pretest	Posttest
CSR	32	63.38	68.12	6.593	8.031
DI	32	62.88	60.75	8.331	8.647

Based on the table above, the mean score of the experimental group was 63.38 and 68.12 with the standard deviation of 6.593 and 8.031. Meanwhile in the control group, the mean score was 62.88 and 60.75 with the standard deviation of 8.331 and 8.647.

Afterwards, the researcher conducted normality test to know whether the data were normally distributed or not. The computation showed that the data in pretest and posttest for both experimental and control group were normally distributed based on the calculation by using SPSS 16 computer program as follows:

Table 2. Test of Normality

Groups	Kolmogorov Smirnov Test			
	Pretest		Posttest	
	N	Sig.	N	Sig.
Experimental	32	0.245	32	0.616
Control	32	0.780	32	0.341

Hall (2010: 84) points out that if the *p-value* is higher than 0.05, it means that the data were normally distributed and *p-value* labeled as (Sig.). Based on the table above a Kolmogorov Smirnov test shows that the score for the experimental group (.245 and .616) was higher than 0.05 and for the control group the score (.780 and .341) was higher than 0.05. Thus, the data for both experimental and control group were approximately normally distributed.

After knowing the data were normally distributed, the researcher conducted homogeneity test to know whether it is homogenous or not by applying Levene's test. The researcher calculated the data by using SPSS 16 computer program. Below was the result of homogeneity of pretest and posttest for both experimental and control group.

Table 3. Test of Homogeneity of Variances

	Pretest			Posttest		
Levene Statistic	df1	df2	df3	Df1	Df2	Df3
	1	62	0.084	1	62	0.969

If the probability is over 0.05 for Levene's test, variances are considered to be homogeneous (Hall, 2010: 88). In line with the result above, the *p-value* (0.084 and .969) was higher than 0.05. It can be concluded that the data for both experimental and control group were homogenous.

5. Hypothesis Testing

In this study the hypothesis to be tested was as follows:

a. Ho = There is no a significant difference in reading achievement between the students who are taught by using CSR and that of the students who are taught by using another technique.
b. Ha = There is a significant difference in reading achievement between the students who are taught by using CSR and that of the students who are taught by using another technique.

In this study, ANCOVA was applied by the researcher and the data were calculated by using SPSS 16 computer program. The result of calculation was as follows:

Table 4. Tests of Between-Subjects Effects
Dependent Variable: Scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1197.152	2	598.576	9.150	.000
Intercept	1765.224	1	1765.224	26.983	.000
Pretest	326.902	1	326.902	4.997	.029
Methods	833.603	1	833.603	**12.74**	**.001**

Table 4 showed that the *F* value (12.74) was greater than the *F* table (4.00) with 5 % level in the degree of freedom was 60. And the *p* value (.001) was lower than (.05). It means that there is a significant difference in reading achievement between the students who are taught by using collaborative strategic reading and that of the students who are taught by using another technique. Thus, the null hypothesis was rejected.

Table 5. Estimates
Dependent Variable: Scores

Methods	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
CSR	68.049	1.430	65.189	70.908
DI	60.826	1.430	57.967	63.686

Table 6. Pairwise Comparison

Dependent Variable: Scores Methods	Methods	Mean Difference	95% Confidence Interval	
			Lower Bound	Upper Bound
CSR	DI	7.22	3.177	11.286

Table 5 depicted that the adjusted mean for the experimental group (CSR) was 68.049[a] and for the control group (DI) was 60.826[a]. The 95 % Confidence Interval for Difference would fall between lower and upper bound. The mean difference between the students who are taught by using CSR and that of the students who are taught by using another technique was 7.22.

Table 7. Parameter Estimates

Parameter	Std. Error	t	Sig.
Pretest	0.137	**2.235**	.029
CSR	2.023	**3.570**	.001

Unfortunately, SPSS 16 did not compute the effect size. It identifies the strength of the

conclusions about group differences or about the relationship among variables in quantitative study (Creswell, 2012: 203). In this study, the researcher calculated it by using the following formula (Field, 2005: 384).

$$r\text{Covariate} = \sqrt{\frac{t^2}{t^2 + df}}$$

$$r\text{Covariate} = \sqrt{\frac{2.235^2}{2.235^2 + 62}} \quad r\text{Covariate} = \sqrt{\frac{4.995}{66.995}}$$

rCovariate = .27

$$\text{CSR vs. DI} = \sqrt{\frac{3.57^2}{3.57^2 + 62}} \quad \text{CSR vs. DI} = \sqrt{\frac{12.745}{74.745}}$$

CSR vs. DI = .41

Based on the calculation above, the effect size for rCovariate was .27 and it was a medium size. While the effect size for CSR vs. DI was .41 and it was a large effect.

The research question of this study asked if there is a significant difference in reading achievement between the students who are taught by using collaborative strategic reading and that of the students who are taught by using another technique. This study found a significant difference. It is proved by the mean score of the experimental group (68.12) was higher than that of the control group (60.75) with mean difference 7.22. The mean score of the experimental group increased 4.74 point from 63.38 to 68.12. On the other hand, the mean score of the control group decreased -2.13 point from 62.88 to 60.75. The *F* value (12.74) was higher than the *F* table (4.00) with 5 % level in the degree of freedom was 60. And the *p* value (.001) was lower than (.05).

The finding of this study was similar to the result from McCown (2013: 3). She examined the effects of collaborative strategic reading on informational text comprehension and meta-cognitive awareness of fifth grade students. She found that there is a statistically significant difference between the experimental group and control group with the experimental group outperforming the control group. Similarly, Swanson et al. (2011: 4) applied a quasi-experimental study of intact fourth grade classes randomly assigned to a condition (CSR or typical), found a significant difference in reading comprehension as measured by the Gates-MacGinitie Reading Test favoring the CSR group. Effect sizes showed a small effect for the CSR group as a whole; however, there were larger effect sizes for the low-achieving students including those with learning disabilities.

6. Conclusion

There is a significant difference between the scores of the students who are taught by using collaborative strategic reading and those of the students who are taught by using another technique. It is proved by the different mean of the score of the experimental group (68.12) and the mean of the score of the control group (60.75) with mean difference 7.22. The *F* value (12.74) was higher than the *F* table (4.00) with 5 % level in the degree of freedom was 60. And the *p* value (.001) was lower than (.05). The effect size for rCovariate was a medium effect (.26). While for CSR vs. DI was a large effect (.41).

7. Suggestion

Based on the research findings and discussion, here are some suggestions which are addressed to the teachers, other researchers, and curriculum developers.

1. Teachers
   Collaborative strategic reading (CSR) can be used as an alternative method to teach reading comprehension.
2. Other Researchers
   Other researchers may use the result of this study as a reference to conduct further researches on collaborative strategic reading (CSR).
3. Curriculum Developers
   Curriculum developers may recommend CSR as an alternative method to teach reading comprehension.

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IMPROVING THE SPEAKING TEACHING-LEARNING PROCESS THROUGH INFORMATION GAP ACTIVITIES

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Abstract

This research study was aimed at improving the speaking-teaching learning process through information gap activities. This study was categorized as a classroom action research and conducted in two cycles, started in October 2013 and ended in December 2013 at SMP N 2 Gedangsari. Each cycle consisted of four steps: planning, acting, observing and reflection. The subjects were 36 students of year VIII-C .The implementation of information gap activities in the speaking teaching-learning process involved four phases: preparation, demonstration, activity, and feedback. Observation, interview, questionnaire, and speaking test were used in collecting the data. The data collected during the implementation of information gap activities, show that there were improvements in the process of teaching-learning speaking. The improvements were (1) the students had a lot of opportunities to speak and to practise their English, (2) the students were more active in the teaching and learning process, and (3) the students could respond to the teacher's speech accordingly. The improvement of the students' speaking skill could be seen from the average score before action and that after action. The average score before action is 63.33 and that after action is 78.06, which means that the average score after action increases by 14.72 from the score before action. According to the statistics**, t-test** sample related (paired sample), the score difference is significant at 0.031, so **ρ** is less than 0.05 (**ρ** <0.05). This means that there is a significant difference between the score before action from the score after action. This implies that using information gap activities can improve the speaking teaching-learning process and the students' speaking skill.

Keywords: the speaking teaching-learning process, information gap activities

1. Background

Speaking is one of the central elements of communication. In EFL teaching, it is an aspect that needs special attention and instruction. In line with the teaching of speaking skill at SMP, it is stated in The Act of Ministry of National Education (Permendiknas) No.22 year 2006 about Standar Isi (Standard of Content) that SMP students should learn speaking competence at a certain standard and certain level. Each grade has each standard competence which is broken down into some basic competences.

Pre-research observation was conducted which results some information on the teaching and learning process. The finding of pre-research observation done in April shows that the speaking teaching-learning process was only done in the classroom and in teacher-centre orientation, such as: repetition, drill, and act it out a dialogue.

By the time the teacher asks the students to practise their English during learning process, a common problem is occurred. When the teacher asks the whole class questions, expecting at least one student to respond, most of the students motionless keep silence or even drop their head, avoiding the eye contact with their teacher. It is true that there are sometimes when no students can answer the teacher's question, but often students do not answer even if they understand the question, know the answer and are able to produce the answer. Furthermore, students are very reluctant to give feedbacks or ask the teacher questions in front of the class.

They feel nervous because they find difficulties in using the vocabulary, pronouncing the words, and also grammar. They often make some mistakes in pronouncing words, even the simplest words.

Reflecting on the process of English teaching learning, my collaborator and I agreed to do a collaborative action research to improve

our practice in English teaching and learning.The teaching learning process should be conditioned so that the students have the opportunities to speak and practise their English.

The objective of the research is: to improve the speaking teaching-learning process of the year eight C students' through the use of Information Gap Activities at SMP Negeri 2 Gedangsari Gunungkidul in the 2013/2014 Academic Year.

Speaking is a complex skill in interaction between a speaker and a listener. It involves an active process. A speaker should think idea to express while there are many aspects should be considered such as vocabulary, grammar and situation.

"Speaking is the same as oral interaction which are conventional ways of presenting information, expression our idea and thought have in our mind". Reference [1] p. 40. Speaking is not only expressing our ideas, but also presenting new information to others.

"Speaking is the process of building and sharing meaning through the use of verbal and non-verbal symbol, in a variety of contexts" Reference [2] Speaking activity has very important roles since human being, as a social creature, always communicates to one another using language including English.

Reference .[3] p. 140, states that speaking is a productive skill that can be directly and empirically observed. Speaking is a skill in producing oral language. It is not only an utterance but also a tool of communication. It occurs when two or more people interact each other, which aims at maintaining social relationship between them.

Speaking is the active production skill and uses oral production. It is capability of someone to communicate orally with others. The one who has skills in speaking can be identified from his/her ability in using the oral language fluently, clearly and attractively.

Many experts have tried to identify things related to the reasons for teaching speaking. Reference [4] said that the single most important reason for teaching speaking is to develop oral fluency that is the ability to express oneself intelligibly, reasonably accurately and without undue hesitation.

Reference [5], p. 116 mentions a number of reasons why we ask students to do speaking activities in class. We want the students to retrieve and use the language that they know, to give the students a real desire to speak and a communicative purpose for doing so. And we will not tell the students exactly what language to use because we don't want them to focus on specific language items in the same way as we do for practice activities. Speaking activities give the teacher and the students a good idea of how well everyone is doing.

Reference [6], p.201, states that "Speaking is used for many different purposes, and each purposes involved different skills." It means that we used speaking based on our purposes, for examples: to give instruction, to express our opinions, to describe things, etc. Each of these different purposes for speaking implies knowledge of the rules that account for how spoken language reflects the contex or situation in which speech occurs.

Reference.[7], p.327, proposes some activities in speaking class to be applied in EFL class. The types of speaking performance proposed by Reference [7], pp.327-330) are imitative, intensive, responsive, transactional (dialogue), and extensive monologues.

Those performances in the speaking teaching process can also be conducted through a communicative basis Reference [8], p.72.

The learning English objectives of Junior High School state that students have the following capabilities: (1) to develop communication competence in oral and written form to reach the level of functional literacy, (2) to have an awareness of the nature and importance of English to improve the nation's competitiveness in the global community, and (3) to develop the students understanding of the links between language and culture (Standar Isi 2006).

According to Reference [9], speaking competence refers to the ability to express the meaning of interpersonal/ideational or message in the transactional text and or monologue orally. In line with the teaching of speaking skill at SMP, it is stated in Permendiknas No.22 Tahun 2006 about Standar Isi (Standard of Content) that SMP students should learn speaking competence at a certain standard and certain level.

In assessing the students'speaking competence, there are some aspects to be considered. It depends on the objective (s) of the assessment task. Refernece [4], p.140 suggests some aspects to be considered to assess the students'speaking competence. They are pronunciation, fluency, vocabulary use, grammar, and comprehensibility.

Based on the experts' opinion, Reference [10], pp.123-124, Reference [1], pp.17-22), Reference 11], pp.52-53, Reference [2], and Reference [4], it could be concluded that EFL teachers should pay attention to 10 (ten) indicators of good speaking teaching-learning process that will be used in this action research:

all students participate fully in teaching-learning process,

the teacher applies learning-oriented in order that the students practise a lot in forms of pair works and group works,

the teacher monitors students' activities,

the teacher helps the students correct their own mistakes and errors,

the teacher circulates around classroom to ensure that students are on the right track and see whether they need his/her help.

the teacher provides the vocabulary beforehand that students need in speaking activities,

the teacher provides plenty of comprehensible input,

the teacher avoids overloading learners with too much new language. A simple rule to keep in mind is "learn a little of language, use a lot to practise the language in speaking",

the students use any and all of the language at their command to achieve some kinds of purpose which is not purely linguistic,

the teacher creates authentic activities and meaningful tasks that promote oral language.

Based on the the background to the study that is focused on the opportunity for the students to speak and the activities that don't give the students a chance to speak, teacher should find a technique to encourage the students to speak up and to be active in speaking teaching-learning process.

According to Reference [10], p.129, an information gap is where two speakers have different bits of information, and they can complete the whole picture by sharing that information – because they have different information, there is a 'gap' between them.

Information gap activities are communication exercises in which each of two paired students has information which they must orally relate to each other in order to fill in the "gaps" in the information they have. The students are asked to work in pairs. Then the teacher distributes the dialogue, pictures or forms in which they have different missing information. The students are asked to question and answer based on information on his/her paper. The pair will respond based on their own paper.

Reference [8], p.62, gives opinion that: "In real life, communication takes place between two (or more) people, one of whom knows something that is unknown to the others. The purpose of communication is to bridge the information gap". In the classroom terms, an information gap activity means that one student must be in a position to tell another something that the second student does not already know.

Information gap is an activity where students have different pieces of information about the same subject to share this information (usually without looking at what their partner has got) in order for them both to get all the information they need to perform a task (http://elt.wiki.cw.idm). In this type of activity, students complete a task by obtaining missing information, a feature the activities have in common with real communication.

Information gap activities are highly appriopriate at low levels, suitable to engage the students in communication, and giving a challenge and opportunities for students to speak. It can be said that information gap activities are the appropriate technique to cover the year VIII-C students of SMP N 2 Gedangsari's problem in speaking. Information gap activities give the students a chance to practice their English and a chance to speak.

Based on the background of the research and the learning context of SMP Negeri 2 Gedangsari, improving speaking teaching-learning process through information gap activities will be applied. Both types of information gap activities will be used. They are two paired students and group works.

The implementation of information gap activities in teaching learning process involves four phases. They are preparation, demonstration, activity, and feedback. (Connell, 2006).

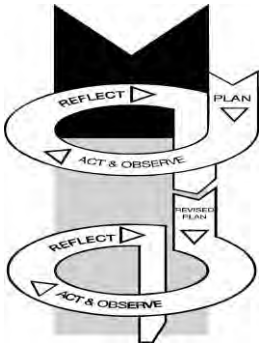
According Reference [12], pp. 7-15, the problems found in speaking class; dealt with a passive class, where the students were unresponsive and avoid interaction with the teacher and other students have been solved through implementation of information gap activities.

The review of related literature and related findings above showed that since the purpose of teaching speaking is communicative efficiency, it is essential that students should be given opportunity to practice communicating. The classroom should be the learners' centered. Teacher's role is to facilitate students' communication. Creating or exploiting information gap can provide reasons to speak or to interact. To sum up, information gap activities are effective means to make the students active and to develop the students' speaking skills.

2. Research Method

This study was categorized as classroom action research. The classroom action research with the cycle model was applied in this research. It was conducted into cycle models based on the

model of Kemmis and McTaggart (1988), in Reference [13], p.33 and was modified by Reference [14], p.67 in which each cycle covers four stages of activities: the planning of the action, the implementation of the action, classroom observation, and the reflection of the action.



My teaching in speaking was not succesful. My students' speaking performance is low.

Figure 1 Cyclical Action Research model based on Kemmis and McTaggart (1988) modified by Burns (1999,p.33) and Suwarsih Madya (2009, p.67)

The research started in October 2013 and ended in December 2013. A preliminary study was done on the 28th of May, 2013. On the first of September, a meeting to discuss the preparation of the research was conducted by the researcher and the collaborators. The preparation included sharing information on the proposal, inferring understanding on the research instruments, and discussing what to do during the research.

The classroom action research was conducted at SMP Negeri 2 Gedangsari in Gunungkidul. This school has 18 classrooms for all grades in which each grade has six classes. Each grade is labelled A, B, C, D, E, and F. Grade VIII-C was chosen as the researched class since the students of this grade have the lowest speaking capability among other same grades. Based on the preliminary observation, the problem of speaking capability of this grade really needed serious action.

SMP N 2 Gedangsari is situated in Tegalrejo, Gedangsari, Gunungkidul. It is located in the border area, between Gunungkidul, Yogyakarta Province and Klaten, Central Java Province. SMP N 2 Gedangsari was chosen as the researched school since the students' achievement of this school was still low, especially English.. *Tabel 1* below is the analysis of the students' score of four subjects of the national examination score in the academic year of 2012/2013.

Table 1 The Score Analysis of the National Examination Score

SCORE ANALYSIS					
	Indo	Math	English	Scince	Average
Average Score	7.49	4.48	4.41	5.02	5.35
Maximum Score	9.60	9.75	9.00	9.00	8.99
Minimum Score	3.60	1.75	2.00	1.50	2.21
Standart of Deviation	1.16	1.78	1.17	1.43	1.39

From the table above we can see that the average of English score is the lowest score among them. It means that it needs an action to improve the English score in English teaching-learning process.

The action was done by teaching speaking to the year eight students of SMP N 2 Gedangsari using information gap activities. It was done on the following table:

Table 2 The Schedule of the Research

No	Day/date	Time	Activity
1.	Tuesday, May 28, 2013	08.40-10.00	Prelimenary Study
2.	Saturday, August 10, 2013	08.50-09.30	Observing VIII C
3.	Monday, November 11, 2013	07.40-09.00	Cycle 1 (first meeting)
4.	Monday, November 18, 2013	07.40-09.00	Cycle 1 (second meeting)
5.	Saturday, November 23, 2013	09.30-10.50	Cycle 2 (first meeting)
6.	Wednesday, November 27, 2013	09.30-10.50	Cycle 2 (second meeting)
7.	Saturday, November 30, 2013	13.30-14.50	Speaking Test

In this classroom action research, the data were collected through the following techniques, Reference [15], pp.54-99: (1) observation using observation guide, (2) interview using interview guidelines, (3) rating using rating formats, (4) documentation using photography and recording using camera recorder, and (5) speaking test.

The speaking test in this research study was given to the subjects in the last cycle after the actions given by the researcher. The speaking test was given to get evidence of the effectiveness of the implementation of information gap activities to improve the speaking teaching-learning process of the year eight students. When the indicators of good speaking activities were achieved, it meant that the students' speaking competence improved.

In this research study there are two kinds of data gained which were in quantitative and qualitative forms as elaborated below.

Qualitative data refers to any informations in the form of sentences which describe the students' expressions about their understanding level towards English subject (cognitive), the students' view and attitude towards their new learning method (affective), the students' activities during learning process, attention, enthusiasm in learning, self-confidence, learning motivation, and such kinds.

The informations emphasize on learners and teacher' behavior verbally and nonverbally (gesture, mimic, smile, hand movements, etc.) in reaching ten good indicators of learning speaking process. The main sources of classroom action research can be got through observation which will be written in field note, and video recorded. Then they will be written in the form of vignettes. Reference [14], 2009: 75-77.

Qantitative data or students' scores are data which can be analyzed descriptively. In this case the researcher will use descriptive statistical analysis to find, for example, the average score, the different significant, etc. The data or the scores which were analyzed were the students'score before the action and the score after the action. The score before the action was the students' score from the teacher taken from the previous basic competence. The score after the action was the score of students' speaking test at the end of second cycle.

In this research study there were two kinds of data gained which were in quantitative and qualitative forms as elaborated.

3. Findings and Discussion

At the beginning of this study, the English teaching-learning processes in the VIII-C class was discussed, questionnaire was given to the VIII-C junior high school students, and observation of English teaching-learning process was done.

From the observation, it was found that the teaching learning process was dominated by the English teacher. The teacher dominated the activities, didn't give opportunities for the students to practice speaking. The English learning atmosphere in the classroom did not support the teaching learning process, the teacher and the students preferred speaking in Indonesian to English. The teacher's presentation was monotonous and he didn't give feedback to the students. He didn't appreciate the students' answers, therefore they preferred waiting the teacher's answer and kept silent, being passive. The teacher also preferred teaching reading and writing to speaking and listening.

Table 3 The Field Problems Concerning to the Speaking Teaching Learning Process of English in the VIII-C Class of SMP N 2 Gedangsari.

NO	PROBLEM	CODE
1	The speaking teaching-learning process hasn't got maximum attention, teacher tends to teach reading and writing skills to achieve a good result in the final examination.	LP
2	The speaking teaching-learning process is only done in the classroom and in teacher-centre orientation.	LP
3	The instructional scenario is not developed creativily .The speaking teaching-learning process is not interesting for the students as the teacher used the same technique in the whole times. The students get bored.	TT
4	The teaching technique is not various.	TT
5	The *Bahasa Indonesia* is more used as a medium in teaching English speaking skill. The students' communicative competence is still low. Most of them still find difficulties and get confused when the teacher speaks and asks them in English.	TT
6	The students rarely practise their English, especially in speaking. They also rarely get an opportunity to speak and practise their English.	S
7	The activities conducted by the teacher didn't give the students a chance to speak. The students only repeated the words, phrases, or sentences after the teacher or act out a monologue or a dialogue.	TT
8	The students get lacked exercises on speaking. They are passive when they are asked to speak. They get confused about what and how to speak.	S
9	The students' knowledge on prerequisite matter for speaking such as pronunciation, vocabulary/diction, and sentence pattern is put aside.	TT
10	Teaching and learning processes focus on the results of doing tasks rather than on the processes.	LP

NB: S: Student, LP: Learning Process, T: Teacher, TT: Teaching Technique

Since there were many problems identified in the field problems, it's necessary to figure out the problems based on the urgerntly level and feasibility level. The selected problems were presented in *Table 3*.

Table 4 The Selected Problems of the Field Problems Based on the Urgency Level and Feasibility Level

NO	The Selected Problems
1	The students rarely practise their English, especially in speaking. They also rarely get an opportunity to speak and practise their English.
2	The activities in the classroom didn't give the students a chance to speak. The students only repeated the words, phrases, or sentences after the teacher or act out a monologue or a dialogue.

Based on the problems mention above, it could be seen that there was casual relationship between the problems. The activities in the classroom didn't give the students a chance to speak, so they rarely practice their English, especially in speaking. They also rarely get an opportunity to speak and practise their English. The teacher dominated the activities in the class.

There were four main actions in the teaching-learning of speaking that were related to the use of information gap activities. First, I used classroom English during the teaching and learning process. Second, I provided plenty comprehensible input that the students need in speaking activities. Third, I gave useful feedback and reward without interrupting to encourage the students to speak. Fourth, I presented information gap activities through information gap cards , both in the form of pair work and group work.

Table 5 The Action Applied in the Research Study

NO	ACTIONS
1	Using classroom English during the teaching and learning process
2	Providing plenty comprehensible input that the students need in speaking activities
3	Giving useful feedback and reward without interrupting to encourage the students to speak.
4	Presenting information gap activities through information gap cards , both in the form of pair works and group works.

The first action was using classroom English during the teaching and learning process. During the actions, the researcher acted as the teacher in the class, and two English teachers of SMP N 2 Gedangsari acted as collaborators. Using classroom English during the teaching learning process in order to make the students more familiar with English words and they could increase their opportunities to speak English in the classroom since the researcher and the students communicated in English.

The classroom English was used in several functions such as to greet the students in the beginning of the lesson, to elicit materials that would be learnt, to explain the materials, to give instructions or the tasks or activities, to give feedback, and to end the lesson. When the students seemed confused, Indonesian (Bahasa Indonesia) would be used by the researcher. Some Indonesion translation in some difficult aspects, such as in explaining the materials and giving instruction what the students should do were used so the students knew what they should do.

The second action was the teacher provided plenty comprehensible input that the students need in speaking activities. It included providing the vocabilary the students needed in speaking activities, how to pronounce the words, and also the language expressions that would be used in speaking activities.

The third action was giving useful feedback and reward without interrupting to encourage the students to speak. After being given a feedback on the students' pronunciation, they were expected not make the same mistakes in pronouncing the words. It could be done during the process and also after speaking teaching-learning process. In giving feedback to the students, the teacher should do the activity in a good way, not interrupt the students' speaking so it could encourage the students to speak and practice a lot.

The fourth action was implementing information gap activities through information gap activities using cards, both in the form of pair work and group work. Information gap activities were used to improve the students' speaking teaching-learning process in the case of the improvement to negotiate the meaning and make them active in teaching learning process. Information gap activities were given in the forms of information gap activities using cards to make the students more actively engaged in the English teaching and learning process and to give them opportunities to practice their English in the class.

After knowing the problems in speaking learning, information gap activities were chosen as the solution of the problems. The implementation of information gap activities in teaching speaking consists of two cycles. The

first cycle presented asking for, giving, and refusing things/goods and the topics were selected by the teacher and the collaborators. Meanwhile the second cycle presented asking for, and giving information about someone'appearances. The result of the first cycle became the consideration of the planning of the second cycle. Each cycle consisted of two meetings. Each meeting had duration for 80 minutes. Each cycle consisted of four steps. The steps were: 1) planning the action, 2) implementing the action, 3) observing the action, and 4) reflecting of the observation results.

Based on the observation, it could be concluded that the English teaching speaking process using information gap activities in cycle 1 ran well. It can be seen from the result of collaborator's observation sheet. Ten good indicators of speaking teaching-learning process could be identified.

The results of the reflection done by the collaborators and me as the researcher can be seen as follows. The first reflection was related to the implementation of information gap activities. The implementation of Information Gap Activities (IGA) in Cycle I was quite effective for speaking practice. The students had plenty opportunities to practice speaking in real communication. In this way, they became more encouraged to speak English confidently, especially to say the already language expressions. The activities were easy enough for the students to do. The language used for demonstrating the IGA should be clear and simple accompanied by the use of gesture and non-verbal expressions, and if necessary, combined with the use of Indonesian language in order the students could understand the instructions easily.

The second reflection was related to the implementation of classroom English during the teaching and learning process. My research team examined that the implementation of classroom English was effective. As often as I spoke English to them, the students were encouraged to respond by using English too. The use of classroom English for the next cycle would be maximally implemented in order that the students can speak English with each other more frequently during the lesson. If the students did not catch clearly what I said, it would be better if I repeated it more slowly using paraphrases accompanied by the use of gestured and non verbal expressions. However, if they still did not understand, I might translate some unfamiliar words, if necessary, combined with the use of Indonesian language sometimes in order that the students could understand the instructions more easily.

The third reflection was related to providing plenty comprehensible input that the students need in speaking activities before implementing information gap activities. Being given pronunciation drilling and vocabularies related to the topic beforehand, the students could practice speaking more fluently and accurately with intelligible pronunciation during the implementation of information gap activities.

The last reflection was related to the implementation of giving immediate feedback in the form of verbal praise and positive encouragement to the students' performance. Being given immediate feedback in the form of verbal praise and positive encouragement, the students knew exactly what was performed well and became more encouraged to make much better accomplishment in their future actions.

Information gap activities significantly increased the quantity for students to speak. But information gap activities did not significantly increase the quantity for some male students to speak. Some male students were still reluctant to speak.

Some male students simply asked the pictures from their partner directly without using the right questions. They still preferred using *Bahasa Indonesia* to speak when they got a task to practice speaking.

The weaknesses in cycle 1 was used to revise the action in cycle 2. There were two revisions in implementing the information gap activities in teaching learning process based on the result of the discussion between the collaborators and the teacher after doing reflection. They were:

1)) The using of native speaker's voice in giving the example dialogues to the students. The aim was to give the real example how to pronounce the words or sentences. *Bolabolka progamme* was used to make it true.

2)) The changing of the arrangement of the students' seat. The goal of this activity was to make the trouble –maker boys study more and more participate in speaking lerarning process, instead of cheating with other boys.

The improvement in speaking teaching learning process in Cycle II could be seen from the comparison between the result of the observation done by the collaborators in Cycle I and Cycle II.

When the indicators of good speaking activities were achieved, it meant that the speaking teaching-learning process of the year

eight students improved. It would make the students' speaking competence improve too. To get evidence of the effectiveness of the implementation of information gap activities to improve the speaking teaching-learning process of VIII C students, speaking test was given to the subjects in the last cycle after the actions given by the researcher.

Speaking Pre-Test could not be done because of the limited time. After discussing with the collaborator the score of pre-test be replaced by the score of previous basic competence from the English teacher.

Improving the students' speaking teaching-learning process could be done not only by implemening information gap activities but also another actions, such as giving comprehensible input to the students, giving opportunities for the students to pronounce the words, to repeat the words in words repeatation task, to use grammatical words classes, especially singular and plural nouns and also to produce English stress patterns, words in stressed and unstressed position and intonation. Drilling was also important to do. For drilling also gives opportunities for the students to practice speaking through repetition, gives an opportunity to listen and to orally repeat certain strings of language. Reference [7], pp.328-330. It could be said that information gap activitiy was not the single technique in improving the speaking teaching-learning process. It should be done by using various techniques.

. Information gap activities could be effective if they were implemented and conducted in a certain steps and certain materials. The implementation of information gap activities in speaking teaching learning process involved four phases. They were preparation, demonstration, activity, and feedback Reference[16].

Meanwhile the materials were taught to the students in this research study were two language functions. They were: (1) asking for, giving, and, refusing something/goods, and (2) asking for information, giving information, and denying fact about someone physical appearances.

1) Preparation

In the preparation phase, I prepared all the items needed for the teaching of information gap activities. The items concluded cards, pictures, students worksheet, recording, and also slides of presentation. Before class, I prepared pictures and cards. One card is for each students in the class. Half of the cards should have questions. The other half should contain corresponding answers (information).

2) Demonstration

In demonstration phase, I prepared the students to follow the activities. I gave some more information including the purpose of the activities. Then I led the students to the main activities by exploring the topic with the class and highlight useful words or phrases. I introduced the language expressions that will be used in the activity.

3) Activity

In the activity phase, I brought the students to solve tasks or to play games that contain information gap activities. Here, I divided the students into pairs or groups according to the task. In pairs work, the students had to do the task together with the partner.

4) Feedback

In the feedback phase, I gave praises to what the students have done, then reviewed the activity that had been conducted. I asked some information related to the activities and let the students gave their comments about the activities. In this point, feedback was considered one of the most powerful instructional variables in the sense of enhancing the students' achievement (Lourna, 2004, p.12). I provided feedback to the students about their learning. I also received feedback from the students about the teaching.

Impementing information gap activities, the students were given a chance to pronounce the words, to repeat the words in words repeatation task, to use grammatical words classes, especially singular and plural nouns, to produce English stress patterns, words in stressed and unstressed position and intonation, to practise asking for, giving, and refusing something using information gap activities in pair works or group works, and to practise asking for, giving, denying fact about someone physical appearances using information gap activities in pair works or group works.

The changing of the arangement of the students' seat as an adding action was effective to improve the effectiveness of speaking teaching-learning process in grade VIIIC class. From some teachers' opinion in preliminary interviews, some teachers had opinion that some boys in this class had a label as the trouble-maker students. They needed much more attention. The seating arrangements were done as appropriate as the expert said. Reference [7], pp.242-243.

In determining the students' seat, who sits next to whom, my team decided to mix a girl with a boy. *English will be more readily*

practiced if students of the same native language are not sitting next to each other. Reference [7], pp.242-243. Here English will be more readily practiced if students of the same gender are not sitting next to each other. The goal of this activity was to make the boys stu dy more and more participate in speaking teaching-learning process, instead of cheating with other boys.

The quantitative data are in the form of the students' score, before and after action . Here, I compare the students' score before and after action using *t-test* to know whether or not there is a significant difference before and after action. The data can be seen from the students' average score before and after they got the action. *Table* below are the result of the ***t-test*** *samples related (paired sample):*

Table 6 Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Before	63.333	36	8.7831	1.4638
	After	78.055	36	7.7715	1.2953

Table 7 Paired Samples Correlation

		N	Correlation	Sig
Pair 1	Before & After	36	.359	.031

Based on the table of the statistical analyses above, it can be found that the average score before action is 63.333 and the average score after action is 78.056. It means that the average score after action increases by 14.722 from the score before action. According to the statistics, the score difference is significant at 0.031, so ρ is less than 0.05 (ρ <0.05). It means that there is a significant difference between the score before action from the score after action. It implies that implementing information gap activities can improve speaking teaching-learning process of the year eight students of SMP N 2 Gedangsari Gunungkidul in the academic year of 2013/2014.

During actionss of the research, it was found that, instead of the success, this classroom action research had some weaknesses. It was called *the limitation of the research* which was elaborated in more detail as the following.

the Limited Model in Presenting the Dialogues

The dialog u s I p layed in Cycle II were dialogues which I made on purpose by using Bolabolka Programme. The voice of the native speaker in this programme was *robotic.* During the study I had not thought and tried to present the authentic dialogues performed by native speakers who have real conversations in English using the expressions learnt by downloading the files from the internet since there are abundant odf ESL/EFL sites providing copyable speaking materials for teachers.

the Limited Types of Media

During this action research study, I only made use of some media types those were pictures/photographs, audio recordings and slide presentation. I did not think of using more various types of mediawhich are also available in the internet and easy to download.

the Limited Speaking Activities

I already implemented information gap activities in the form of infornation gap activities using cards in speaking activities during this study. But in fact, there were more various and interesting activities which I did not implement.

the Limited Use of Dictionaries

Dictionaries provide abundant resources to students and activities to be conducted in the classroom. In this study, I only asked my students to use dictionaries as a resource to consult the meaning of the certain words. I did not ask them to check the phonetic transcription of the words in the dictionary as resources of pronunciation. On the other hand, I fed them with the model of the pronunciation from the played audio media or teacher's voice.

The Limited of Time

The action was scheduled from October to December 2013. The meeting in Cycle I was planned in October, but in October the instruments were still reviewed by the reviewer (Suharso, M.Pd). It needed two weeks to complete, so that the action started in November and ended in November too. On the first of December the students should join the term evaluation test.

4. Conclusion and Recommendation

4.1 Conclusion

Through this action research study, it can be concluded that information gap activities can be used to improve speaking teaching-learning process for year VIII-C students of SMP N 2 Gedangsari. The students get more opportunities to speak and practise speaking a lot. The students were more active in speaking teaching learning process, and the students could respond the teacher's speech accordingly.

Information gap activities could be effective if they were implemented and conducted in certain steps and certain materials. The implementation of information gap activities in speaking teaching learning process involved four phases, namely preparation, demonstration, activity, and feedback. (Connell, 2006). Meanwhile the materials were taught to the students in this research study were two language functions. They were 1) asking for, giving, and, refusing something/goods and 2) asking for information, giving information, and denying fact about someone physical appearances.

4.2 Recommendation

Based on the conclusion of the study, some recommendations are directed to the English teachers, the students, and the other researchers, as the following (1) To the English Teachers, being involved as my collaborators in this research study, the English teachers were also actively involved in attempting some improvements in the teaching learning process. They not only have to improve their knowledge about how to make an interesting activity but they also have to be able to create an enjoyable atmosphere in the teaching and learning process. They have to be accustomed to using classroom English in teaching learning process. (2) To the Students, through this research, an information gap activity can be used as one of the communicative activities to give them opportunities to speak and to improve their speaking abilities. (3) To other researchers, the other researchers who will conduct similar research studies should prepare the planning of the research well an accurately before conducting the research. They have to prepare lesson plans and media to support the teaching learning process. They also should know the characteristics of their students well. This study may be used as a reference before other researchers do other action research related to this topic. In addition, other researchers have to have enough knowledge related to his/her research study.

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THE INFLUENCE OF DISCOVERY LEARNING AND PROJECT BASE LEARNING ON STUDENTS ACHIEVEMENT ON PHYSIC

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Abstract

This study focuses on the relationship between two innovative learning models which are predicted to develop students' achievement on physic (SA). The study used a quasi experimental research using nonrandomized pretest-posttest control group design was conducted on SMAN 1 Bantul. One class was involved as the first experimental group using discovery learning model (DLM), another class as the second experimental group project based learning model (PjBL), and one class as the control group using conventional learning model (CLM). Descriptive statistic analyses indicated that discovery learning model (DLM) and project based learning model (PjBL) are significantly predicted to develop students' achievement on physic (SA). The results further revealed that DLM and PjBL models were effective in developing students' achievement on physic (SA). The result also revealed DLM and PjBL models were more effective than conventional model on developing on students' achievement on physic (SA). Practical implications of the study are discussed in relation to teachers physic.

Keywords: discovery learning, project based learning, students achievement on physic

1. Introduction

Physics is basic for understanding the complexities of modern technology, and essential for technological advancement of a nation. This aspect of science is making significant contribution to many of the inventions that are shaping modern day, and has helped to explain many of the events being encountered in everyday life. Despite its importance, physics remains the least preferred science subject among students generally. Compared to other science subjects, only a few students choose to study physics at O-level and, subsequently, at higher degrees. The literature is replete with studies suggesting that students generally regard physics as conceptually, difficult, abstract, uninteresting, and "elite discipline only suitable for exceptionally talented and gifted pupils [1, 2]. The 2007 Trends in International Mathematics and Science Study (TIMSS), however, shows that Indonesian students have low performances in science: ranked in 36th position out of 49 countries [3]. This raises the question of how to improve Indonesian student performance, and of finding possible approaches to enhancing student conceptual understanding, and skills in science.

Teaching students with the notion of discovering, critical thinking, questioning, and problem solving skills is one of the main principles of science and technology teaching. Thus, science and technology teaching curriculum should accordingly be developed to educate science-literate students who are able to inquire and solve problems they face. Today, it is believed that methods in accordance with the constructivist approach in which the students learn more effectively by constructing their own knowledge, should be used. Some of the methods which include of constructivism learning it is discovery learning [4] and project based learning [5].

The base of science teaching is understanding that natural phenomena and the nature of science requires inquiring and discovering. Inquiry in science consists of experiments and inquiring natural phenomena by discovery learning [6]. Bruner points out that any individual has the will to learn and this will should be used in such activities that it should raise curiosity and direct students to studying and discovering knowledge. Learning happens by

discovery, which prioritizes reflection, thinking, experimenting, and exploring. People who use self discovery in learning turn out to be more self confident [7]. Discovery is a way from the unknown to the known by the learners themselves . The active participation of the learner in the learning process is called discovery learning [4]. Discovery learning, students construct knowledge based on new information and data collected by them in an explorative learning environment ([8].

Project-based learning (PBL) is a model that organizes learning around projects. According to the definitions found in PBL handbooks for teachers, projects are complex tasks, based on challenging questions or problems, that involve students in design, problem-solving, decision making, or investigative activities; give students the opportunity to work relatively autonomously over extended periods of time; and culminate in realistic products or presentations [9]). Other defining features found in the literature include authentic content, authentic assessment, teacher facilitation but not direction, explicit educational goals, [10]), cooperative learning, reflection, and incorporation of adult skills [11].

Project-based learning is an authentic learning model or strategy in which students plan, implement, and evaluate projects that have real-world applications beyond the classroom [12]. Project-based learning has been defined in many ways. For this reason there exists no single definition. Project-based learning is an instructional method centered on the learner. Students develop a question and are guided through research under the teacher‘s supervision [13]. Instead of using a rigid lesson plan that directs a learner down a specific path of learning outcomes or objectives, project-based learning allows in depth investigation of a topic worth learning more about [14]. Projects within project-based learning as based on challenging questions and making students having central role in design, problem-solving, decision making processes so giving students the opportunity to work relatively autonomously [9]. In project-based learning, students plan, implement, and evaluate projects that have real-world applications beyond the classroom [15]. Project-based learning is a comprehensive approach to classroom teaching and learning that is designed to engage students in investigation of complex, authentic problems and carefully designed products and tasks [16]. The use of project-based learning in class is possible after providing the information that is needed for the project. The classroom activities should be student centre, cooperative, and interactive [10].

With project based learning, student will be trained to creative and innovative in learning. In this case, project based learning can also improve Student’s creative thinking that can lead to the creation or realization of the planned project. Project based learning is a significant approach in enhancing the potential of changing the way teaching and learning is passive to enable Students with the tools and media support to improving learning outcomes [17]. Project based learning has advantages in this type of teaching on Student activities and opportunities to solve multidisciplinary problems ([18]).

2. Materials and Methods

A quasi-experimental research design with a pre-test and post-test control group was used in this study. In this case used two experimental groups and one control group. Research design can be described as proposed by [19]:

Experimental Group I	T_1	X_a	T_2
Experimental Group II	T_1	X_b	T_2
Control group	T_1	-	T_2

Note: T_1 = pre test
T_2 = post test
Xa = Discovery learning model
X_b = Project base learning model

This research was conducted at SMA N 1 Bantul. The data source in this study were students of class X IPA SMAN 1 Bantul the 2014/2015 school year amounts to 90 students which consists of one experimental group I, one experimental group II, and one control group.

Table 01: The distribution of Sample Research

Group	Class	Number of Students
Experimental Group I	X_2	30
Experimental Group II	X_4	30
Control Group	X_5	30

The independent variable of this experimental study was treatment (treatments) were subjected to discovery learning charged in the experimental group I, Project base learning is charged in the experimental group II, and the conventional learning model imposed in the control group. The dependent variable is student achievement on physic. The data on improvement in the student achievement on

physic differences between groups of students studying physics through discovery learning models, project base learning and conventional learning models, will be analyzed with statistical analysis of covariance (ANCOVA) using SPSS.

3. Results

To answer the question of how effective discovery learning model (DLM) and project-based learning (PjBL) to improve the students' achievement (SA). Descriptive statistical analysis was used to test the comparative advantage between DLM and PjBL versus convensial learning model (CLM). The null hypothesis (H0) stated that "There is no significant difference between the students' achievement (SA) through discovery learning model (DLM), project base learning model (PjBL), and conventional learning model (CLM)" . The null hypothesis (H0) was tested by analysis of covariance techniques through F-test.

Follows the tables 02 and 03 are presented results of descriptive statistical analysis and analysis covarians, to be used as a deduction in hypothesis testing.

Table 02: Result of descriptive statistical analysis

Model	Mean	Standard Deviation	N
DLM	2.93	.492	30
PjBL	2.96	.582	30
CLM		.817	30
	2.55		

Table 03:Result of analysis covarians

Source	Type I Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.538[a]	3	1.179	2.840	.043
Intercept	711.211	1	711.211	1.713E3	.000
Pre	.509	1	.509	1.227	.271
Model	3.029	2	1.515	3.647	.030
Error	35.710	86	.415		
Total	750.460	90			
Corrected Total	39.249	89			

a. R Squared = .090 (Adjusted R Squared = .058)

Based on the results of descriptive statistical analysis and analysis of variance, it can be concluded as follows: (1) The null hypothesis (H_0) stated that "There is no significant difference between the students' achievement (SA) through discovery learning model (DLM), project base learning model (PjBL), and conventional learning model (CLM)" was rejected ($F = 3.647$; $p < 0,05$). In other words, There is significant difference between the students' achievement (SA) through discovery learning model (DLM), project base learning model (PjBL), and conventional learning model (CLM)". (2) the students' achievement (SA) on physics through PjBL (mean = 2.96) better than the students' achievement (SA) on physics through DLM (mean = 2.93) and the students' achievement (SA) on physics through CLM (*mean* = 2.55).

4. Discussion

The description of the profile of the students' achievement on physic (SA) as presented in Table 02 indicate that PjBL is more effective than DLM and much more effective than CLM. Nevertheless, DLM is more effective than CLM in developing on students' achievement on physic (SA). The empirical results of this study in accordance with the study found that project-based learning appears to be effective model for producing gains in academic achievement [20, 21]. The result of the study also similar with studies [22] shows that there is a significant difference in favour of the experimental group (DLM) over the control group regarding the average of academic achievement. The findings this study are also in line with studies [23] that DLM more effective method of the invention compared with CLM . When students are taught about physic by traditional method in Science lessons, they have difficulty comprehending the concepts regarding the subject ad correlating them to their previous learning. This conclusion is supported by the fact that experimental group students gave more correct answers than the control group students on the academic achievement test. This result obtained from this study is also confirmed by other research studies in which DLM is compared with CLM from the point of academic achievement [4]. However, students learn science in classrooms with pure-discovery methods and minimal feedback, they often become lost, frustrated, and their confusion can lead to misconceptions [24]. Discovery based learning on physic requires students to take examples from daily life, to propose hypotheses, test them like scientists, and meanwhile, to gain

advanced level cognitive skills. Discovery learning is a method that encourages students to arrive at a conclusion based upon their own activities and observations. Inclusion of activities based on discovery learning in science teaching in Indonesia is important for meaningful and lifelong learning. The activities in science teaching raise the curiosity of students and drive them to inquire their priorities and perceive the natural phenomena from different aspects. Such activities help to correct the conceptual errors of students.

Project Base learning model embody characteristics that give them a feeling of authenticity to students. These characteristics can include the topic, the tasks, the roles that students play, the context within which the work of the project is carried out, the collaborators who work with students on the project, the products that are produced, the audience for the project's products, or the criteria by which the products or performances are judged. Projects Base learning incorporates real-life challenges where the focus is on authentic (not simulated) problems or questions and where solutions have the potential to be implemented. On the other side, learning physics with LCM models whose main activity is to conduct an experiment to give opportunities to the students to design experiments, control variables, formulate hypotheses, analyze the data, and to conclusions through inductive process. These opportunities also exist in the model of PjBL. If the learning process takes place through the conventional model (expository), students the opportunity to hone and practice of formal reasoning ability is very low. Conditions that cause a sharp distinction between PjBL and DLM models with conventional models (CLM) in the development of the students' achievement on physic (SA).

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INTEGRATED DEVELOPMENT ASSESSMENT OF SCIENCE INSTRUCTION AS AN ALTERNATIVE TO MEASURE THE ACHIEVEMENT OF CORE COMPETENCE AND COMPETENCE BASIC ASPECTS OF COGNITIVE PROCESSES AND SKILLS

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Abstract

Curriculum changes into the curriculum in 2013 necessitated a change in the paradigm of teachers in the learning activities, including the activities of science learning assessment. Appropriate nature of science teaching, assessment should be directed to the cognitive aspects and science process skills. However, based on preliminary studies conducted by interviewing the few science teachers in Special Region of Yogyakarta (DIY), in get that there is no example of an integrated science tests that can be used to measure cognitive abilities and science process skills. To measure the achievement of core competencies and basic competencies in science teaching according to the curriculum in 2013 in accordance with the characteristics of science lessons matta namely; assessment of knowledge, understanding, application of concepts, and assessment of science process skills. It can use assessment in the form of Integrated Science Assessment Instruction. Forms of items Integrated Science Assessment Instruction form essay and multiple choice.

The proposed research is the study of research and development (R & D) were performed during the three (3) phases. Phase I define, namely through the literature and need assessment. Phase II design, in the form of activities in terms of the initial design of integrated science instruction assessment products. Phase III develop, in the form of validation of expert material and expert evaluation and testing is limited to a few junior high schools in the province. The second phase is the development continued, in the form of activities to enhance the product based on the advice of experts and reviewers to produce products that can be tested extensively to all secondary schools in DIY and revision back. The third stage in the form of disseminate through the dissemination of science instruction assessment of integrated products that have been validated and revised end-school to junior high school in Yogyakarta. Parameters of the study include the feasibility and effectiveness of the products developed. For processing the data were analyzed with descriptive statistics techniques of quantitative and qualitative descriptive.

Keywords: Integrated science instruction assessment, Cognitive Aspects, Science Process Skills

1. Introduction

Education is one of the aspects that support the development of a country's development. One important element in education is the curriculum. Curriculum according to Law No. 20 of 2003 on National Education System Article 1, point 19 is a set of plans and arrangements regarding the purpose, content, and teaching materials and methods used to guide the implementation of learning activities to achieve specific educational goals.

Based on Government Regulation No. 32 of 2013, now Indonesia using the curriculum of 2013. There are some changes in the national education standards related to changes Education Unit Level Curriculum (SBC) 2006 to the curriculum in 2013, namely competency standards, content standards, and process standards assessment standards. Changes in educational assessment standards set in Permendikbud No. 66 of 2013, that assessment is not only based on the Basic Competence (KD), but also Competency Standards (SKL) and Core Competence (KI). This is similar to the guidelines listed in the Ministry of Education and Culture (2013), who also stated that the assessment is not only at the level of basic competence, but also based on the core competencies and SKL.

Changes in the educational assessment standards will affect the process of assessment activities undertaken by teachers, one of whom is

a teacher teaching science in junior high school (SMP). This will change the paradigm of teachers in drafting instruments assessment of learners, where the former is more likely to vote in the form of paper and pencil test and measure cognitive ability, so that teachers rarely pay attention to the skills assessment process of students.

Assessment instrument is one important part of learning at school. According Arikunto (2011: 26), the assessment tool is one part of the evaluation instrument. Evaluation instrument is one of the measuring instruments used in conducting evaluations of educators learning process and the learning outcomes of students (Arikunto, 2011: 26) .According Kuswanto (2008), basically the goal is to master the knowledge science, understand and apply the concept of science, apply process skills, and develop attitudes. The purpose of this assessment is in line with the three domains within the framework of science curriculum as follows:

1. Assessment of knowledge, understanding and application of science concepts
2. Assessment of skills and processes
3. Assessment of character and attitude (scientific attitude)

Science assessment in the form of international standard tests that have held one of them materialized in the form of a test conducted by the Program for International Student Assessment (PISA). The purpose of these tests as a benchmark to see and determine how far our students can compete in this era of globalization. Often the results of these tests form the basis for the underlying study in a program of development and improvement of the quality of education in some countries.

Based on the results of the latest PISA in 2012, Indonesia to rank 64 of the 65 countries members of the PISA scientific literacy score of 382 (Driana, 2013). Based on the PISA results, it can be seen that scientific literacy in Indonesia get a low value. This can be caused by various factors, such as the curriculum, the learning process, infrastructure (facilities), and about the evaluation form.

Forms of important evaluation questions analyzed in order to evaluate the learning activities and capabilities of the students. Questions in the matter are also used to evaluate the learning activities that have been implemented, such as in science learning which includes cognitive abilities and skills in the process of learning activities, then the form of matter also lead to cognitive and skills assessment process.

Based on the preliminary study of science teaching in some junior secondary schools in Yogyakarta, shows that learning science in the junior has not been fully implemented in an integrated manner. It also shows that not many science teachers who developed the science assessment (integrated science instruction assessment) which can measure cognitive abilities and skills of the student. In the opinion of most of the teachers surveyed stated that they have not encountered examples of questions that can measure science integrated manner to measure cognitive abilities and skills of the student. From the questionnaire results indicate that conditions in the field is necessary to form an assessment instrument that can measure the science process skills and cognitive abilities in students. This can be realized by developing forms of assessment instruments science called integrated science instruction assessment.

2. Discussion

Assessment is one important part of learning, because to measure the achievement of learning objectives must be assessed. Based on the survey that was conducted in the field, there are still many who have not yet developed science teacher assessment tool specifically for the subjects science. Teachers only assess learners with questions that measure cognitive abilities. So that skills in learning process has not been measured in depth science. Most teachers only measure process skills through practice tests that rely on rote learners, rather than on an understanding of learners.

Based on the above, it is necessary the development of the Integrated Science Assessment Instruction that can be done on the assessment of cognitive abilities and science process skills in learners in depth. Developed forms of instruments can be multiple choice or essay questions, as an alternative assessment to measure the achievement of KI and KD of cognitive and science process skills in the curriculum of 2013. With this assessment is expected to improve understanding of the concept of (cognitive) and science process skills in students who materialized in scientific literacy of students in everyday life. This study is a Research and Development (R & D) which aims to develop an integrated assessment about the products of science instruction assessment. The results of this development is a form of alternative assessment to measure the achievement of core competence and basic competences of the cognitive and skills

in the curriculum process Sugiyono 2013. (2010: 407) says, "To be able to produce certain products that are necessary research and analysis needs to test the effectiveness of the broadest product, it is necessary to study to test the effectiveness of these products. "The model used in this development is the development of 4-D models (four-D models), which is expressed by Thiagarajan, Semmel, and Semmel (1974) which consists of defining (define), the design (design), and development (develope) and the deployment phase (disseminate) (Trianto, 2010: 186).

Methods of data collection in this research that includes observation, interview, filling questionnaire, and document analysis method (product made) in the form of an analysis of the products of integrated science instructional assessment. Respondents consisted of teachers and learners SMP trials.

Data is collected were analyzed using descriptive statistical techniques of quantitative and qualitative descriptive. Quantitative descriptive statistical techniques are used to describe the number of respondents who provided information. Meanwhile, qualitative descriptive statistical techniques are used to describe the word, sentence, or any substance that should be removed or added to the draft assessment of integrated science instruction. Especially for empirically testing products, the data learner achievement outcomes were analyzed using nonparametric statistical approach.

Left- and -right justify your columns. Use tables and figures to adjust column length. On the last page of your paper, adjust the lengths of the columns so that they are equal. Use automatic hyphenation and spelling check. Digitize or paste down figures.

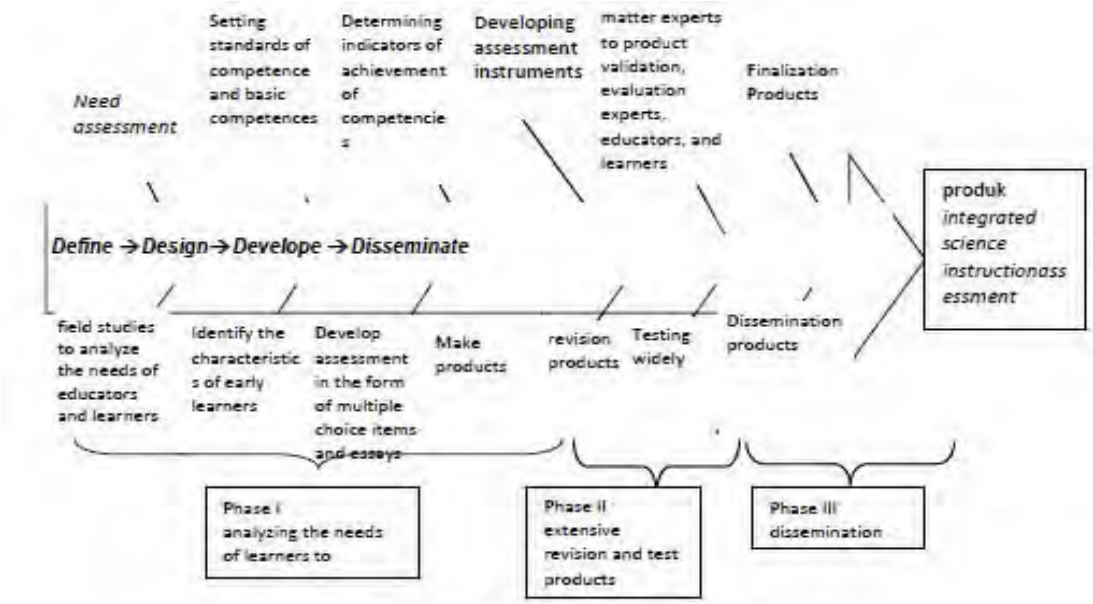

Figure 1 Diagram Fishbone research procedures.

The focus of this research is to develop an integrated science instruction assessment to measure the cognitive aspects and science process skills. According to Susan, et al (2012), integrated assessment is an integrated assessment that integrates assessment and control of teaching materials science process skills. In this integrated assessment, each item has a mastery indicators and indicators of teaching materials science process skills. Integrated assessment is designed as an attempt to improve the mastery of the material and science process skills possessed learners.

According Wahyana in Trianto (2010: 136), science is a body of knowledge that is arranged in a systematic and in common usage is limited to the phenomena of nature. In development is not only characterized by the presence of a collection of facts, but by the presence of the scientific method and scientific attitude. With science learning process, it is expected that students can better understand the circumstances surrounding nature, natural phenomena and are able to solve the scientific method. Thus, the learning will be more active, not just memorize the existing theories and

concepts, but may find themselves the facts that exist in nature.

This is consistent with the objectives science. According Kuswanto (2008), the goal of learning is to master the knowledge science , science understand and apply concepts, apply process skills, and develop attitudes. Objective assessment Intruction Integrated Science Assessment science is in line with the realm of learning within the framework science assessment are: assessment of knowledge, understanding and application of concepts and skills assessment process.

Curriculum 2013 has a structure called the curriculum structure set out in Regulation No. 23 of 2013. Structure of Curriculum 2013 is organizing core competencies, basic competencies, teaching load, subjects, and the burden of learning in every academic and educational programs. In accordance with Regulation No. 32 In 2013, the core competence and basic competences can be described as follows:

1. Core Competencies

   Under PP 32 Year 2013 concerning Amendment to Government Regulation No. 19 Year 2005 on National Education Standards state that core competency is the ability to achieve a level of competency standards must a student at any grade level or program.

2. Basic Competencies

   Under PP 32 Year 2013 concerning Amendment to Government Regulation No. 19 Year 2005 on National Education Standards state that the basic competence is the ability to achieve core competencies that must be acquired through learning learners. To measure the achievement of KI and KD on science subjects in the curriculum in 2013 can use a form of assessment in the form of Integrated Science Intruction assessment, because it was in line with the realm of the assessment framework science namely: assessment of knowledge, understanding and application of concepts and skills assessment process.

According to the EPA (2013) Integrated science assessment (ISA) is a concise evaluation report represents a synthesis of science and the most relevant to assess the nature, such as pollution include: pollution on ozone, particulate matter, carbon monoxide, sulfur dioxide, nitrogen oxide, and tin which is a criteria pollutant and is considered harmful to public health and the environment. So the EPA noted that integrated science assessment tend assessment of natural conditions science.

According to the English dictionary, the word "instruction" can be interpreted as learning. Thus the assessment of integrated science instruction can be interpreted as an assessment in science learning. So in this paper the notion of integrated science instruction assessment is a form of integrated assessment that integrates assessment science mastery of teaching materials which include physics, chemistry and biology with science process skills, in an effort to improve the mastery of the material once owned science process skills of learners.

According Hafizan (2010), a test that assesses performance on a series of integrated science process, related to planning the investigation including formulating hypotheses, operationally defining variables, identifying and controlling variables and interpret the data. Science process skills are not specific to the subject, but these skills to operate in conjunction with specialized knowledge. Test items were developed making it suitable for use with specific knowledge and conceptual containing material on science that requires the application of an integrated component of science process skills.

According Mungandi (2005), about the development of integrated science process skills test in the form of multiple choice questions through validity and item analysis items. In a matter-because measuring skills include identifying and controlling process variables, stating hypotheses, operational definitions, graphing and interpretation of the data, experimental design.

According Sudijono (2009: 48), in evaluating learning outcomes, evaluators are required to evaluate thoroughly the learners, both in terms of mastery of subject matter or materials which have been given (cognitive), and in terms of appreciation (affective) and experience (psychomotor domains). In connection with the acquisition of materials (cognitive), Bloom classify cognitive levels into six categories: knowledge, comprehension, application, analysis, synthesis, and evaluation. This classification is often called Bloom's taxonomy. According Mundilarto (2010: 9), Anderson and Krathwohl has revised Bloom's taxonomy is given, understand, apply, analyze, evaluate, and create.

Science process skills are basic troubleshooting in the scientific method and science learning. Many experts argued

capabilities must be developed in the science process skills. According to Collette and Chiappeta (1994: 90) science process skills can be divided into two parts, namely the basic science process skills and integrated science process skills. Basic science process skills include observing, classifying, the relationship of space/time, using numbers, perform measurements, menginferensi, predicts. Integrated science process skills include formulating operational definitions, formulate models, controlling variables, interpreting data, formulate hypotheses, conduct experiments. Furthermore, proposed by Conny, et al (1992: 17) that the science process skills can equip students with the skills to observe, hypothesize, experiment planning, controlling variables, interpreting or interpreting the data, menginferensi, predict, communicate and implement (apply).

In accordance with the objectives science assessment, the assessment of integrated science instruction in this research is a form of integrated assessment that integrates assessment science mastery of teaching materials which include physics, chemistry and biology with science process skills, in an effort to improve the mastery of matter and science process skills possessed learners. Load characteristics overs assessment concept (*cognitive*) such as: remembering; understand; apply; analyze; evaluate; create, and assessment of science process skills such as: observing; hypothesized; planned experiments; control variables; interpret or interpret the data, menginferensi; predict; apply (apply), as well as meeting the criteria of making a good question that is valid; reliable; relevant; representative; practical; discriminative; specific and proportional.

3. Conclusion

Research on the development of integrated science instruction assessmentini as an attempt to overcome the problems in the assessment of learning science in Junior High School (SMP). Previous assessments tend to measure cognitive ability, so that teachers rarely pay attention to assessment in science process skills in students. Curriculum changes into the curriculum in 2013 to change the paradigm of teachers in the learning activities, including the assessment activities science. According nature science learning, assessment should be directed to the cognitive aspects and science process skills. However, based on preliminary studies conducted by interviewing at several science teacher in Yogyakarta (DIY), otherwise not encountered science example problems in an integrated manner to measure cognitive abilities and science process skills in students. To measure the achievement of KI and KD on learning curriculum science in 2013, which is in line with aspects science assessment are: assessment of knowledge, understanding and application of concepts and science process skills assessment, can be used form of assessment in the form of the Integrated Science Assessment Instruction. Forms of items Integrated Science Assessment Instruction form essay and multiple choice

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APPLYING LOCAL WISDOM- BASED SCIENTIFIC APPROACH IN CHEMISTRY LEARNING AT GRADE TEN OF SMAN 1 PURWOREJO TO IMPROVE STUDENTS ACHIEVEMENTS

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Abstract

According to Act of the Republic of Indonesian government No. 20/2003 on National Education System, Indonesian government supports educational development based on regional potencies. It is supported by the Regulation of the minister of Education and Culture No. 81A/2013, that local wisdom should be integrated into learning at any subjects. Purworejo is a region in Central Java that has special local wisdoms that are potentially integrated into chemistry learning with scientific approach of learning. This research measured the difference of students' achievement at SMAN 1 Purworejo between students who learnt chemistry by applying local wisdom-based scientific approach and that without applying local wisdom, in which students' prior knowledge was controlled statistically. Two groups of students were chosen as the treatment class applying local wisdom-based scientific approach, and a control class as comparison. The treatment included experiment, presentation, article writing, traditional organization on chemistry learning. After the treatment, students' achievements of both classes were measured by pencil-paper test and compared by controlling their prior knowledge. Data were analyzed using the univariate analysis of variance of SPSS from which Chemistry achievements of students at the treatment class were significant difference from that at the control class when their prior knowledge were controlled (Sig.p < 0.000). This research concluded that chemistry achievement of students who learnt by use of local wisdom -based scientific approach was different significantly from that without integration of local wisdom when their prior knowledge was controlled statistically.

Keywords: local wisdom integration, scientific approach, chemistry learning

1. Introduction

Indonesian educational system supports the educational development based on the potencies of a region such what has been declared in Act of the Republic of Indonesia Number 20 Year 2003 on National Education System [1]:

> *"1. Article 36 section 2 states that the curriculum at all educational levels and types of education is developed according to principles of diversifications, adjusted to the units of education, local and learners potential.*
>
> *2. Article 36 section 3 states that the curriculum development is organized in accordance with the level of education within the framework of the national unity of the Republic of Indonesia and takes the following into account:*
>
> *a. the enhancement of faith and piety;*
>
> *b. the enhancement of noble character;*
>
> *c. the enhancement of learners' potential, intellect, and interests;*
>
> *d. the diversity of the region's potential and environment.*
>
> *3. Article 38 section 2 manages that the curriculum for basic and secondary education shall be developed in accordance with its relevance by each educational cluster or unit and school/ madrasah committee under the coordination and supervision of the Ministry of National Education or the Ministry of Religious Affairs at the district/city levels for basic*

education, and at the provincial level for secondary education."

One of efforts is by using local wisdom as the path of character building. This is proven by the existence of the law stated by Minister of Education and Culture Number 81 A (2013) which declares that a local knowledge is a study [2] that builds a comprehension of the students' region potency aiming to improve a good attitude, knowledge, and skill.

Therefore, it was necessary to collaborate scientific approach and local wisdom to obtain maximum result of students' achievement.

The research was to measure the difference of students' achievement at SMAN 1 Purworejo between students who learnt chemistry by applying local wisdom-based scientific approach and that without applying local wisdom, in which students' prior knowledge was controlled statistically.

2. Literature Review

2.1 Scientific Approach.

According to The Regulation of Indonesian Minister of Education and Culture, Curriculum 2013 focused on modern pedagogic dimension in learning, namely scientific approach. It included observing, asking, trying, associating, serving, concluding, and creating steps for all subject matters.

Table 1. The Steps in Scientific Approach [3]

Learning Steps	Learning Activities
Observing	Reading, listening, seeing, sensing, (without or within media)
Asking	Having a question after observing
Associating	Doing experiment, reading another source, interviewing an expert
Trying	Processing data, reporting and concluding result
Communicating	Presenting experiment result according to analyzed result in written or spoken language

2.2 Local Wisdom

Local wisdom is the knowledge to make the community and nature is balance. This wisdom can be both tangible and intangible. It comes from the real experience in life. It makes us respect to the ancestors. It gives moral value [4]. Local wisdom can be seen in societies, communities, and individuals.

[5] have described local wisdom was heritage which become guideline for people in daily activities in communities. The students need to relate learning to daily activity in their life as it was suggested by Fensham [6].

2.3 Local Wisdom in Purworejo

a. Goa Seplawan (Seplawan Cave)

Seplawan cave is located at approximately 20 km from Purworejo's Town Square. There are special ornaments in the cave, namely stalactite and stalagmite. The process of stalactite and stalagmite formation can be explained by the students in presentation of chemistry learning. In Indonesia, we can find some caves that have stalactite and stalagmite. They are the soil that contains calcium carbonate ($CaCO_3$). CO_2 in the air reacts with $CaCO_3$. The water included in this reaction to produce $Ca(HCO_3)_2$. Calcium bicarbonate that dissolves in water is absorbed by the ground (soil), and it flows on to the cave's wall. Then it falls to the cave's surface. When it falls drop by drop, calcium bicarbonate experiences dissociation to be $CaCO_3$ that forms stalactite and stalagmite [7]. There is also the water that is flown under the cave which the electricity can be investigated.

b. Pantai Jatimalang (Jatimalang Beach)

This place is located at Jatimalang Village, Subdistrict Purwodadi, Purworejo. Based on the history, this place had ever been as the place for Japanese ship disembarkation. Actually, this place is potential in exploring chemistry chapter of electrolyte and non electrolyte solution because of the existence of salt in sea water. Sea water is known as Sodium Chloride (NaCl) that is added to be dissociated to be Na^+ and Cl^-. Beside that, it is able to conduct the electricity. It will be an example of electrolyte solution that can be investigated by the students in chemistry learning.

c. Museum Tosan Aji (Tosan Aji Museum)

Museum Tosan Aji is a museum that exhibits the uniqueness of keris. As we know that keris is the weapon that is made of steel/ iron. It is like a sword that has zigzag shape.

Keris is from Hindustaan Mataram Kingdom. Since 25th of November 2005, keris has been patented as Indonesias' weapon by UNESCO. In Java island, there is a tradition for keris washing ceremony (named Jamasan). This tradition is to wash keris on the certain month in a year by an Empu (Empu is a person that makes and looks after keris). Actually this tradition can be explained scientifically and related well to the main material of

keris (iron). Iron is corrosive. It means that this yearly tradition is necessary [8].

In chemistry learning, the students should explain the tradition of Jamasan that can be related to the corrosion of iron. The students should explain the ways in Jamasan that can prevent the corrosion in keris scientifically.

d. Mangosteen and Durian

Mangosteen and durian are fruits that can be planted in tropical region such as Indonesia. In Purworejo, mangosteen and durian are considered as the typical fruits. They were chosen as the city's icons. Fruit contained solution, including mangosteen and durian. The solution can be used as material of experiment related to conductivity of electricity topic. The experiment using fruits can be chosen as one example of local wisdom integration into chemistry learning.

e. Susu Kambing Etawa

Etawa is a goat that is widely bred by Purworejo people. The goat can produce milk that contains lactic acid. Because of its acidity, the properties can be investigated in electrolyte and non electrolyte experiment in chemistry learning.

f. Dawet Ireng

Dawet ireng is typical jelly drink that is traditionally made by Javanese and so do Purworejo people. The material on the process of preparation of dawet ireng is interesting to be used as a topic on electrolyte and non electrolyte experiments in the laboratory.

g. Air Gula Jawa

Gula jawa means Javanese sugar. It is originally from Java. It is produced by Javanese. This sugar was made from coconut fruits that are harvested from Purworejo's agricultural area. The sugar was dissolved in the water from which it conducts electricity well for chemistry learning.

h. Batu Gamping in Pituruh

Purworejo people treated limestone ($CaCO_3$) especially by heating them at 400˚C to produce CaO and CO_2. If CaO was dissolved in H_2O, it produced $Ca(OH)_2$ and heat. Then $Ca(OH)_2$ was used to build walls of house and other buildings. [7]

i. Coconut Water

A lot of coconut trees grow in Indonesia. Indonesians use coconut as oil on frying. But the liquid was potential to be used as the material of laboratory work, for example as electrolyte source.

j. Pasar Suronegaran

Suronegaran Market is the biggest market in Purworejo. The market produced huge waste everyday. The waste smells bad. The substance in the waste can be decomposed by aerobic and anaerobic bacteria through oxidation and reduction reaction. Aerobic bacteria oxidized compound in the waste and anaerobic bacteria reduced [7]

If the elements of carbon, nitrogen (N), phosphor (P), and sulfur (S) are oxidized by aerobic bacteria, the smell will be decreased. In other hand, if anaerobic bacteria work, N,P,S will be reduced to be NH_3, PH3, H2S that can produce the bad smell.. To prevent the existence of the bad smell, there must be some efforts to make anaerobic bacteria can not work well by cleaning the waste in order to prevent reduction reaction and support oxidation reaction [7]. The students are asked to make a presentation about the reaction after observing to the market and searching to the reference.

k. Traditional Organization

In Purworejo, there is still an organizational structure in a village. Actually, a village chief is called lurah, a secretary is called carik, a treasurer is called kaur keuangan, etc. There is a moral value here, that we have to be able to make friend in society. We have to be in a good relation with others. This organization was made by the ancestor. Everyone lives in a suburb has the community. They live together in a peace.

> *"To live in a harmony with the environment, local people used the wisdom accumulated by their ancestors to manage natural resources"* [5]

[5] described :

> *"the history and evolution of local community. The community has its own culture, is a miniature society with a production system, resource management, a health system, knowledge, and a learning system, a judicial system, self-governance, and an economic system run by each family and the community. The goals of local community are that families can be self- sufficient and the community can survive. Family members are the main source of labor. They mostly produce for their own families' consumption, but when they sell something, the profits are very small. The people in the community live together by giving and helping without expecting anything in return. They all consider themselves to be related to every other person in the community. They share what they*

have with neighbors thus ensuring the survival of the families and the community.

The members of the community are all related and give utmost respect to elders. This makes them "one family" living with unconditional kindness and generosity. When conflict arises, the elders and various relatives are the one who decide how to settle matters"

and a religion expert is named kaum. This group leads the other groups. They live in harmony like in a community when they join chemistry learning. Everyone that is smarter will be kind to help his/her friends to solve the problems in chemistry. They learn about governmental system, local wisdom, discussion, problem solving, and chemistry learning in this activity. They will help each other and make a very good friendship in society. Community can also build an otonomi daerah (regional autonomy). It is a freedom to manage a region to be more independent in its own way.

2.4 Developing the Local Wisdom

In this chemistry learning, students are asked to learn Purworejo's local wisdom that is integrated in chemistry learning. They are asked to plan what they like to do to develop their region by using local wisdom and relating it to chemistry learning. This activity is to make them more creative in developing their region based on chemistry learning. This is done by writing article

2.5 Students' Achievement

[9] states:

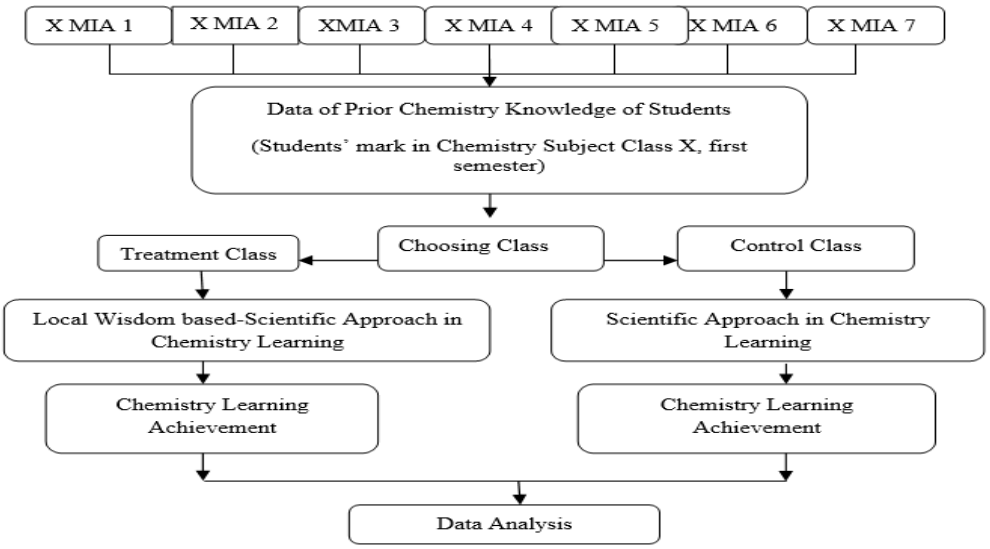
"student achievement is the basic of every aspect of education. It gives direction to all educational improvement, efforts. It provides the foundation for educational accountability program, and serves as the primary outcome variable in most educational research studies. The phrase student achievement is included in the titles of over 2,000 research studies and reports listed in the Education Resources Information Center (ERIC) System.

The activity done by the students will product a change in themselves and include cognitive, affective, and skill. The learning achievement gotten by the students is measured according to the students' behavior (before and after learning). One of indicators of change is able to be seen from final mark at the end of semester. "

Students' achievement is the data obtained for the objective of this study. It gives the information of the improvement in learning.

This is an example of simple life style that can be adapted in chemistry class. It is done by grouping the students into some groups. There is the special group that consists of class leader (then we call him/her as lurah), a treasurer (then we call him/her as kaur keuangan), a secretary will be named carik,

3. Diagram of Research Design



4. Data Analysis

This research used univariate analysis of variance of SPSS to measue the difference of students' achievement because of the implementation of local wisdom in chemistry learning. Prior knowledge was as statistically controlled variable. There were 22 of 28 questions that were valid collected from the validation process to 31 students. The reliability of the test was also analyzed using SPSS 16.00. Before the data were analyzed, homogeneity and normality of the data were tested.

5. Discussion

Chemistry teaching and learning process in the treatment class (X MIA 2) which applied local wisdom- based scientific approach was started by dividing the students into eight groups. Each group consisted of four students. Every group had certain name which showed the name of the village in Purworejo. There was a special group in this class. The class leader, secretary, the coordinator of religion aspect, and the treasurer were in a group. There were special The class leader was called lurah (head village), the secretary of the class was called carik (secretary), the treasurer was called kaur keuangan, and the coordinator of religion was named kaum. This special group was a group that was as a model which could lead and manage their friends. This group was to show that in Purworejo and other regions in Indonesia have local governmental organization that was organized well. It could be a model for the students to make the organization in their life. The students in the other groups were as citizens.

On the first day, the students watched a video of Purworejo's local wisdom. This video showed some local wisdoms of Purworejo. It was purposed to recall the students' awareness of their region's local wisdom. Then, they were asked to make the experiment of electrolyte and non electrolyte test. They were asked to bring some materials related to Purworejo's local wisdom such as: durian, mangosteen, Javanese sugar solution, the sea water from Jatimalang Beach, etawa's goat milk, coconut water, and dawet ireng. They also checked some chemicals, such as HCl, NaCl, NH_3, CH_3COOH, and kerosene.

Scientific approach could be done in the experiment. In experiment, the students were able to do observing, asking, associating, trying, and communicating. Actually, observation was done by seeing the bubbles in the electrodes and seeing the existence of light. The students might ask the ways in connecting the tools and materials. They could ask the meaning of bright light, dim lamp, or, existence of bubble. In associating, the students could do the experiment, read the book, or search to the internet. Associating could be done by connecting one science to another science. Trying was done by doing the experiment, checking the electricity, analyzing data, concluding the experiment, and reporting the experiment in written report. Actually, communicating was done by students by saying/ presenting the result of experiment in front of the class.

Based on scientific approach, in "trying" step, the students were also asked to group ionic bond, polar covalent bond, and non polar covalent bond after doing experiment. It would make the students think and remember more about teaching and learning material. Then the students were facilitated to know the electricity of each bond. The teacher also gave the student's work sheet to make the experiment is easy to conclude. Every student had to do the experiment. It was done by dividing the materials. Because there were many materials which would be tested, the materials could be divided. So, one student could test one or two material(s).

After knowing the electricity of some materials in Purworejo's local wisdoms, the students were asked to make an essay/ article about what they will do to develop Purworejo by using Purworejo's local wisdom, related to chemistry learning (especially electrical solution chapter). They were also asked to write the history of the sub district where the local wisdom existed. It was purposed to make the students were responsible to develop their region. Actually, the students would be the leader in the future if the teacher directed them well. This article was as a home work.

On the second meeting, the teacher explained the material about ionization degree and ionization reaction. The teacher facilitated the students to conclude the data to make a formulation of ionization degree.

Then, the students are facilitated to know the development of oxidation and reduction reaction. After that, the students were asked to make a presentation for the fourth meeting. The presentation was made in a group of eight. The presentation discussed about the chemical reaction in Purworejo's local wisdom.

On the third meeting, the students were asked to learn about the oxidation number, agent of oxidation, and agent of reduction. The method used was discussion in group. The teacher freed the students to discuss the material first. Then the teacher asked the students to explain in front of the class. If there was any difficulty, the teacher would explain more about the material. The teacher liked to give the exercise to make the students think critically. Then, the teacher asked the students to

explain the answer in front of the class. The students were active in answering and confident in explaining.

On the fourth meeting, the students were facilitated to know the procedures in naming the chemical compounds, especially that were related to the oxidation numbers. The teacher explained the ways in naming first. Then, the students did the exercise from the teacher. Next, the teacher checked the students' cognitive level by asking the students to explain the answers in front of the class and discussing the answer together. The teacher also made the quiz. After that, the students did presentation of Purworejo's local wisdom related to chemical reaction, such as: stalagmite and stalactite in Seplawan Cave, Limestone in Pituruh, the waste in Suronegaran Market, and keris in Tosan Aji Museum. This was the effort to do scientific approach in chemistry class. The teacher freed the students to search the information. The students did the presentation in group. Each student had to speak and explain the material in presentation.

The Chemistry Teaching and Learning Process in Control Class were just the same as that were in treatment class but they were without including local wisdom aspects.

Students' achievement could be measured by using some problems about oxidation and reduction reaction. These problems were done by the students after having chemistry learning. Before analyzing students' achievement, the researcher did prerequisite test (hypothesis test), namely normality test and homogeneity test. Normality test was done to know whether the sample was normally distributed or not while homogeneity test was done to know whether the sample had homogeny variance or not.The results showed that the data from both sample were from homogeneous and normal data.

The hypothesis test to test the students' achievement used univariate analysis of variance test of SPSS.. The value of significance was 0.000. This number was less than 0.05 [10]. It meant that there was the significant difference of students' achievement that applied and who did not apply local wisdom- based scientific approach if the prior knowledge was statistically controlled. Figure 1 showed the comparison of students' achievement in control and treatment class.

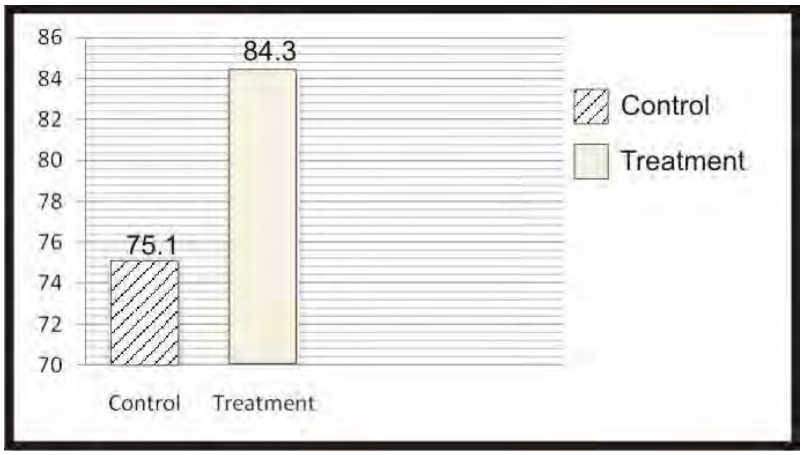


Figure 1. The Comparison of Students Achievement

The treatment class (the class that applied local wisdom- based scientific approach) had better students achievement than control class (the class that applied scientific approach). It was shown by Figure 1. This fact was affected by students' interest in joining chemistry learning using local wisdom materials. The discussion was related to the unique and new materials which made the students interested and motivated to study. It increased curiosity. [11] stated that the success of local wisdom implementation was indicated by students' appreciation toward sciences, technology, and art. The high appreciation is indicated by the students' happiness in learning. The students also think that the learning is meaningful. Local wisdom is able to contribute in national, even international education. [12] stated that the students' achievement was significantly higher than the students that did not learn using local wisdom materials.

The other factors which were able cause the students' achievement difference between control and treatment class:

1.) The characteristics of oxidation and reduction reaction

[13] stated that the difficult teaching and learning material in reduction and oxidation reaction is in the concept of oxidation reaction based on catching and releasing oxygen, reduction reaction based on electron transfer, agent of oxidation, agent of reduction, and oxidation state. Beside that, redox reaction needs memory and calculation. This material is also very abstract. Sometimes the students are confused.

2.) The Learning Style of the Students

The learning style of the students had the effect to the students' achievement. [14] stated that learning style gives the significant effect toward students' achievement. While, [15] stated that a good learning style gives a goof effect to students' achievement. Moreover, [16] stated that if the learning style of the students who have specific learning style is changed, it will affect their students' achievement.

3.) The other factors which affected students' achievement

[17] divided the factors which affected students' achievement into two parts, namely external factor and internal factor. External factor included the factors at home (economy, relation, affection, the way in looking after), the factors at the school (teaching method, media, curriculum, the condition of school's building), factors in the society (mass media, activity, friends, system). The internal factors included physic condition (health), psychology (intelligence, interest, attention, motivation, and readiness). Both external and internal factor were able to affect students' achievement.

6. Conclusion

his research concluded that chemistry achievement of students who learnt by use of local wisdom -based scientific approach was different significantly from that without integration of local-wisdom when their prior knowledge was controlled statistically.

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DEVELOPING INTEGRATED ENGLISH LEARNING MATERIAL AND GAYONESE'S LOCAL WISDOM FOR STUDENTS OF STAIN GAJAH PUTIH, TAKENGON

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Abstract

This research was aimed at describing the local wisdom of the Gayonese's literature, and developing English learning material which is integrated with the Gayonese's local wisdom for STAIN Gajah Putih, Takengon. This research was a research and development study that includes the steps of literature analysis, course grid design, product development, and dissemination. The material was developed according to the Gayonese's local wisdom. The results of the analysis were used to choose the appropriate topic of the material in the course grid design. Then, the English material was developed. The last step is disseminating the material. The results of this research are as follow: The local wisdoms of the Gayonese's literature are hard working, wisdom, loyalty, willingness, forgiveness, respect, thankful, love, patient, carefulness, precious, honesty, and respectful. The appropriate integrated English learning material and Gayonese's local wisdom in terms of their components are (1) the goal of learning is to improve the students' language skills; (2) the input presents interesting pictures which help the students to understand the material; (3) the procedure presents interesting and enjoyable activities; (4) the learners' role is as the active reader to find information; (5) the teacher's role is the feedback giver; and (6) the setting is individual, pair, and group work. The expert judgment data indicate that the components of the material are appropriate according to the mean of the agreement ranging from 3.50 to 5.00 on a 5-1 *Likert* scale.

Keywords: material, Gayonese, and local wisdom.

1. Introduction

Local wisdom play important role in daily live, includes in educational scope. Being able to communicate in English as well as possessing the good character is part among many criteria which the labor force to all grade students. The integration of English proficiency and local wisdom lead the students to able to live internationally, they have highly local character, however. Thus, it is necessary to improve students' English proficiency level since it supports their next career. In addition, local wisdom offers the base of the attitudes among the professional labor force. Unfortunately, there are still a lot of students who are difficult to achieve sufficient English language aptitude. Moreover, English teaching is separated to the local wisdom among the students. Teaching English become the discrete learning aimed only to facilitate the students to be exposed to the cognitive aspect of learning.

Nowadays, the notion of culture has come to play important role in English foreign language learning. It is in line with the globalization era. Students are forced to be able to communicate in English, but they still appreciate the local wisdom. Considering their strengths and weaknesses in learning foreign language, students are able to decide the target competences. Unfortunately, students did not find the appropriate English material to improve their language skills. Besides, the material also maintains the local wisdom of their natural features.

Materials in language classroom include anything that is used to support the learning process. Rogers (in Berardo 2009) defines material as appropriate and quality in terms of goal, objectives, learner needs, and interest, also natural in terms of real life and meaningful communication. Material is used in the English teaching and learning process aim at achieving the goals that have been set up in the curriculum. In order to gain the purpose, the materials should be appropriate for the students.

Due to the problems above, it is necessary to develop English material which is integrated

with the local wisdom. The material motivates students to learn English as a supplementary material. Besides, the material is also used as self access learning sources. Considering to the current phenomenon, the writer intends to develop English Learning material aimed to enhance the English proficiency development for students of STAIN Gajah Putih, Takengon. There are two main questions which this study addresses namely: (1) What are the local wisdoms of the Gayonese's literature? and (2) What are the appropriate Integrated English learning material and Gayonese's local wisdom of the students of STAIN Gajah Putih, Takengon?

Gayonese is an ethnic group living in highland of Aceh. There are a lot of literatures, arts, and traditions that still exist. They have high local wisdom that should be taught to the young generation. Local wisdom is the embodiment of durability and ability to grow which manifested through the way of life, knowledge, and life strategies in the form of various activities undertaken by local communities to address various problems in the fulfillment of their needs, while preserving its culture (Kartawinata, 2011).

This research focused on analysing the Gayonese's literature that consist of legends, prose, and songs; and developing English material. The material is integrated to the Gayonese's local wisdom. The integrated English material is designed as English for general purposes. Thus, it will be able to be used by the students in all subjects. The material was integrated the English language learning material and the local wisdom of the Gayonese. The material was fulfilling the criteria of effective material. Reinders and Lewis in Tomlinson (2008) state for an evaluative checklist for effective material as: (1) have clear instructions, (2) clear describe the language level, (3) look nice, (4) give a lot practice, (5) give feedbacks and show answers or let the learner know how they are doing, (6) make it easy to find what the learner wants, (7) contain a lot of examples, and (8) tell the learner how to learn best.

2. Method

2.1 Model of the Development

This study is classified as research and development. The research and development model which is adapted in this study is the model 4D of Thiagarajan (1974). The model will be modified in some steps. Below is the description of the modification steps.

1) Define

The model started by the literature review. The literature review was done to analyze the local wisdom of the Gayonese's literature and collect the appropriate materials. The literature which was analyzed is the Gayonese's legends, and prose.

2) Design

After that, the product was designed according to the analysis and the curriculum of STAIN Gajah Putih. Therefore, the product design started from designing the course grid.

3) Development

The next step was the product development. The product was developed in accordance to the course grid. In this phase, the draft of the material was consulted to some experts. They are expert of curriculum, expert of language, expert of methodology, and graphic designer. There were six aspects that were asked, namely the appropriateness of the content, goal, procedure, input, layout, and presentation.

4) Dissemination

The last step in the product development is evaluation. According to the expert judgments, there were some feedback that were used to revise the material before disseminate. The last step was packaging. Packaging of the product could be done by print the materials.

2.2 Data and Source of the Data

There were qualitative and quantitative data in this research. The qualitative data obtained from the review of the Gayonese's literature. The instrument used to obtain the qualitative data is the researcher herself. In relation to this research, the data were in the form of texts of Gayonese's legend, prose, and songs.

On the other hand, there were quantitative data which were gathered from the expert judgment. The instrument used in gathering the quantitative data was in the form of questionnaire. This research used one number which was average to calculate the response using Linkert scales. The Linkert scales are the most common technique when asking people to give the degree to which they agree with something (Burhan Nurgiyantoro, 2001: 55).

2.3 Techniques of the Data Analysis

The analysis in this research was content analysis based on semantic and pragmatic analysis. It means that the data in this research are analyzed semantically and then consulted pragmatically. The procedures of the content analysis was deciding the materials, analyzing the situational and the origin of the text, deciding the purpose of the analysis, deciding the analysis

technique, analyzing the material, and interpreting.

The descriptive statistic was used to analyze the quantitative data. Descriptive statistics was used as a means to present and to describe some of the data in the questionnaire. For this purpose, the researcher used the central tendency measure (means) and the variability measure (standard deviation) of the experts' responses to the questionnaire. The mean, median, and standard deviation are used to indicate the average score and the variability of scores of the sample. They enable the researcher to use one or two numbers to represent all the individual scores (Gall, Gall, & Borg, 2003: 290-291).

3. Finding and Discussion

3.1 Description of the Gayonese's literature

The Gayonese's literature that analyzed in this study includes legends and prose. The legends consist of the legend of *Putri Pukes*, the legend of *Lut Tawar*, the legend of *Atu Belah*, and the legend of *Depik* fish. The prose contain of *Kasihni Ine, Umah Pitu Ruang*, and *Gajah Putih*.

The legend of *Putri Pukes* tells about a girl who became stones because she excludes her mother guidance. The moral value of legend is that children should not reject their parents' advices. In line to the social life of Gayonese people, girls should leave their parents after married. They should serve their husband. It is taken from the Islamic's rule. According to this story, the local wisdom that able to be learned is respectful and love.

The legend of *Lut Tawar* tells about the tale of *Lut Tawar* lake. The moral value of this story is to keep our nature. In Gayo, there is a lake that being the centre water sources. The local wisdoms of this story are hard working, wisdom, and loyality.

The legend of Atu Belah tells about a poor woman who came inside a stone because her family was so cruel to her. The moral value of the story is that we should respect to every women. Gayonese people still believe this legend and the stone is still exist until now. The local wisdom of this story is hard working, willingness, and forgiveness.

The legend of *Depik* fish tells about the tale of *Depik* fish that only found in *Lut Tawar* Lake. The moral value of the story is we should respect on live and death. It was in line to the Islamic religion that everyone will be death. The local wisdoms of this legend are respect, thankful, and willingness.

Kasihni Ine is a prose which tells about a mother's love to her child. She can do everything for her child especially when the child is unwell. According to this prose, the local wisdom that can be learned is love, hard working, and patient.

Umah Pitu Ruang tells about the architecture of the traditional house of Gayonese. There are a lot of philosophies of the house. The local wisdoms of this prose are carefulness and precious.

Gajah Putih is prose that tells about social culture of the Gayonese people. Their daily live is balance to complete the humans' needs and *akhirat*. The title means that the Gayonese people are strong and loyal because they are in line to the Islamic *Syariat*. The local wisdom of the prose is loyalty, honesty, and hard work.

3.2 Descriptive of the material

The title of the book is *English Learning Material Based on the Gayonese's Local Wisdoms*. It was arranged by referring the analysis of the Gayonese's local wisdom. Here, the descriptive, procedure, narrative, and report texts were designed into four units. Each unit designed for three meetings. The four language skills, structure, and vocabulary were developed in each unit. The materials were taken from the Gayonese's literatures which were translated into English. Each of the texts consisted of two or three paragraphs. However, there were some modifications of the texts to make them easier to understand as what the students' proficiency level were. For examples, in this case, some unfamiliar words which were not significant to the content and simplifying some words were omitted. Each unit had various activities, such as stating true or false, matching the questions with the clues, completing the paragraphs, and answering multiple choices and essay questions. The indicators in each activity were varied. This book is also facilitated with the answer keys. They are used to check the students' answers whether they are correct or wrong. The answer keys are designed and provided with explanations which help the students to understand the materials.

As stated before, this book consisted of four units: unit 1 is descriptive text, unit 2 is procedure text, unit 3 is narrative text, and unit 4 is report text. Each part is arranged into five stages. These are *introduction*, *vocabulary building, activities, summarizing,* and *learning achievement.*

The *introduction* consists of information about what the students are going to learn. This stage includes the title, the skills that the students should achieve, and the tense that usually uses in

the text. It can be said that this stage introduce the materials that would be learned by the students. Next, there is *vocabulary building*. In this stage, the students learn some new vocabulary according to the material. The third stage is *activities*. In this stage, the student completing some tasks that include reading, writing, listening, and speaking tasks. They can use dictionary or internet access to help them. The next stage is *summarizing*. In this part, the students summarize what they have learned before. The last stage is the *learning achievement*. In this part, the students apply the knowledge that they have learned in the previous stages. The students complete some tasks according to the material that have to be learned. They cannot use the dictionary or internet access.

The title of unit 1 is *Gayonese's Nature,* unit 2 is *Gayonese's Recipe,* unit 3 is *Gayonese's Legend,* and unit 4 is *Gayonese's News*. The objective of each unit is to develop students' language skills. In reading, these units is aimed in identifying the main idea of the text, identifying the reference words based on the context, identifying the word meaning based on the context, identifying the communicative purpose of the text, identifying the moral value of the text, identifying the detailed information of the text, identifying the explicit information of the text, and identifying the implicit information of the text. In writing, these units is aimed in producing ideas according to the topic, organizing the material, using ideas and plans to produce the draft, improving focus, content, and organization, checking grammar, spelling, capitalization, punctuation, and word choices, and paraphrasing.

In relation to listening, this these units is aimed in identifying the main idea of the monologue, identifying the reference words based on the context, identifying the word meaning based on the context, identifying the communicative purpose of the monologue, identifying the moral value of the monologue, identifying the detailed information of the monologue, identifying the explicit information of the monologue, and identifying the implicit information of the monologue. In speaking, these units is aimed in revealing communicative function, producing speech in natural constituent, using cohesive device in delivering information, and expressing a particular meaning in different forms.

3.3 Description of the Expert Judgment

The reading tasks used in this research were validated by some experts. There were four experts who gave their judgments and advise. The experts were the expert of curriculum, the expert of language, as the expert of methodology, the graphic expert. There were six aspects that were asked, they were the appropriateness of the content, goal, procedure, input, layout, and presentation.

According to the data of the respondents' agreement towards the content ranged from 3.75 to 4.50 as a matter of fact, the minimum acceptance of the average score or mean was 3.00 and the maximum score was 5.00. Therefore it can be concluded that the experts agreed on the material and that the material were appropriate. The range of the standard deviation was 0 to 0.5. It seemed that the respondents had relatively similar opinion towards the statements of the questionnaire since the value of standard deviation of each statement of the questionnaire was small. Considering that the material were compatible with the curriculum, there was no revision in the experts' judgments.

In accordance to the appropriateness of the goal, the mean or the average score of the respondents' agreement towards the goal ranged from 3.50 to 4.50 as a matter of fact, the minimum acceptance of the average score or mean was 3.00 and the maximum score was 5.00. Therefore it can be concluded that the experts agreed that the material was appropriate. It also can be seen that the respondents had relatively similar opinions towards the statements of the questionnaire since the value of the standard deviation of each statement of the questionnaire was 0.25 to 0.5. Considering that the material was suitable to the goal, there was no revision from the experts' judgments.

In relation to the procedure, the respondents' agreement towards the procedure ranged from 4.00 to 4.75 as a matter of fact, the minimum acceptance of the average score or mean was 3.00 and the maximum score was 5.00. Therefore, it can be concluded that the experts agreed on the material and that the material was appropriate. It also can be seen that the respondents had relatively similar opinion towards the statements of the questionnaire since the value of standard deviation of each statement of the questionnaire was 0 to 0.5. Considering that the procedure of the material was appropriate, there was no revision from the experts' judgments.

According to the data of the appropriateness of the input, it shows that the mean or the average score of the respondents' agreement towards the input ranges from 4.25 to 5.00 as a matter of fact, the minimum acceptance of the average score or mean was 3.00 and the

maximum score was 5.00. Therefore it can be concluded that the experts agreed on the material and that the material was appropriate. The range of the standard deviation was 0 to 0.5. It can also be seen that the respondents had relatively similar opinion towards the statements of the questionnaire since the value of standard deviation of each statement of the questionnaire was small. Considering that the input of the material was appropriate, there was not revision from the experts' judgments.

In relation to the appropriateness of the lay-out the mean or the average score of the respondents' agreement towards the lay-out ranged from 4.25 to 4.50 as a matter of fact, the minimum acceptance of the average score or mean was 3.00 and the maximum score was 5.00. Therefore it can be concluded that the experts agreed on the material and that the material was appropriate. It seemed that the respondents had relatively similar opinion towards the statements of the questionnaire since the value of standard deviation of each statements of the questionnaire was 0.25 to 0.5. Considering that the lay-out of the material was appropriate, there was not revision from the experts' judgments.

In line to the appropriateness of the presentation the mean or the average score of the respondents' agreement towards the presentation ranged from 4.00 to 4.50 as a matter of fact, the minimum acceptance of the average score or mean was 3.00 and the maximum score was 5.00. Therefore it can be concluded that the experts agreed on the material and that the material was appropriate. It seemed that the respondents had relatively similar opinions towards the statements of the questionnaire since the value of standard deviation of each statement of the questionnaire was 0 to 0.5. Considering that the systematic presentation of the material was appropriate, there was no revision in the experts' judgments.

3.4 Discussion of the Final Product

The research findings that have been described above show some appropriate material. The materials which fulfil the criteria of the effective material are appropriate and have good results. It can be seen that the goal of the materials were achieved. The input of the material was comprehensible and authentic. The input which was authentic made the material easier to understand. The term authentic refers to any materials which have not been specifically produced for the purpose of language teaching. To make the learners able to comprehend aural and written texts in the real world, the learners need the opportunities for engaging the real-world text in the class (Nunan, 2004: 49).

The content of the English learning material is graded as the easier are placed in the beginning then it is followed by that which is more difficult and the most difficult place in the last part. In this material, the grading was done in the following way: accommodating the learners' comprehension by arranging the content of the material. Gradation will affect the order in which words, word meanings, tenses, structures, topics, functions, skills etc. are presented Nunan (2004: 114-117). In relation to the pictures served in the material, they are assumed to be able to motivate the students. Besides, the pictures helped the students understand the material easily.

In relation to the procedure, the material presented some appropriate enjoyable activities. By completing the activities, the students got information and developed their language skills effectively. One widely cited way of characterizing procedural goal is whether they are basically concerned with skill getting or skill using (Rivers & Temperlay in Nunan, 2004: 54). The material could make the students felt confident in completing the material. Besides, the material also heightens students' consciousness of the learning process.

Learners' role and teacher's role which were designed in the material is varied according to the grading of the material. They were appropriate since the students were success in attaining the target language. Students were confidence in completing the material with minimum guidance from the teacher. The important role of the teacher was as the feedback giver.

In relation to the setting, the time allocation was enough in each chapter. Each chapter was designed in three meetings. The learning activities are varied from the group work, pair work, and individual work. They were design in classroom activities and homework. The homework was design to lead the students be familiar to the technology. In this material they should completing the homework through internet access. Technology and the internet are facilitating the development of foreign language learning setting (Nunan, 2004: 72).

The appropriate English learning material is arranged into five stages. Those are *introduction*, *vocabulary building, activities, summarizing,* and *learning achievement.* This material is also completed by answers keys. It is used to check the students' answers whether they are correct or wrong. The answer keys are designed with some explanations which help students to understand the materials. Finally, it could be concluded that the appropriateness of the integrated English

learning material and the Gayonese's local wisdom was not only depending on the appropriateness of its component but also influenced by the sequence and the gradation of the material.

4. Conclusions

The Gayonese's literature that analyzed in this study includes legends, recipes, prose, and songs. The legends consist of the legend of *Putri Pukes*, the legend of *Lut Tawar*, the legend of *Atu Belah*, and the legend of *Depik* fish. The prose contain of *Kasihni Ine, Umah Pitu Ruang*, and *Gajah Putih*. The local wisdoms of the Gayonese's literature are hard working, wisdom, loyalty, willingness, forgiveness, respect, thankful, love, patient, carefulness, precious, honesty, and respectful.

The appropriate integrated English learning material and Gayonese's local wisdom are the content of the material is graded as the easier are placed in the beginning then it is followed by that which is more difficult and the most difficult place in the last part. The characteristics of the appropriate English learning material are: have clear instructions, describe the language skills clearly, look nice, give a lot practice, give feedback and show answers or let the learner know how they are doing, contain examples, and tell the learner how to learn best.

The appropriate integrated English learning material and Gayonese's local wisdom in terms of their components are the goal of learning English is to improve the students' language skills. Students are the basic factor. They should be motivated in learning Englsih. The teacher role is the feedback giver. In relation to the input, the pictures which are presented in the material are appropriate since the pictures are interesting and they help the students to understand the information. The material presents some interesting activities. By doing the activities, the students get the information and develop their language skills effectively. In addition, the material presents enjoyable and interesting activity. The material was designed in the appropriate time allocation.

The arrangement of the components of appropriate integrated English learning material and the Gayonese's local wisdom in terms of their organisations are arranged into five stages. Those are *introduction, vocabulary building, activities, summarizing,* and *learning achievement*. The material is also completed by answers keys. It is used to check the students' answers whether they are correct or wrong. The answer keys are designed with some explanations which help students to understand the materials.

There are four units in the integrated English learning material and Gayonenese's local wisdom, namely *Gayonese's Nature, Gayonese's Recipe, Gayonese's Legend,* and *Gayonese's News* including descriptive, procedure, narrative, and report texts. In relation to the expert judgments data it can be conclude that the English material is appropriate. The content was appropriate according to the means ranges from 3.75 to 4.50. The goal of the material is appropriate. It was indicated by the means ranges from 3.50 to 4.50. The procedure was appropriate which was indicated by the means ranges from 4.00 to 4.75. The input of the material was appropriate according to the means ranges from 4.25 to 5.00. The lay-out was appropriate which was indicated by the means ranges from 4.25 to 4.50. The presentation of the material was also appropriate. It was indicated by the means ranges from 4.00 to 4.50.

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THE ESTIMATION OF STANDARD ERROR MEASUREMENT OF PHYSICS FINAL EXAMINATION IN SMAN 1 SAPE KABUPATEN BIMA

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Abstract

The objectives of the paper are (1) to estimate the standard error measurement (SEM) of Physics final examination in SMAN 1 Sape Kabupaten Bima, (2) to investigate the accuracy of the various methods in estimating SEM, and (3) to give the orientation for teachers who make a test in estimating SEM.

The data analysis was based on students' final examination responses in SMAN 1 Sape Kabupaten Bima. The data source was in a form of computerized answer sheet of 215 student the third grade natural science program students' in SMAN 1 Sape. The analysis of the test items use the MicroCat Iteman program to show the characteristic of the test items. The estimation of SEM analysis was done by using Feldt Method, Compound Binomial Method, and ANAVA Method.

The results of the SEM analysis of Physics final examination using Feldt Method, Compound Binomial Method, and ANAVA Method are 2.507; 0.927; and 2.370, respectively.

Keywords: estimation, standard error measurement, test instrument

1. Introduction

Measurement is the important step when we evalutaion. Measurement is the step that must be taken when the evaluation. The accurate measurement process will be a good evaluation and sodo conversaly. This means that the measurement is the first before step is doing when we evaluation a program.

The Measurement of education is an activity quantify symptoms or object. Symptoms or the object can be motivation, achievement, self confidence or achievements that are all expressed in terms of numbers (Djemari Mardapi, 2012: 1). The numbers obtained from the measurement results will help researchers or teachers assess the success of the learning process. Surely, the information obtained through the measurement is the result of the process of data analysis with specific techniques. Furthermore, the teacher then conduct an intensive assessment to see the success of the learning process, whether the numbers obtained through measurements meet the standards of success or otherwise.

There are two categories of errors in measurement, random error and systemic error (Djemari Mardapi, 2008: 68). Random errors is caused by determining the contents of the test sample, the variation of emotions, which are less conducive class, the condition of the participant and the timing of the test .Systematic error is caused by the instrument test, easy or more difficult.

There are ways you can do to reduce all sources of measurement error causes very difficult, but can be arranged so that the measurement error can be minimized. so that the acquisition of scores may reflect the ability of the actual test participants. Among the sources of measurement error, it seems the most easily controllable factor is a tool used to measure. Therefore, in order to minimize measurement errors is the focus in making of the instrument (good instrument). Miller (2008:93) stated "*Most teachers, administrators, and career-guidance personnel recognize that tests (techer-developed,*

commercial developed and standardized) are not perfectly valid or reliable".

Wright (2008: 130) *True score = observed score ± measurement error.* Base on the equation, there are two possibilities that will happen. The first possibility may be the measured score is lower than the true score.The Second possibility may be the score of measurement results higher than the true score. If one of both possibilites happens, it means that there is an error in measurement process.

There are Methods have developed to estimate the standard error measurement. Principlly, this methods is categorized in two theory, Classical Test Theory adn Item Response Theory. The method have different assumption and formula. The selection of the method depends on the assumptions applied to a set of tests that will be use to estimate the standard error measurement.

In general, teachers in the Bima do not perform analysis standard error of measurement in the measurement process that they are doing. It is based on pra survey activities conducted by researchers at SMA Negeri 1 Sape. Most of the teachers said that they did not know the existence of the standard error of measurement, whereas the standard error of measurement analysis is very important because to know whether or not the questions that have been made already met the good characteristics so that the measurement can describe the actual ability of the student. Thus, the presence of this study is expected to contribute greatly to the development and advancement of education SMAN in Kabupaten Bima of Provinsi NTB.

To see what issues that will be answered in the study Estimation Error Measurement of Physicsfinal examinationin SMA Negeri 1 Sape in Bima of Provinsi NTB, it is necessary to formulate problems, How many estimated standards of error measurement of Physics final examination third grade in SMA Negeri 1 Sape in academic year of 2014/2015?; and How accurate are of the methods of estimation of the standard error of measurement of the four methods (Feldt Method, Compound Binomial Method, and Analysis of Variance Methods) in estimating of standard error measurement of Physics UAS for third grade in SMA Negeri 1 Sape in academic year of 2014/2015?

Based on the formulation of the problem that has been made, the purpose of this study was to determine the characteristics of Physics final examination of third grade in SMA Negeri 1 Sape in academic year of 2014/2015 and to recognize the estimated standard error measurement of Physics final examination of third grade in SMA Negeri 1 Sape in academic year of 2014/2015, and to understand which method is the most accurate method to estimate the standard error measurement of Physics final examination of third grade in SMA Negeri 1 Sape academic year 2014/2015, and to give the orientation for teachers who make a test in estimating SEM.

2. Research method

This study aims to estimate the standard error of teacher-made measurement devices of Physics final examination in SMA Negeri 1 Sape of academic year of 2014/2015 in Kabupaten Bima. Based on these objectives, the type of research used was an ex post facto research. This study was categorized as Ex post facto research because this research describes or depicts the events that have occurred, based on data that has been collected in order to determine the estimation of standard error measurement that has occured in the testing process by using Feldt Method, Compound Binomial Method, and ANAVA Method.

3. Result and discussion

Measurement of learning outcomes is an important activity in an educational process. In learning activities, achievement test used to see the success of teachers in implementing the learning and to see the achievement of learning objectives. Therefore, measuring instruments used in performing tests of learning outcomes must meet both criterias in accordance with existing standards. Good measuring instruments can be seen from the validity, reliability, items difficulty, item descrimination, effectiveness distractors, and the standard error measurement.

Nitko dan Brookhart (2007: 38) *Validity is the soundness of your interpretations and uses students' assessment result*. Miller (2008: 83) *Validity is the extent to which a test measures what it was intended to measure*. Djemari Mardapi (2012: 37) the validity of the evidence and support theory to the interpretation of test scores in accordance with the intended use ofthe test. Thus, the validity is the accuracy of a measuring instrument for measuringan object (students) in accordance with the capabilities of the object.

Nitko dan Brookhart (2007: 67) *reliability is the degree to which students' results remain consistent over replications of an assessment procedure*. Miller (2008: 87) *reliability is an estimate of test consistency*. Djemari Mardapi

(2012: 51) reliability is a coefficient that indicates the level of regularity or consistency of the measurement results of a test. So, reliability is the constancy of the measuring instrument in measuring the ability of an object(students) in all conditions.

Reynolds, Livingston, & Willson (2010: 151) *item descrimination refers to how well an item can accurately discriminate between test takers who differ on the construct being measured*. Ccording to Hambleton & Swaminathan, (1985: 36) index of *item descrimination between* 0 – 2.

Reynolds, Livingston, & Wilson (2010: 148) *item difficulty is defined as the percentage or proportion of tes takers who correctly answer the item*. Good items located on inetrval$-2 \leq \theta \leq 2$ (Hambleton, Swaminathan, & Rogers, 1991: 13). If the value of approaching indicates that the item is getting easier, and if the value of approaching then identifies the more difficult items.

Parameterc shows the probability of participants to test a low capability one to be able to answer correctly. In a multiple-choice test consisting of alternative possible answers, then the magnitude of the parameterc is about$\frac{1}{k}$. (Hambleton & Swaminathan 1985: 38)

Furthermore, characteristics which must be met by the test is the standard error measurement should be kept into a minimum. Crocker &Algina (2008: 128) *the standard error of measurement is definied as*$\sigma_E = \sigma_X\sqrt{1-\rho_{XX'}}$*and may be considered as the average standard deviation of examinees' individual error distributions for a large number of repeated testings*. Miller (2008: 93), *standard error of measurement is a quantitative expression of the magnitude of error in a test score based on the test reliability*.

This study is to determine the estimated standard error measurement of Physics final examination in third grade of SMA Negeri 1 Sape. The data source was in a form of computerized answer sheet of 215 third grade natural science programs students' in SMA Negeri 1 Sape. The Physics final examination in third grade of SMA Negeri 1 Sape consists of 40 multiple-choice questions. The analysis conducted in this study is estimating standard error measurement by the Feldt method, Compound Binomial Method, and the ANAVA method.

The first method is used in this research is Feldt Method. The assumption of this method is dividing the test randomly into two split with different parts of the length, but the contents of the test remains homogeneous. Feldt (1975) made the formula of reliability of the test following the formula (Djemari Mardapi, 2012:75):

$$rxx' = \frac{4(Sx_1x_2)}{sx^2-[\frac{s^2x_1 s^2x_2)}{sx}]^2} \quad (1)$$

Information:

rxx' : the reliability of the test

s^2x_1 : the variance of score of the first split

s^2x_2 : the variance of score of the second split

Sx_1x_2 : the covariance of score between the first and the second split

sx : the standard deviation of score test

The Estimation of variance error measurement is following the formula:

$$S_e^2 = S_x^2 - S_t^2 \quad (2)$$

Information:

S_e^2 : the estimation of variance error measurement

S_x^2 : the variance of score observer

S_t^2 : the variance of true score

The last step is aalculate the square of the estimation of variance error measurement, so that we can get the value of estimate the standars error. The formula is following:

$$S_e = \sqrt{S_e^2} \quad (3)$$

The second method is used in this research is Compound Binomial Method. The Steps Compound Binomial method is dividing the UAS into several parts. In this method the distribution of parts of the test is based on the items difficulty. The item difficulty was calculated by using the program of *Microcat Iteman*. The next step is calculating the value of the error variance in each split. The next step is estimating the standard error measurement by using Compound Binomial method with the following formula Feldt, Steffen, Gupta (1985: 354):

$$S_{E(i)} = \left[\sum_{h=1}^{c} \frac{X_{ih}(k_h - X_{ih})}{k_h - 1}\right]^{1/2} \quad (4)$$

information:

$S_{E(i)}$: the standard error for person i

X_{ih} : the score of person i on the cluster of items corresponding to category h of the test specifications

c : the number of item categories

k_h :The number of items in the category h

The last method is used in this research is ANAVA Method. Feldt, Steffen, Gupta (1985: 354) *the examinees by items score matrix for a test may be analyzed to obtain mean squares for examinees* (MS_S) *items* (MS_I) *dan interaction* (MS_{SxI}) *and the reliability of the test may be estimated from these mean square*. Hoyt suggests a formula that can be used to determine the standard error of measurement as follows:

$$S_E = (k(MS_{SxI}))^{\frac{1}{2}} \quad (5)$$

information:

S_E : the standard error measurement

k : the number of item test

MS_{SxI} : *Means Square* of interaction between the participants and the test items

The *Means Square* of interaction can be calculate with the following formula:

$$MS_{SxI} = \frac{\left(i - \frac{\sum X^2}{k} - \frac{\sum Y^2}{n}\right) + \frac{\sum i^2}{nk}}{(n-1)(k-1)} \quad (6)$$

Information:

MS_{SxI} : *Means Square* of interaction between the participants and the test items

X : the score between of each participants and all of items

Y : the score all of participants on an item

The estimate standard error measurement in this research was done with the steps in each of methods. Based on the results of research and the use of steps above, estimation results obtained from each method. This following table is the result of this research:

Table 1. Estimation SEM

No	Method	SEM
1	Feldt Method	2.507
2	Compound Binomial Method	0.927
3	ANAVA Method	2.370

Base on Table 1 the result of estimation standard error measurement of Physics UAS SMA Negeri 1 Sape varied according to the method used, by using Feldt Method the result is 2.507, Compound Binomial method is 0.927, and ANAVA method results on 2.370. The largest estimation standard error measurement at Feldt Method, and the smallest estimation standard error measurement at Compound Binomial Method. Base on value of estimate SEM, the accuracy of the estimated standard error measurement methods respectively is Compound Binomial Method, ANAVA Method, and Feldt Method. Therefore, the Techers can use Feldt Method, Compound Binomial Method, and ANAVA Method to estimate SEM.

4. Conclusion and suggestion

Based on the results of research and discussion, some conclusions are obtained as follow:

a. The results of the analysis estimation SEM based on Methods of Feldt, Compound Binomial, and ANAVA are 2.507; 0.927; and 2.370, respectively.
b. The accuracy of the estimated standard error measurement methods respectively is Compound Binomial Method, ANAVA Method, and Feldt Method.
c. Base on this study, the Techers can use Compound Binomial Method, ANAVA Method, and Feldt Method to estimate SEM.

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THE DEVELOPMENT OF MODULE OF EARTH AND SPACE SCIENCES FOR CHARACTER BUILDING INTEGRATED IN AL-QUR'AN IN PHYSICS DEPARTMENT OF FACULTY OF TEACHER TRAINING AND EDUCATION, LAMBUNG MANGKURAT UNIVERSITY.

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Abstract

This research is called education development research aiming to develop a module for Earth and Space Sciences. This research took place for one semester and the subject was the students for 2011 batch. The instrument was module, questionaire, assignment and documentation. The research result says that the module covers (1) language appropriateness in content in 4,4, display appropriateness in 4,5, (2) the readability aspect in 97,34 % considered interesting in content, interesting display in 62,67 %, simple explanation in 73,34 %, understandable sentences in 96 %, informative picture in 89,34 %. The students' response toward the module is positive in 88,34 %. In a word, the module of Earth and Space Sciences is appropriate and effective for character building integrated in Al-Qur'an in order to create the pious students in Physics department of Faculty of Teacher Training and Education, Lambung Mangkurat University.

Keywords: *Module, Character, and Research & Development*

1. Introduction

Along with the progress of time and the development of science and technology that helps human civilization, resulting in demands for education is increasing and varied. This requires that the quality of education is increasing and getting better. The need to improve the quality of learning is very important to anticipate the development of science and technology. With the improvement of the quality of learning, especially in universities, is expected to increase student achievement in itself. Improving the quality of this study could be the use of a more varied learning modules.

Teaching module is a tool to get to the goal of learning itself. Module of teaching / learning is used as an independent study for students or students to understand a lesson or course apart from the text book / theory. Winkel (1991) module can be used for independent study, because the module load, tuujuan learning, instruction sheet, reading materials, sheet answer key, and evaluation tools. It is expected by the module, the student learning outcomes is higher than ever before.

Research on the use of the module in the learning process has been done by many other researchers. Suratsih et al (2010) made a prototype-based learning modules biology local potential. Belawati (2012) developed a module-based environment. Khalim (2009) develop the media and math module. Results Rifqi, Parmin, and nurhayati (2013) indicates that the module is integrated science-based character education with the theme of Global Warming fit for use in accordance with the eligibility criteria by BSNP teaching materials and can be used effectively in learning in SMP / MTs class VII.

IPBA (Earth and Space Sciences) is one of the courses in Physics Education Study Program which contains: The structure of the layer of earth, rocks, Water, Season, Astronomy, and so forth. This course is a compulsory subject that has three credits (semester credit system). This course is suitable if integrated with the Koran Muslim holy book which relates about the creation of the universe and its contents are combined with thought patterns scientis. When connecting with the characters IMTAQ it will

provide a domino effect to the students after learning. So that the pattern of integration courses in the Qur'an IPBA to achieve the ultimate goal of learning with character education program.

Character education according to Gunawan (2012) is a form of education for character someone through character education, the results are visible in a person's action, which is good behavior, honest responsible, respecting the rights of others, hard work, and so on. Aristotle argued that the character is closely related to the habit that often manifested in behavior. According to Elkind & Sweet (Gunawan, 2012: 23).

"Character education is the deliberate effort to help people understand, care about, and act upon ethical values. When we think about the kind of character we want for our children, it is clear that we want them to be able to judge what is right, care deeply about whatis right, and then do what they believe to be right, even in the face of pressure from without and temptation from within".

This means that character education is a deliberate attempt to help understand human, care, and above the core ethical values / morals. Where we think about the kind of character that we want for our children, it is clear that we want them able to assess what the truth is, very concerned about what is truth / right, and then do what they believe to be the truth, even in the face of pressure from without and within temptation.

2. Research of Methods

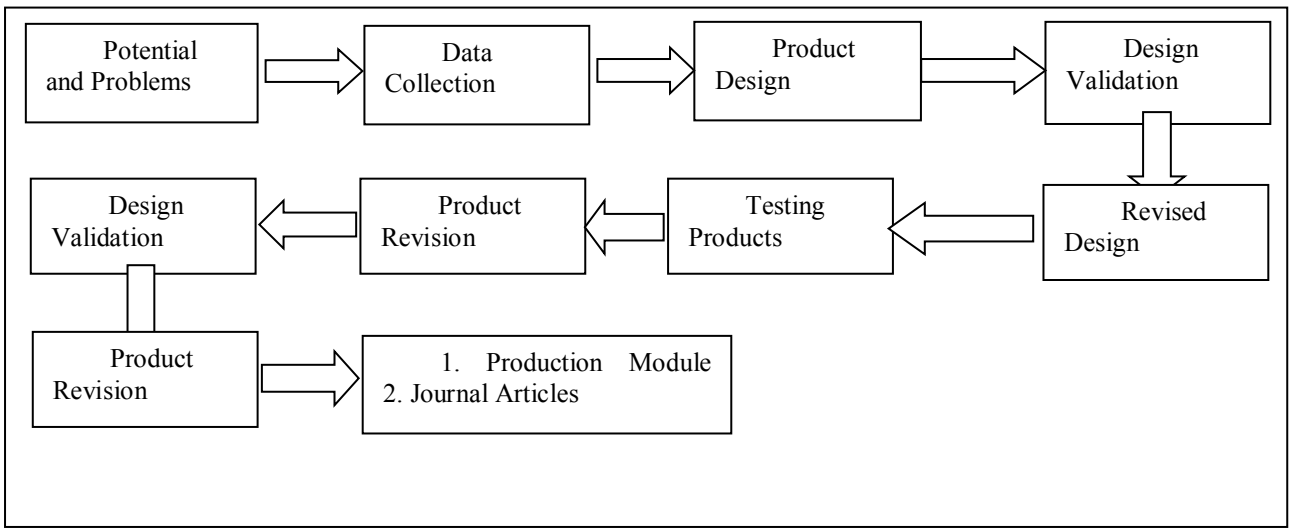
This research is the development of education (educational development research). The model used in this research is the development of procedural model, RnD wich a model that is descriptive, outlining the steps to be followed to produce a certain product (Sugiyono, 2006: 407). By Anonymous (2004: 12) the preparation procedure modules include:

1. The preparation phase
2. Preparation of the module

Procedures Brog research and development according to Gall made simple with five main steps:

1. Perform initial product analysis
2. Develop the initial product
3. Validation of experts and revision
4. Small-scale field trial and revision of the product
5. The large-scale field trial and revision of products

Design Reseacrh:



2.1 Data Collection Techniques

Data collection techniques will be performed in the study is an assessment technique learning modules according to the learning model development research procedures. Observations carried out to observe and take activity data and students' activeness obtained through test administration.

$$\text{value} = \frac{f}{N} \times 100\%$$

2.2 Data Analysis Techniques

Student activity data will be presented qualitatively based on research results. Aspects assessed is the entire activity of students during the learning takes place.

3. Research and Result

3.1 Results of the Earth Physics Class Module Development Space

Module earth and space physics lectures developed to support the Earth Space Physics lecture based the holy Qur'an and modern theories. So that the module is expected to improved the mindset and shape the character of the students about the truth of the holy Qur'an and conformity with modren theory. Modules developed in outline includes lithosphere, hydrosphere, atmosphere, the Universe, the Solar System and its members, Stars, the Earth and the Moon The indicators developed from any subject matter can be seen in Table 41.

No	Topic	Learning Indicators
1	Lithosphere	Explain the difference process of igneous rocks, sediments, and metamorphic. Describe the power goelogi Explain the power of endogenous and processes of formation of the Earth's surface. Describe teknonisme, volcanism and earthquakes in view of the Qur'an. Explain the power of exogenous. Describe the shape of the earth.
2	Hydrosphere	Explain the difference of short cycle, medium, and medium-hydrosphere. Explain the difference river based sources and water discharge. Explain the relationship of speed and energy on small streams. Explain the phenomenon of underwater river and the view of the Qur'an to him. Describe the classification of lakes. Describe the composition and density of sea water. Explains about the 'wave in the' at sea, the power of light and darkness in the deep sea. Explains about the marine layer based on the Qur'an. Explains about the occurrence of rain in the modern theory and based on the Qur'an. Describe the amount of water based on the Qur'an.
3	Atmospheric	Describe the composition of gases in the Earth's atmosphere Describe the layers of the atmosphere based on the Qur'an. Explain the difference homosfer and heterosfer. Describe the layers of the sky in the Qur'an.
4	Earth and Moon	Explain the difference between rotation and revolution of the earth. Explains the speed of rotation and revolution of the earth. Explains about the coordinate system of celestial bodies and recording time. Explain the rotation and revolution of the earth based on the Qur'an. Explain the characteristics of the moon as a satellite of the earth. Explain about rukyatul Hilal. Explains the difference between a lunar eclipse and a solar eclipse. Describe the month based on the Qur'an.
5	Stars	Explain the process of evolution of a star. Explains the difference between a nova, supernova and hipernova. Explains the possible collapse supernova theory. Explains the theory of nova, supernova and hipernova the viewpoint of the Qur'an. Explains about the theory of black holes, pulsars and the star Sirius in theory and viewpoints of the Qur'an.
6	Solar	Explain about the solar system. Explains about temperature, energy and layer on the surface of the sun and solar phenomena. Explain the mystery of the death of the sun based on those of science and the Qur'an. Explain the theories have planets and planets in the solar system. Explains about asteroids, comets, meteoroids, meteors and meteorites. Explain langittentang celestial objects in the Qur'an.
7	Galaxy	Describe the various theories terjanya galaxy. Explain about galaxies and the cosmic fabric and corelations with an explanation in the Qur'an. Explain the differences in spiral galaxies, elliptical, and irregular.
8	Universe	Explain the various theories of the Universe. Describe the creation of the Universe based on the Qur'an and its relationship with the modern theories of the Universe. Explains the theory of creation that is maintained and that collapsed. Explain Universe models and materials that make it up.

3.2 Feasibility Analysis Module Class of Earth and Space Physics

Assessment module earth and space physics was conducted to determine the feasibility of modules consisting of expert validation and readability test student users. 4.2.1 Analysis Module Validation Class Validation module is carried out on the feasibility aspect of the content, language, and presentation by Drs. H. Ahmad Kusasi, Pd and Sri Hartini, M.Sc. The results of the validation analysis are presented in Table 4.2 as follows:

No	Component	Indicators	Assessment	
			score	Category
1	feasibility of Contents	Coverage Matter	4,5	Very Worthy
		Recency	4,5	Very Worthy
		Contains Insights Productivity	4,5	Very Worthy
		Stimulate curiosity	4,0	Decent
		Develop life skills	4,5	Very Worthy
		Develop insight on Indonesia and contextual	4,0	Decent
		Average	4,4	Decent
2	Linguistic	In accordance with the development of learners	4.0	Decent
		Communicative	4.5	Very Worthy
		Interactive and dialogical	4,5	Very Worthy
		Simple	4,0	Decent
		Coherence and keruntutan mindset	4,0	Decent
		Compliance with the rules of correct Indonesian	4,5	Very Worthy
		The use of the term / symbol / emblem Average	4,0	Decent
		Average	4,2	Decent
3	Presentation	presentation techniques	4,5	Very Worthy
		learning presentation	4,5	Very Worthy
		Average	4,5	Very Worthy

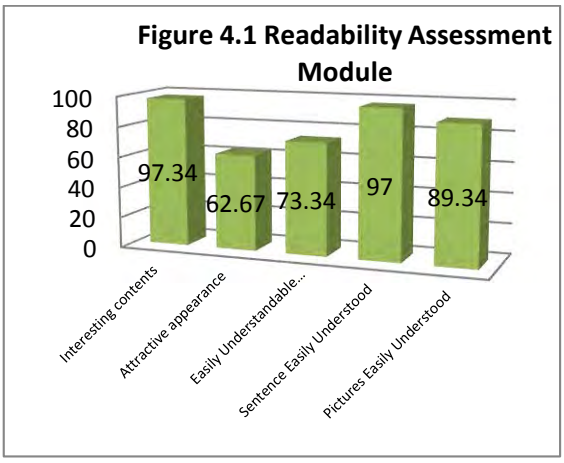
The table shows that the physics lecture modules earth and space-based modern theory and the Qur'an are developed meet the eligibility in terms of content, language, and presentation. In terms of content, this module meets the eligibility because it contains materials that are considered modern (to the future), develop insights to optimize the productivity of students in creativity of students in learning, stimulate curiosity and develop life skills in preparing students become creative teacher is a teacher who is be able to understand the physics of the earth material space and apply in linking with everyday life logically and add character student piety towards God Almighty knowing and believing the truth of the Qur'an which modern science proves this point.

In terms of language considered appropriate because it corresponds to the development of learners, communicative, interactive and dialogical, straightforward, coherence and keruntutan mindset, compliance with Indonesian rule right, and use the term / symbol / emblem. The module is assessed able to serve as a guide for students to participate actively studying earth and space physics material well studied independently / group and through face-to-face in the classroom. In addition, the material is coherent and coherently arranged so as not to confuse the student in learning the content.

In terms of presentation also get to assessment for learning presentation techniques are window shopping, which invites students to be active in finding the data and facts relating to the material presented.

4.2.1 Reability of lecture module

Readability of lecture module is used to determine the weaknesses found in the student use as a module supporting Earth space physics lectures. The readability assessment of representatives of 15 students who programmed the Earth Space Physics course can be seen in Figure 4.1



The figure shows that according to students, 97.34% Class was Module declared contents of Physics interesting because it contains the subjects of physics in everyday life and is concerned with the facts indicated in the Qur'an that can logically explain natural phenomena , mathematical and to be able increase devotion to God Almighty. Amounting to 62.67% stated quite attractive appearance, it is because there are still some display presentation of the material in the module that is monotonous so less attract students. In addition, 73.34% of students stated that the explanations are easy to understand which indicates that lecturers convey the material well. As much as 96% easy to understand sentence meaning explanations and sentences used in the modules are written in a row and in accordance with the rules of Indonesian writing so easily understood by students.

4.3 Response of the Module Class Students of Physics of Earth and Space

Student response is a response to the suitability of the module students with lectures, clarity and ease of understanding the material in the module. The results of the analysis of students' response to a brief lecture module can be seen in Table 4.3. This response is the presentation of a sample of 15 students who programmed the course of Earth Space Physics wich Module.

Table 4.3 Results of Student Response Analysis for Earth Space Physics wich Module

No.		VALUE (%)	
1.	Suitability Model with Class	Under	Unsuitable
	The module supports the lecture	90	10
	Explanations provide real evidence of recency Qur'an with modern theory.	100	0
	Explanation The model is in accordance with the contents of the module	75	25
	Average	88,34	11,67
2.	Clarity Module Class	Under	Unsuitable
	Sentence in module	83,34	16,67
	Images / tables in module	78,34	21,67
	Lecturer explanation regarding the content of the modules	70	30
	Average	77,23	22,78
3	Ease of study material Easy Easy	Under	Unsuitable
		75	25
	Average	75	25

Table 4.3 shows that 88.34% of the students stated that the Earth and Space Physics Module developed based on modern theory and the Qur'an very supportive faculty lectures and explanations were in accordance with the contents of the module. That is because this module was developed referring to the course curriculum of Earth and Space Physics Physics Education Prodi added some material prerequisites are required. An average of 77.23% said the course modules developed containing words and images that wich cleared and easy to understand explanation is supported by lecturers who are also appropriate, these results have not been close to 100% because there are some images that are colorless and less obvious. And an average of 75% of students stated that this module is helping students learn the material of the lithosphere, hydrosphere, atmosphere, galaxy, solar system and its members, the stars, and the earth and the moon. While 25% of students stated that helps understand the material because of the lack of explanation about the relationship of physics formula with facts described by the Qur'an.

The response is as expected in developing the Earth and Space Physics modules are assessed based on the modern theory and the Qur'an.

4. Conclution

Based on the research findings, we concluded that the Earth of Space Physics in Class Modules are developed based on the theory of the Modern and the Qur'an to formed IMTAQ (*faithfull and believing to Great of Allah SWT*) student education department of Physics Faculty Teacher Training and Education in Lambung Mangkurat Universty Banjarmasin.

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EFFORTS TO IMPROVE ACHIEVEMENT AND ABILITY TO COMMUNICATE ORALY THE LANGUAGE OF JAVA THROUGH COOPERATIVE LEARNING METHOD TYPE TEAM GAMES TOURNAMENT (TGT)

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Abstract

The existence of problems in the learning process and the achievement that occur in class IX B SMP Negeri 2 Gedangsari, Gunungkidul, the Javanese subjects deemed necessary to be addressed immediately. To overcome this, based on theoretical considerations, was selected cooperative learning methods Team Games Tournament (TGT). The purpose of this research is to improve oral communication skills and achievement through the implementation of the Javanese type of cooperative learning methods TGT. This study is a Class Action Research (CAR) conducted in class IX B, SMP Negeri 2 Gedangsari, Gunungkidul in the 2nd semester in academic year 2014/2015. The model used is a model CAR are Kemmis and Taggart. The Implementation of the research include planning (preparing lesson plans, evaluation instruments, preparation of instructional media, gifts, and so on); implementation of the action (students learn in a heterogeneous group, and compete in a homogeneous group); observations (held in conjunction with the implementation of the action by the observer); and reflection (discussion between teachers, observers, and representatives of the students). The implementation cycle is carried out twice. The results showed that the communication capability has increased from cycle to cycle. Similarly, achievement is also increased. Therefore, it is concluded that the use of cooperative learning methods TGT can improve oral communication skills and achievement of Javanese. It is recommended for teachers to use this method in order to improve communication skills and achievement, particularly the Javanese.

Keywords: TGT, communication skills, achievement

1. Preliminary

One of the activities carried out between human interactions is communication. According to Lasswell, communication is fundamentally a process that explains who, what did you say, with what channel, to whom, with what result or outcome, In communicating, a society will use the language or languages understood that it is applicable to communicate in the region according to the laws and cultural norms that evolve. Without a language that can be understood together, then the communication process will run into obstacles. Gunungkidul community as part of the Special Region of Yogyakarta has a local language, namely Javanese. Thus, in addition to the Indonesian as the national language, the people of this district also use the Javanese as an everyday language. Therefore, schools in this district teach Javanese as one of the local content, which one of them is SMP Negeri 2 Gedangsari, Gunungkidul.

SMP Negeri 2 Gedangsari, Gunungkidul, is the most northern school in Gunungkidul. The school is located approximately 50 kms from the district capital and Klaten Regency. This school is located in the village of Tegalrejo, Gedangsari, Gunungkidul. To the south of this school is mountainous and its northern side is a flat area that is subdistrict Bayat, Klaten district. SMP Negeri 2 Gedangsari has 18 classrooms with each level 6 class and smaller average students as many as 32 people.

Prior to this study, the learning process is carried out in class IX B SMP Negeri 2 Gedangsari, Gunungkidul, Javanese subjects tend to be not as expected. In the learning process, students have a tendency not to speak in Javanese with the teacher of fear to the selection

that is appropriate vocabulary of ***krama*** and ***ngoko***. Yet on the other hand, students are always using the Javanese (especially ngoko) when communicating with friends. Thus, it appears that students only have the potential to communicate orally in Javanese, but are afraid to practice it. This has become a strategic issue, because every teacher conferences have sought to use and set an example by way of speaking manners when teaching. Moreover, when asked to practice the language to communicate with *Krama*, students tend not to exercise vigorously.

The existence of problems in the teaching and learning process and then have an impact on achievement Javanese class IX B are also bad. The results of the final test showed that from 34 students, there are 18 people (53%) who scored below the minimum completeness criteria (KKM) of 75. The remaining, which is only 16 persons (47%) scored above the KKM. Of the 34 students, noted that the lowest score is 60, and the highest score of 90. The average score of the class is 75.29.

Starting from these two problems (problem learning process and achievement), it is necessary to apply a more innovative learning model as the solution of the problem. The learning model chosen should be able to increase the courage of students in communicating Javanese, improving the ability of the students in choosing the right vocabulary, as well as encouraging students to practice communicating. The increase in the learning process is expected to result in increasing the student achievement. Therefore, both the concept (communication skills and achievement) needs to be studied further in order to get the proper problem solving, i.e. the appropriate learning model.

The discussion of the results of learning should begin first with the concept of learning in general. In the view of behaviorism, learning is the process of behavior change. Furthermore, Gagne stated that changes should not only be the result of a natural progression, but is aware that the interaction between students and external learning environment [2]. Therefore, it appears that learning is done in the classroom is not only limited to the interaction of teachers and students, but also the interaction among fellow students.

Learning is a mental or psychic activity that takes place in an active interaction with the environment of knowledge, understanding, skills, attitudes and values which these changes are relatively consistent and trace [3]. This notion is similar to the notion of Gagne which emphasizes the interaction in the learning process. While the impact of these interactions is that the change is the result of learning (achievement).

Achievement have various definitions proposed by the experts. Achievement is the power boost or power that comes from within a person to make a passion and desire to learn who labored to produce better results and encouraging. This understanding shows that the presence of passion or desire to learn will have an impact on achievement better.

Achievement is one achieves perfection in thinking, feeling, and doing. Should, someone who has a good achievement have good thinking skills, the ability to feel, and good deeds.

In order to achieve good learning results, keep in mind the factors that affect achievement. These factors include the internal factors and external factors [6]. Internal factors are factors that arise in the students themselves, such as health, security, intelligence, mental, feelings, and so on. While external factors are factors that come or arising from outside the student, such as cleaning the house, hot air, environmental, social, and so on. Based on the list of these factors, it can be said that the teacher's teaching method is one of the factors that influenced the achievement that come from external sources.

Communication comes from the Latin word 'communis' which means creating unity between two people or more. In addition to understanding etymologically, there are various definitions of communication proposed by the experts.

Communication is a series of process of transferring information from one person to another for a specific purpose [7]. Thus, it appears that there is a purpose of communication, namely the specific purpose mentioned in the definition.

According to Theodorson [8], the communication is the dissemination of information, ideas as attitudes or emotions from one person to another mainly through symbols. One of the symbols used are the language. If this understanding is juxtaposed with the understanding of Suprapto, then to achieve the expected purpose, these symbols need to be understood together. Thus, if a language not understood by the two parties is communicating, the purpose which will be delivered will be underfunded. These communication skills can be developed through practice.

To improve communication skills and achievement, teachers need to implement appropriate learning methods. Currently, there are a variety of innovative learning methods that need to be selected by the teacher according to the conditions and needs. Some of the

considerations that must be seen by the teachers in determining the learning model that will be used, among others, are: purpose, learners, learning materials, facilities, situation, participation, teachers, and the goodness and weaknesses of these methods [9]. Based on these considerations, it is determined the method to be used is the type of cooperative learning methods Team Games Tournament (TGT).

Discussion about cooperative learning Team Games Tournament (TGT) should be preceded by a discussion of cooperative learning in general. Cooperative learning is a teaching method that can be used in class. This learning will be more suitable for use in teaching large classes (with a relatively large number of students). This is because in cooperative learning, students tend to work in small groups that each group consists of 3-5 people. Thus, if a class only has the number of students that a little (less than 10), this study is not suitable to be applied.

TGT learning method is a method of cooperative learning by forming small groups in class consisting of 3-5 students are heterogeneous, both in terms of academic, gender, race, or ethnicity. Step-by-step learning method TGT there are five stages: stage presentation in class, teams, games, tournaments, and team recognition [10].

Despite a step-by-step learning, the TGT method used in this study was slightly modified to be consistent with the purpose of learning. To that end, the steps in this modification TGT method are: (1) The teacher divides the students into heterogeneous groups; (2) Students learn oral communication in groups, students who are good at teaching the less; (3) Students move into homogeneous groups; (4) Each student presentations grouped appear homogeneous, and judged by his friends; (5) The student with the highest score becomes the champion, and a heterogeneous group with the highest grade average to be champions.

Based on the presentation of problems and learning methods that have been mentioned, the formulation of the problem in this class action research are: (1) Does the use of cooperative learning methods Team Games Tournament (TGT) may improve the ability to communicate Javanese verbally for students of classes IX B SMP Negeri 2 Gedangsari, Gunungkidul? (2) Can the use of cooperative learning methods Team Games Tournament (TGT) improve achievement for the Javanese IX B SMP Negeri 2 Gedangsari, Gunungkidul?

Based on the formulation of the problem that has been drawn up, the purpose of this study was (1) Improving the ability to communicate verbally Javanese for students of classes IX B SMP Negeri 2 Gedangsari, Gunungkidul through the use of cooperative learning methods Team Games Tournament (TGT). (2) Increasing the Javanese achievement for students of classes IX B SMP Negeri 2 Gedangsari, Gunungkidul through the use of cooperative learning methods Team Games Tournament (TGT).

The benefits of this research include benefits for students, teachers, and schools. For students, this research is expected to improve the ability to communicate Javanese verbally, and improve student achievement. For teachers, the results of this study are expected to add alternative for teachers, as well as improve the ability, creativity, and innovation in learning. Furthermore, the school, the results of this study can be used by other teachers as reference organizes innovative learning.

Based on the research objectives, and the theories that have been studied, can be described the framework of this study as follows.

2. Research Methods

This research is a classroom action research that adopts the model of Chemmis and Taggart. The steps undertaken in this study include planning, action and observation, and reflection. The research was conducted in SMP Negeri 2 Gedangsari, Gunungkidul, particularly in class IX B. The number of students in this class is 34 people.

The variables in this study consisted of action and impact. Action is the method of cooperative learning Team Games Tournament (TGT), while the impact of variables is the ability to communicate Javanese verbally and the Javanese achievement.

The collection of data for the variable ability to communicate Javanese is done through friends (peer assassement). The indicators used are the Dialogue assessment (clarity of speech), wirama (rhythm of speech), Wiraga (attitude in speaking), and wirasa (taste caused). While learning outcome variable data collection is done through the test instrument. Tests are arranged in the form of objective (multiple choices).

Data analysis was performed by analyzing the values of peer assessment instruments and tests performed. The analysis was performed by calculating descriptive statistics, which includes the average search, maximum value, minimum, and the level of completeness.

3. Research Result

There are a variety of activities undertaken to prepare the learning cycle 1. These activities include: (1) Developing a Lesson Plan (RPP); (2) Develop student group consisting of homogeneous groups (with the same capabilities), and heterogeneous groups (with diverse abilities); (3) Develop evaluation instruments theoretical achievement; (4) Develop peer evaluation instruments to assess achievement practical (oral communication skills); (5) Develop a text sample Javanese program; (6) Providing supporting tools of learning, such as microphones and loudspeakers, cameras, laptops, LCD, and power point.

Action activities undertaken in cycle 1 were carried out to teach the material on the host Javanese. The orders of the implementation of learning are as follows: (1) Open the lesson, as well as explaining SK, KD, and learning objectives; (2) Explain the theoretical material on the host Javanese with Power Point. Delivered with varied lecture method; (3) Divide the event text sheet Javanese, each student gets one sheet of text events in Javanese; (4) Divide students into heterogeneous groups (number 7 groups), and practice reading the text of the event in the group, students who are good teaching students who were are less; (5) Move students from heterogeneous group into homogeneous groups (which also amounts to 7 groups); (6) The teacher divides the sheet peer assessment; (7) Students compete to read the text of each event fit into homogeneous groups. Group members provide an assessment; (8) Teachers recollect the score, and determine the winner individually (there is 7 champion), and who champion the group (there are one group of champions). Teachers give gifts to 7 winners (people), and the first group of champions. 9. The teacher gives the students a theoretical test.

According to the model proposed by Kemmis CAR and Taggart, observation of activities performed in conjunction with the implementation of the action. Therefore, the observation is made by an observer. Some components observed are: (1) The behavior of the students in learning; (2) cooperative collaboration between students, especially at this stage of the exercise; (3) The seriousness in learning and listening to friends, including assessing a friend. In addition to these things, the observer also assess teacher component, such as timeliness, and ability to engage students.

Reflections on first cycle performed after completion of learning. The shape of this reflection is the discussion. The parties involved in this discussion are the teacher, observer, and two students. Reflection is made to see the advantages and disadvantages of learning undertaken; including the impact of the variables discussed developments in the study of this class action.

The results of reflection of the cycle I is the basis of the planning the cycle 2. The weaknesses in the implementation of the first cycle need to be improved in cycle 2. One thing that should be improved is setting back the division of time. Some components of the activity are less in terms of time, given the extra deep in cycle 2. Likewise, the component activities that have too long a time necessary reduction in cycle time 2. In addition, there needs to be more attention to the heterogeneous group, so that training does become more effective. To that end, teachers prepare lesson plans with the division of time according to the needs, prepare a reading text for further material (i.e. speech of Javanese), and other things necessary to support learning cycle 2.

Implementation measures of learning in cycle 2 in general the same as the steps in cycle 1, but with the division of time and different effectiveness. In addition, the material being taught is a speech language of Java (sesorah).

Observations made at cycle 2 of this study are the same together with the observations in cycle 1. Observation was also made by the same observer of observer cycle 1. Some components observed are: (1) The behavior of the students in learning; (2) cooperative between students, especially at this stage of the exercise; (3) The seriousness in learning and listening to friends, including assessing a friend. In addition to these things, the observer also assess teacher component, such as timeliness, and ability to engage students.

As reflection is done in cycle 1, reflection for cycle 2 was also done in the form of discussion. The parties involved in this discussion are also equal to cycle 1 ; they are teachers, observers, and two students. Reflection is made to see the advantages and disadvantages of learning undertaken; including the impact of the variables discussed developments in this CAR. The results showed that the variables reflecting the impact of this CAR has exceeded the target or specified criteria. Therefore, the study ended in this cycle 2.

As explained in the background, before this research, teaching and learning the Javanese has not been going well. In addition, the ability to communicate Javanese verbally is also less owned by students. It is apparent from the lack of

courage to use the Javanese, and lack of desire in students to learn the Javanese. The impact of this is the lack of student achievement Javanese.

In the cycle 1, the teacher first tried to implement the type of learning method cooperative Team Games Tournament. Although teachers have tried innovative teaching methods, but the increase in the ability to communicate Javanese verbally and achievement have not reached the expected target. The results showed that the distribution of the time of reflection is still not appropriate, in addition, both students and teachers are not familiar with this method, so there is confusion that affect learning ineffectiveness. Therefore, the result of reflection decided that learning will continue in the second cycle.

Implementation of the cycle 2 showed a success, due to improvements in planning, and their experience in students and teachers associated with the adoption of this TGT. The results of the actions impact on improving oral communication skills Javanese, and the achievement that go beyond the expected target. To that end, the result of reflection shows that this research can be terminated.

Table 1.
The Improvement of Oral Communication Skills of Javanese

Component	Cycle 1				Cycle 2			
	Wicara	Wirama	Wiraga	Wirasa	Wicara	Wirama	Wiraga	Wirasa
Average	75,62	78,9	75,44	75,13	82,16	81,31	78,2	78,59
Highest	80,34	83,45	82,11	82,7	88,75	87,5	85	85
Lowest	70	71,2	70,2	72,77	77,25	76,11	72,5	73,75

Table2.
The Improvement of Javanese Achievement

Component	Pre Cycle	Cycle 1	Cycle 2
Average	75,29	81,62	88,68
Maximum	90	100	100
Minimum	60	60	70
Total Completed	16	26	32
Completeness Percentage	18	8	2
Total Incomplete	47	76	94
Incomplete percentage	53	24	6

This research is confirmation of the theory put forward by Roestiyah, which states that one of the factors that affect achievement are external factors, one of them is a method of teaching of the teachers.

4. Conclusions and Suggestions

Based on the results, it can be concluded that the implementation of cooperative learning can improve TGT Javanese learning in class IX B SMP Negeri 2 Gedangsari. With improvements in the learning process, then the variable impact of the research is also increasing. To that end, can be answered two questions the formulation of this problem, namely: (1) The use of cooperative learning methods Team Games Tournament (TGT) may improve the ability to communicate Javanese verbally for students in class IX B SMP Negeri 2 Gedangsari, Gunungkidul. (2) The use of cooperative learning methods Team Games Tournament (TGT) can improve achievement for the Javanese in class IX B SMP Negeri 2 Gedangsari, Gunungkidul.

Based on the research conclusions, and if it is associated with the benefits of the research, it may be advisable for the following parties: (1) For students, it is suggested in order to improve the ability to communicate Javanese verbally by way of practice with a friend who is more intelligent, and try to speak practicing. For teachers, it is recommended to use TGT method as an alternative for teachers, in order to improve communication skills, as well as achievement. Further to the school, other teachers in particular, can be encouraged to try to use the method TGT on other subjects, as well as other material.

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DEVELOPMENT OF AN INSTRUMENT OF PEDAGOGY CREATIVITY

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Abstract

This research's aim was to develop an instrument of the teacher pedagogical creativity for the teacher candidate undergraduate students. The used method was a method developed by Gable. There are 15 stages in the development of this instrument. The development of the concept of pedagogical creativity has resulted in four factors: the speed of thought, flexibility of thought, originality of thought, and the elaboration of thought. an each factor was developed into 8 question items, so the total question is 32 items. An each item test forms were an open question with 3 answers at maximum. An each correct answer was scored 1. The validity content was obtained by expert judgment. All of creativity pedagogy items had content validity index I-CVI more than 0.8. The content validity of the pedagogy creativity instrument had scale content validity index S-CVI 0.97. The instrument has been tested on FKIP undergraduate students of UNIB, the samples were 630 students. The results showed that content validity of all the questions of the instrument are supported by expert judgment. All of items creativity pedagogy suitable with the Rasch model empirically. The correlation between pedagogy creativity score with intelligence score was 0.168. This correlation indicated as the concurrent validity. The Alpha reliability indices obtained was 0.95.

Keyword: pedagogy creativity, content validity, Rasch model, concurrent validity, alpha reliability.

1. Introduction

Implementation of the Law number 20 in 2003 about educational system, law number 14 in 2014, government regulation number 19 in 2005 requires that teachers have the ability ideal among other aptitudes, interests, calls the soul, and idealism. The result of research by Block showed that mentions the role of the teacher is very great in the changing world [1]. Sudarnoto mentions that that the teacher is a crucial factor in the success of education as assessed student achieve [2].

The quality of teaching and learning provision are by far the most salient influences on students' cognitive, affective, and behavioral outcomes of schooling-regardless of their gender or backgrounds [3]. Dicky mentions that the graduate education of primary school teachers are not ready to teach to all of levels class, still needs a few more years of teaching experience [4]. The result of research that has be done by Alkharusi indicated that in service teachers had a lower level of knowledge, a higher level of perceived skillfulness, and a more favorable attitude toward educational measurement than pre service teachers [5]. The study has been done by Açikgöz showed stemmed from a 'need' that although there were clearly 'subject' factors involved, we should bear in mind that 'school' factors, and 'teaching methods' factors and largely teachers' 'personal factors' had an important influence on 'pupils' attitude toward learning [6].

Research by Fokken-Bruisma showed commitment was predicted by the motivations of teaching ability, working with children, prior teaching and learning experiences, and time for family, as well as satisfaction with the choice of teaching and perceived task demand [7]. Increasing student engagement is serious business. Teachers have low self and social awareness coupled with insufficient self-management skills. On the whole the general mood is not positive enough to be optimistic and sufficiently self-motivated to set and pursue goals in order to be successful teachers [8].

Paradoxically, bringing some lightheartedness to the process tends to make us more effective. As we ponder and explore various methods to connect with and to engage our students, humor, music, and movement appear to be three valuable methods [9]. It's mean that for teaching more effectively, teacher must teach creatively.

Creativity is the process of feeling and observing the problem, making guesses about the short comings of this problem, assess, and test the conjecture or hypothesis, then change and test it again, and finally preparing the results. Aspects of product creativity emphasize that what comes out of the process of creativity is something new,

original [10]. The hallmark of creativity is a new product. New products in this case can be either development or completely different from existing products. New product development process is required divergent thinking [11, 12]. The thought of people came up with a fairly new idea or with a number of alternative ideas, and then he said to the creative. [13]. Characteristics associated with the ability to think creatively is fluency, flexibility, originality [14, 15], and that are added elaboration into the creativity concept [16].

Creative teachers help students to discover, and reconstruct by rediscovery making them capable of production and creativity and not simply repetition [17]. Teachers who show a humanistic philosophical orientation, have developed their own creative competencies, and implement specific creative methods and techniques in their classroom are more effective in enhancing students' creative abilities than teachers who follow more traditional instructional approaches [18].

Creativity is understood as universal and holistic aspect of human in creative education, and the spheres of creativity can be classified into physical-physiological sphere, social sphere, rational sphere, moral sphere, artistic sphere, and religious sphere in human life and the properties of value ability in each sphere are presented [19]. Creative teachers will be most successfully when they use their personal intelligences to choose projects that fit both their own values and their students' needs and interests [20].

Teachers' experiences of finding themselves caught in the middle between valuing creativity and helping students conform to the constraints of the classroom are considered. Next, the role that constraints play in creativity is discussed. Finally, a new way of thinking about creative expression, called ideational code-switching, is proposed. Ideational code-switching represents the ability to move between intrapersonal creative interpretations and interpersonal creative expression [21] .

Educator shold the view that children are naturally creative, open to experience, and tend to be attracted by novel things, and this natural quality will diminish unless it is nurtured by favorable environments created by adults. Humanistic scholars also see creativity as the natural urge of individuals to develop, extend, express and activate their capacities [18]. Creativity in higher education, in their identification of the central tenets of creativity as including: originality; imagination; problem solving; adaptability; networking and communication [22].

Bullying and victimization in schools have become major concerns for parents, teachers, and school psychologists. Results from the current study may allow school psychologists to gain a better understanding of factors to consider when helping teachers identify children with aggressive problems and to design more useful teacher screening measures in the future [23]. School psychologists must consider teachers' views about many aspects of the problem of bullying if they are to devise optimum strategies for tackling it [24]. Olweus asserted that 'the best results are achieved through a combination of generous praise for positive activities and consistent sanctions for aggressive, rule breaking behavior's [25]. Teachers were aware that seven students were bullied, all of whom told their teacher about at least one bullying incident [26].

Creative teaching is disciplined improvisation because it always occurs within broad structures and frameworks. Expert teachers use routines and activity structures more than novice teachers; but they are able to invoke and apply these routines in a creative, improvisational fashion [27]. The quality of instruction is a function of teachers' understanding of the strengths and weaknesses of their students. The depth of that understanding, in turn, hinges on the quality of teachers' assessments of student achievement. Thus, sound instruction requires the sound classroom-level assessment of student achievement [28]. The construct of creativity pedagogy consist of four factors that are speed of thought, flexibility of thought, originality of thought, and elaboration of thought.

The problems of research are:

a. How content validity pedagogy creativity instrument?
b. How item pedagogy creativity suitable with Rasch model?
c. How concurrent validity pedagogy creativity instrument?
d. How reliability pedagogy creativity instrument?

1. Research methods

This research include in the development research that has be done by Gable [29]. The research development phases were pre development, development, and application model. Predevelopment research phase has be done explore the theory concept, literature, and the results of relevant research. Pedagogy creativity will be measured by verbal creativity test [30]. An item of the test is what if not (WIN) form model [31, 32]. Each factor of pedagogy creativity construct has been developed to 8 items, the instrument of pedagogy creativity

consist of 32 items. Each item test forms were an open question with 3 answers at maximum. Each correct answer was scored 1. The development phase, the instrument will be justified by expert. A critical and advised by experts be input to improve the instrument. The content validity of instrument has been justified by seven expert judgment, they are psychologist, educator, linguistics, and measurement experts. The score of expert judgment has been analyzed by content validity index (CVI) formula. A content validity index required minimum 0.8. [33]. The application model phase, an instrument will be try out on undergraduate student on FKIP UNIB The samples of research are 630 teacher students on Faculty of Education and Teacher Training, Bengkulu University. The item quality of creativity pedagogy has been analyzed by Rasch model. The item of instrument has good quality if an item has infit value from 0.77 until 1.3. The instrument can be good categorical if t mean value near 0, and SD value near 1 [34]. The concurrent validity has been computed by Pearson formula, and test reliability index has been compute by Alpha formula [35].

2. Discussion

An instrument of creativity that had been compiled, then the instrument is considered by experts. An expert consists of 2 psychological, 2 educators, 2 measurement experts, and 1 linguist. The given score by experts have score range from 1 to 5. By using Lynn formula, a score 1, 2, and 3 was changed to 0, and a score of 4, 5 was changed to 1. The results of the analysis can be presented in the Table 1.

Table 1. The content validity index of pedagogy creativity construct

Dimension	Indikacor	I-CVI	Content Validity
Pedagogy creativity	Speed of thought	1.00	good
	Flexibility of thought	1.00	good
	Originality of thought	1.00	good
	Elaboration of thought	0.86	good
S-CVI		0.96	good

Table 1 showed the dimensions of creativity pedagogy consists of four factors, namely speed of thought have validity index of 1.0. Flexibility of thought have validity index of 1.0. Originality of thought have validity index of 1.0, and the elaboration of thought has validity index of 0.86. Overall instrument content validity index of 0.96 in good categories.

The sample question of the pedagogy creativity instrument can be presented below. The question which have not scrutinized by experts yet, the question is as follows.

What do you do if there is a student in the learning difficulty socializing with friends?

a. Finding out the background of the student.
b. Invited to play with his friends.
c. Other mention ……

After criticism and suggestions for improvements obtained by experts, the statement will be to know easy, if the statement is narration cases sentences. So the question was changed to:

Students have different characters, sometimes we found student difficult to socialize with friends. Many ways to improve the social skills of students, one of which is to involve him into group work activities. Other alternatives mention!

a. ……
b. ……
c. ……

Table 2 showed 32-items has 14 items (44%) pedagogical creativity have item content validity index (I-CVI) is 1.0, while the other 18 items (56%) have I-CVI of 0.86. Overall the instrument has scale content validity index (S-CVI) is 0.92. That is means items pedagogical creativity has valid, and the instrument of pedagogical creativity have qualified as a good instrument.

Figure 1 showed the score values of creativity instrument pedagogy creativity range of 0.88 to 1.23, still within the range limits of infit mean square (MNSQ) for item that is 0.77 to 1.3. The most difficult item is number 19 with the level of difficulty 3.39, while the easiest item is number 2 with the level of difficulty -3.41.

The authenticity of the item group includes items that are difficult to think than the other item groups. An item originality of thought has

difficulty level of 2.28 to 3.39. The easiest item groups are numbered 1 through 7 on the levels of speed thinking.

Table 3 showed the p value of Chi-Square and Kurtosis value is 0.955 more than 0.05 that is not different between measurement distribution and distribution theory. It is means that pedagogy creativity has a normal distribution. Normality distribution is required for item analysis.

Base on the measurement data, there are item number 2 there are 5 examinees who obtained a score of 0, while the item number 19, there are 168 respondents who received a score of 0. The item number 19, there are 46 respondents who obtained a score of 3, whereas item number 4 there were 403 respondents to obtain a score of 3. An item number 19 is the most difficult item.

Table 2. The content index validity each items of pedagogy creativity instrument

item no.	I-CVI	item no.	I-CVI	item no.	I-CVI	item no.	I-CVI
1	1.00	9	0.86	17	0.86	25	1.00
2	1.00	10	0.86	18	0.86	26	1.00
3	1.00	11	1.00	19	0.86	27	1.00
4	1.00	12	1.00	20	0.86	28	1.00
5	0.86	13	0.86	21	0.86	29	1.00
6	0.86	14	0.86	22	0.86	30	1.00
7	0.86	15	0.86	23	0.86	31	0.86
8	1.00	16	0.86	24	1.00	32	0.86
S-CVI				0.92			

Table 3. Normality test

Test of Univariate Normality for Continuous Variable						
	Skewness		Kurtosis		Skewness and Kurtosis	
Variable	Z-Score	P-Value	Z-Score	P-Value	Chi-Square	P-Value
Pedagogy creativity	-0.013	0,897	-0,275	0.783	0.093	0.955

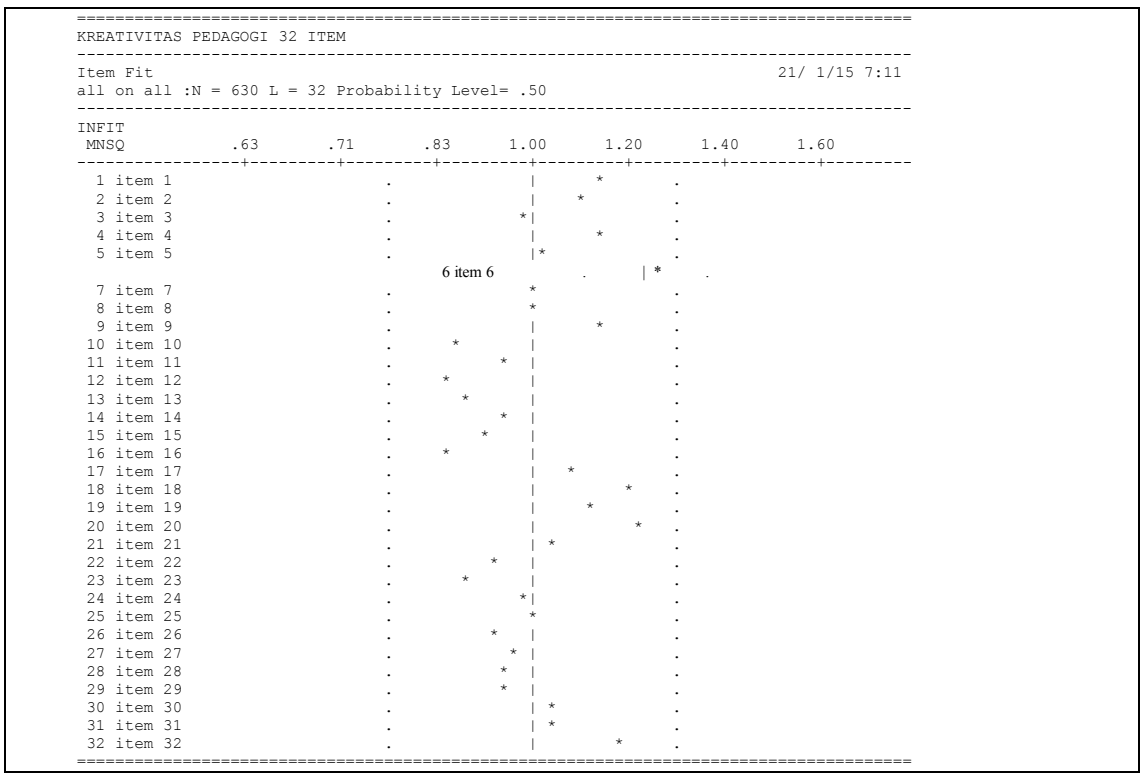

Figure 1. The plots of infit value each pedagogy creativity item.

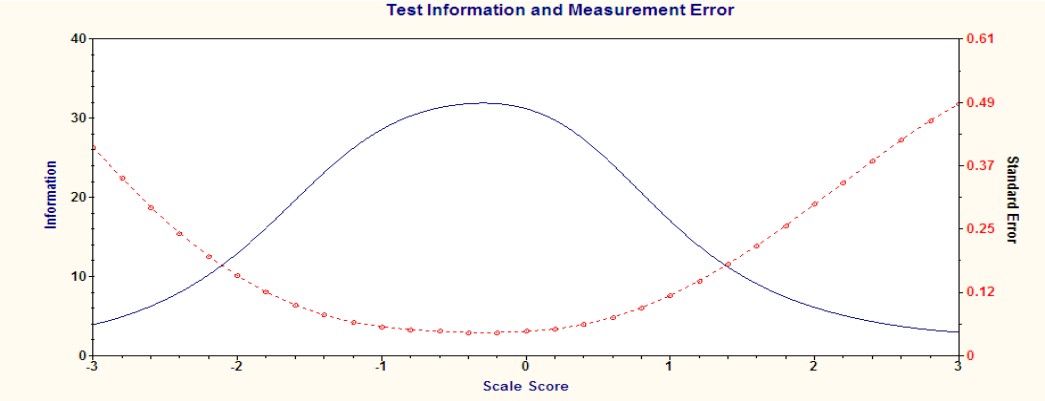

Figure 2. The test information and measurement error

The results of the analysis, the mean square infit the mean is 1.02, standard deviation is 0.54. Out fit mean square obtained a mean is 1.01 and standard deviation is 0.54. Outfit t with mean SD is -0.04 and 1.11, -0.08 outfit with mean and SD of 1.06 indicates that the model fit the data. All questions dimension of creativity pedagogy able to capture answers with scores of 0 to 3. This means that the items group is able to capture the upper and lower sample ability. With the whole item stated commitment well, deserves to be used. Pedagogical creativity reliability index is 0.95 it is more than required minimum reliability index. Thus all of item fit for the Rasch model.

Figure 2 showed test information values have range from -1.96 to 1.4. This is means that the test of pedagogy creativity suitable for individuals with the ability -1.96 to 1.4. For example if person has ability (θ) is 3 can't answer true the question, that's mean occur error 0.49, or a person has ability (θ) is -3 can't answer true the question that mean occur error 0.37. A person has ability is 3 can answer true, the probability is 0.4, and a person has ability (θ) is -3 can true answer the question the probability is 0.4.

Correlation between pedagogical creativity test results with the results of tests of spatial progressive matrices (SPM) is 0.168. This means that the relationship between the two tests is very low. The finding of this research support the research has been done by Renzulli, Silvia, and Jauk. Creativity is a lot of research on the relationship between intelligence and creativity that shows that creativity is not necessarily a function of intelligence [36]. The research by Silvia showed a low correlation between creativity and intelligence, past research has probably underestimated the creativity–intelligence relationship [37]. Jauk et al. say that creativity is influenced by personality, was not found that high creativity determined by high intelligence [38]. That is mean creativity and intelligence is different concept.

Conclusion

Developing pedagogy creativity instrument have a good content validity, all of instrument item has suitable with Rasch model, a good reliability index, and a good concurrent validity.

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THE ROLES OF ANALOGY AND REPRESENTATION IN IMPROVING CONCEPT UNDERSTANDING ON ELECTRICITY AND MAGNETISM

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Abstract

The objective of this study was to determine the role of analogy and representation in improving concept understanding on electricity and magnetism subject. The study group was composed of 184 undergraduete students attending the faculty of education. Data were collected with test of concept understanding that contained of 18 multiple choices problems by giving reasons for each selected answer. Valuation criteria of concept understanding test used rubric for conceptual knowledge standards which applied 1-4 valuation scale. Data were analyzed with descriptive and inferensial to find out average of concept understanding difference between pretest and posttest, N-gain difference between experiment and control classrooms. The results showed that there was 53.82% concept understanding improvement in experiment group taught using analogy and representation. Analogy and representation applications in learning were more effective in improving concept understanding on electricity and magnetism than conventional model.

Keywords : Analogy, representation, concept understanding.

1. Introduction

Some researchers found that electricity and magnetism concepts were complex and difficult to teach to students [15], this was because abstract nature of electricity and magnetism [5], [4], [6], and requiring mathematics skill [15]. This difficulty in understanding electricity and magnetism in Indonesia was proposed by [7], [8] and [22]. The same case was experienced by developed countries such as in Turkey, proposed by [5], [6]. In USA, proposed by [9] who found that majority of their students experienced misconceptions in understanding electricity circuit concept.

Based on the aforementioned findings, it can be said that majority of students in Indonesia as well as in developed countries experienced difficulties and misconceptions in understanding abstract and complex subject which integrate complicated mathematics such as electricity and magnetism. Only partial parts of subject materials in electricity and magnetism can be experimented, while the rest is abstract and unable to experiment. This result in electricity and magnetism subject cannot be observed by our sense. Therefore, other proper methods or approaches are required to help students in understanding electricity and magnetism by using their knowledge sources, through analogy and representation [4], [18].

Analogy is an identification process between two similar concepts [23]. A familiar concept is referred as an analog concept while other unfamiliar concepts are referred as target concepts. Reference [11] was defines that analogy is a similarity comparison between two concepts. Familiar concepts are referred as analog concepts while unfamiliar concepts are called as target concepts. Thus, analogy is a comparison process between two different concepts which are very proper to apply in abstract subject materials, so that difficult materials can be understood easily by students [17]. Analogy can be used to help students to build understanding on new concepts as well as well-known concepts [24]. Using analogy for early student's knowledge means to produce new understanding conceptually for difficult and abstract knowledge. Learning by using analogy makes subject becoming interesting and not boring [21].

Reference [4] found that using analogy not only helping in explaining complex science concepts, but it might also help students improving their misconceptions. In addition to improvement of concept understanding, learning with analogy can involve students in process of thinking such as analyzing, correlating, comparing, differentiating and synthesizing [17]. Teaching with analogy will productive when it has similarity of concept and easy to understand by students. However, it is sometimes not productive [19]. It is caused by analogies which are difficult to understand or less familiar to students. Therefore, representation role in teaching by using analogy is considered to be a proper method for abstract and complex concepts [18].

The main goals of electricity and magnetism subject learning are developing thinking skill, ability of transferring and correlating between macroscopic, microscopic and symbolic phenomena. Inability in representing either one of these three will influence the rest, so that students will be difficult to solve complex problems [3]. Electricity and magnetism materials are full of abstract objects and concepts, so that learning should illustrating or concluding objects or processes. Analogy application to electricity and magnetism materials will be better to be followed by explanation through representation. Representation is a configuration that can represent something else in some manner [20]. Representation is a model or substituting form from a problem situation to use in finding solution [12]. Representation forms to use for teaching with analogy can play an important role in student's learning [18]. There are five kinds of representations which can be used in learning; verbal, visual, symbolic, gesture, action. Verbal representation includes oral and text; visual representation includes static and dynamic images; symbolic representation includes numbers and formulas; gesture representation includes all hand and arm movements; and action representation includes role playing, performance, and plays. Materials of physics learning, which can be done in various methods and forms, will be easier for problem solving or complex and difficult tasks. Representation application in learning can help students in drawing conclusion from presented information and support understanding when the students learning new concepts in physics .

Understanding is a mental or thinking process to observable phenomena/events, and then ideas can be conveyed both in oral or written forms, visually or symbolically. Cognitive process in understanding category include interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining [13], [2], [1]. Concepts are abstractions of things, events, situations or typical characters and represented in all cultures by signs or symbols. A concept is a general category of ideas, objects, people or happenings in which their members have particular characters [25]. Reference [16] that a concept is a relatively perfect and meaningful notion/idea, an understanding about an object, a subjective product from the way someone makes understanding towards object or things through observations. Concepts are main principles that underlie all abstract thinking results of men towards things, events, facts that explain many experiences. Concept understanding to examine in this research is concepts of interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining about things, events, situations, or typical characters and represented in each culture in signs or symbols.

The objective of this research was to find out analogy and representation roles in improving student's concept understanding in electricity and magnetism materials.

2. Method

Research population was second students of physics education in Faculty of Teaching and Teacher Training of Lampung University, IAIN Tanjung Karang, Muhammadiyah University of Metro, who learned basic physics in academic year 2013/2014. Samples were taken with cluster random sampling. Samples were 6 classrooms containing of 3 classrooms with 92 students as experiment classroom and 3 classrooms with 92 students as control classroom. Experiment classrooms were taught using analogy and representation based learning model and control classrooms were taught with conventional learning model. Materials in this research were electricity and magnetism which contained of three topics; static electricity, dynamic electricity, and magnetism. Data were collected with test of concept understanding that contained of 18 multiple choices problems by giving reasons for each selected answer. Indicators of concept understanding were interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining [13], [2], [1]. Valuation criteria of concept understanding test used rubric for conceptual knowledge standards [14] which applied 1-4 valuation scale.

Data were analyzed with descriptive and inferensial via Man-Whetney and Wilcoxon to find out average of concept understanding difference between pretest and posttest, N-gain difference between experiment and control classrooms.

Findings

Understanding of electricity and magnetism concepts

The average results of student's concept understanding on electricity and magnetism subject in experiment classroom for pretest and posttest were 35.59 and 70.20 respectively, with N-gain 53.82%. The results in control classrooms for pretest and posttest were 35.02 and 58.32 respectively, with N-gain 35.93%. The average results of student's concept understanding test for each indicator are presented in Table 1.

Table 1. Average scores of pretest, posttest, and N-gain of student's concept understanding in experiment and control classrooms.

Subject	Understanding Concept Indicator	Experiment Classrooms			Control Classrooms		
		Pretest	Posttest	<g> (%)	Pretest	Posttest	<g> (%)
Electricity and Magnetism	Interpreting	39,97	72,89	53,95	38,83	60,53	34,76
	Explaining	36,81	79,14	66,58	36,67	59,53	36,48
	Classifying	30,06	77,03	67,21	29,05	67,67	54,45
	Exemplifying	32,28	59,44	41,05	31,80	47,25	22,76
	Comparing	35,75	65,47	45,77	36,81	58,64	33,96
	Inferring	38,64	67,22	46,26	36,94	55,72	29,93
Average		35,59	70,20	53,82	35,02	58,23	35,93

Table 1 shows that there are similarities of highest and lowest averages of pretests between experiment and control classrooms in electricity and magnetism concepts understanding; the highest is in transforming indicator and the lowest is in classifying indicator. In experiment classroom, the highest average posttest is in explaining indicator (79.14) and the lowest is in exemplifying indicator (59.44). The highest N-gain is in classifying indicator (67.21%) and the lowest is in exemplifying indicator (41.05%). In experiment classrooms, 100% indicator belongs to middle category. In control classrooms, the highest posttest result is in classifying indicator (67.67) and the lowest is in exemplifying indicator (47.25). The highest N-gain is in classifying indicator (54.45%) and the lowest is in exemplifying indicator (22.76%). In the control classrooms. 33.3% indicators belong to low category and 66.7% indicators belong to middle category. Concept understanding test results in detail are explained in each concept of electricity and magnetism materials.

Electrostatics

Pretest, posttest, and N-gain of concept understanding of static electricity in experiment and control classrooms are exhibited in table 2.

Table 2. Pretest, posttest, and N-gain of concept understanding of electrostatics in experiment and control classrooms

Topic	Understanding Concept Indicator	Experiment Class			Control Class		
		Pretest	Posttest	<g> (%)	Pretest	Posttest	<g> (%)
Electrostatic	interpreting	40,17	82,08	69,65	40,67	67,75	44,61
	Explaining	41,42	81,08	67,18	40,92	75,08	57,36
	Classifying	28,42	65,83	52,13	27,75	55,92	38,88
	Exemplifying	30,50	63,67	47,93	31,00	53,33	32,52
	Comparing	34,33	57,00	34,31	33,50	51,75	27,16
	Inferring	43,92	75,83	56,62	39,83	65,92	43,45
Average		36,46	70,92	54,64	35,61	61,63	40,67

In experiment classrooms, the average of concept understanding in electrostatic topic for pretest and posttest were 36.46 and 70.92 respectively, with N-gain 54.64%. The highest posttest result was in interpretation indicator (82.08) and the lowest was in comparing indicator (57.00). The highest N-gain was in interpretation indicator and the lowest was in comparing indicator (34.31%). In the control classrooms, the highest posttest result was in explaining indicator (75.08) and the lowest was in comparing indicator (51.75). The highest N-gain was in explaining indicator (57.36%) and the lowest was in comparing indicator (27.16%).

Students in both experiment and control classrooms had lowest N-gain in the same comparing indicator.

Electrodynamics

Pretest, posttest, and N-gain of understanding concept in dynamic electricity topic are exhibited in Table 3.

Table 3. Pretest, posttest, and N-gain of understanding concept in electrodynamics topic in experiment and control classrooms.

Topic	Understanding Concept Indicator	Experiment Class			Control Class		
		Pretest	Posttest	<g> (%)	Pretest	Posttest	<g> (%)
Electrodynamics	interpreting	35,25	66,50	47,75	33,75	59,67	39,40
	Explaining	34,83	83,00	73,50	35,33	44,33	14,48
	classifying	32,50	74,75	62,64	31,58	71,00	57,26
	exemplifying	26,08	46,08	27,22	26,08	34,25	11,11
	comparing	33,33	71,00	56,37	34,50	65,25	46,42
	Inferring	31,17	66,00	50,48	31,17	47,67	23,77
Average		32,20	67,89	52,46	32,07	53,70	31,91

At electrodynamics topic, the average of concept understanding in experiment classrooms for pretest and posttest were 32.20 and 67.89 respectively, and N-gain 52.46%; while in control classrooms for pretest and posttest were 32.07 and 53.70 respectively, with N-gain 31.91%. In experiment classrooms, the highest posttest result was in explaining indicator (83.00) and the lowest was in exemplifying indicator (46.08). The highest N-gain was in explaining indicator (73.50%) and the lowest was in exemplifying indicator. In experiment classrooms, there were 16.67% indicators belonging to high category, 66.66% belonging to middle category, and 16.67% belonging to low category.

In the control classrooms, the highest posttest result was in classifying indicator (71.00) and the lowest was in exemplifying (34.25). The highest N-gain was in classifying indicator (57.26%) and the lowest was in exemplifying indicator (11.11%). In control classrooms, 50% indicators belonged to middle category and 50% indicators belonged to low category. At electrostatics topic, students in experiment and control classrooms experienced difficulties in comparing one concept to another, while in electrodynamics topic they were difficult to provide concept application examples in daily life.

Magnetism

Analogy and representation based learnings were also conducted in magnetism topic. Student's pretest, posttest, and N-gain results on concept understanding in magnetism topic are exhibited in Table 4.

Table 4. Pretest, posttest, and N-gain result of concept understanding on magnetism topic in experiment and control classrooms.

Topic	Concept Understanding Indicator	Experiment Class			Control Class		
		Pretest	Posttest	<g> (%)	Pretest	Posttest	<g> (%)
Magnetism	Interpreting	44,50	70,08	44,46	42,08	54,17	20,26
	Explaining	34,17	73,33	59,06	33,75	59,17	37,59
	Classifying	29,25	90,50	86,85	27,83	76,08	67,22
	Exemplifying	40,25	68,58	48,00	38,33	54,17	24,63
	Comparing	39,58	68,42	46,62	42,42	58,92	28,30
	Inferring	40,83	59,83	31,67	39,83	53,58	22,57
Average		38,10	71,79	54,36	37,38	59,35	35,23

At magnetism topic in experiment classrooms, the average results of pretest and posttest were 38.10 and 71.79 respectively, and N-gain 54.36%, while in control classrooms for pretest and posttest were 37.38 and 59.35 respectively, and N-gain 35.23%. In the experiment classrooms, the highest posttest result was in classifying indicator (90.50) and the lowest is in inferring indicator (59.83). The highest N-gain was in classifying indicator (86.85%) and the lowest was in inferring indicator (31.67%). In experiment classrooms, there were 16.67% indicators belonging to high

category, while 83.33% belonging to middle category.

In control classrooms, the highest posttest result was in classifying indicator (76.08) and the lowest was in inferring indicator (53.58). The highest N-gain was in classifying indicator (67.22%) and the lowest was in inferring indicator (22.57%). In control classrooms, there were 66.67% indicators belonging to low category and 33.33% indicators belonging to middle category. In magnetism topic, experiment and control classrooms had posttest scores and highest and lowest N-gain at the same indicators.

Research Question Test

The research question to test was that "could learning with analogy and representation improve student's concept understanding on electricity and magnetism?" For this purpose, some statistical tests; pretest statistic test between experiment and control classrooms, pretest and posttest in experiment classrooms, and N-gain between experiment and control classrooms in electricity and magnetism materials. The statistical test results are shown in Table 5.

Table 5. Concept understanding of experiment classrooms between pretest and posttest in electricity and magnetism

Type of Test	Z	P	A	Test Result	Explanation
Pretests of control and experiment classrooms	-0,256	0,805	0,05	$p > \alpha$	Not different
Pretest and posttest of experiment classrooms	-2,366	0,018	0,05	$p < \alpha$	Different
N-gains of control and experiment classrooms	-2,640	0,008	0,05	$P < \alpha$	Different

Table 5 shows that students in experiment and control classrooms had same initial abilities on electricity and magnetism concept understanding. Pretest and posttest in experiment classrooms are significantly different. Significant differences also occur in N-gains between experiment and control classrooms. Based on difference test result between pretest and posttest in experiment classrooms and N-gain differences between experiment and control classrooms, learning trough analogy and representation is more effective in improving electricity and magnetism concept understanding.

3. Discussion

In electrostatic topic learning, students learn about electric charge, electric field, electric force, and electric potential. In this topic, students in experiment classrooms are able to illustrate electric field lines from varying types and sizes of charges and to illustrate interaction forces vector of two charges or more. Students are also able to illustrate directions of magnetic fields, to explain properly correlations between Coulomb and Newton forces, to infer, to classify, and to differentiate a concept to another. These six indicators of understanding can be exercised properly in electrostatics learning. However, indicators of exemplifying and comparing are not optimally understood by students during learning, especially in representing differences of a concept to another. This can be seen from result of student's concept understanding test in electrostatics topic. N-gain of student's concept understanding in experiment classrooms in electrostatics topic for each indicator belongs to middle category. In control classrooms, there is one indicator belongs to low category, that is comparing indicator, while other five indicators belong to middle category. Qualitatively, concept understanding of electrostatics, N-gain, both in experiment and control classrooms, belong to middle category. Quantitatively through Mann-Whitney test, concept understanding improvements in experiment classrooms are significantly higher than control classroom.

The electrodynamics topic in experiment classrooms, exemplifying indicator has low N-gain. In control classrooms, indicators of explaining, exemplifying, and inferring have low N-gain. Students in experiment classrooms during learning are easier to make analogy, but more difficult to represent some target concepts, such as representing Kirchhoff's Law in daily life. The same thing applies in control classrooms; difficulties in representing Kirchhoff's Law in daily life, difficulties in drawing circuits, differentiate circuits, and inferring. N-gain of electrodynamics concept understanding in experiment classrooms is significantly higher than control classrooms.

In magnetism topic, learning activities in experiment classrooms runs properly. Students are able to understand magnetism concepts and

able to represent them verbally, visually, and symbolically. This is because students in experiment classrooms are able to make analogy of magnetism concept into electrostatic concept. Concept understanding improvement in classifying indicator belongs to high category, while other five indicators belong to middle category. Concept understanding improvement in magnetism topic in control classrooms belong to low category in indicators of interpreting, exemplifying, comparing, and inferring; while two other indicators belong to middle category.

The whole material concept understanding on electricity and magnetism of students in experiment classrooms shows 53.82% improvement and all indicators improve and belong to middle category. Meanwhile, control classrooms show 35.93% concept understanding improvement; improvement in exemplifying indicator belongs to low category, while other indicators belong to middle category. Learning by using analogy and representation is able to improve student's concept understanding significantly in electricity and magnetism subject. This research results support findings of [4], [18], [22].

4. Conclusions and recommendations

Learning through analogy and representation can improve student's concept understanding on electricity and magnetism subject materials. The concept understanding improvement in experiment classroom occurred in each topic of electricity and magnetism material and almost in all indicators. Concept understanding improvement in electrostatic topic of experiment classrooms occurred in all indicators and belonged to middle category. Concept understanding in electrostatic topic in experiment classrooms was significantly higher than control classrooms. The similar case occurred in electrodynamics and magnetism. In electrostatic topic, the highest concept understanding was in interpreting indicator (middle category) and the lowest was in comparing indicator. In electrodynamics topic, the highest understanding concept was in explaining indicator (high category) and the lowest was in exemplifying indicator (low category). In magnetism topic, the highest concept understanding was in classifying indicator (high category) and the lowest was in inferring indicator (middle category). Learning through analogy and representation is more effective in improving concept understanding than conventional model in electricity and magnetism materials.

This research suggests that learning through analogy and representation will be more effective to be applied in abstract materials and this has relationship with other easier materials to understand by students. If analogy is more difficult and less relevant with target concept, it is not suggested to use because it will cause confusion and misconception.

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GETHUK CERIA AND PROJECT BASED LEARNING IN TEACHING GEOMETRY GRADE FIVE

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Abstract

In 2013, Indonesia declared a new curriculum called Kurikulum 2013. The concept of this curriculum is to make teachers, students, parents, and society become more active in giving education support. The fact, this curriculum still need more preparation although it was already launched. In 2014, some schools used KTSP, a 2006 curriculum, side by side K-13 (Curriculum 2013). Different from K 13, KTSP emphasizes student's need in each region in Indonesia. Each region have different teaching and learning needs based on their region's cultural richness. In this research, KTSP was combined with the idea of K-13 blended to project based learning model, gethuk and CERIA learning process that were used to teach Geometry in grade five. Thus, teaching and learning geometry were not be boring activities but creative, elaborative, real, integrative, and associative (CERIA) process. This research used gethuk, a traditional food from Magelang, which make fifth grader students of SD Pantekosta Magelang proud to be a part of Magelang citizen. The purpose of this paper is to give teachers idea to teach geometry using Gethuk CERIA and its teaching steps. This research's results is the increasing of students' attitude like nationalism, cooperation, responsibility and creativity. Moreover to lead them in higher thinking process like summarizing data and create an innovation.

Keywords: project based learning, geometry, gethuk CERIA, mathematics, teaching ideas, student's attitude.

1. Introduction

In 21st century, technology and culture must be blended. Culture will gone easily because in fact, children now a day use technology to play games. They don't really care about traditional culture which exists in their home, their neighborhood, their environment, their region, and their nation. In addition, we cannot deny that Indonesia has many cultures to be preserved. But its young generation doesn't aware. Who is responsible with this situation? What can we do? How? When can we start to change this habits? Be conscious, we are a part of education. An education agent.

Education purpose is to make people life in perfect ways. It is the key to solve all problems of life (Parankimalil, 2012) [1]. According to Indonesian Government Regulation No. 17 of 2010, primary school education, aimed at creating a man who has faith and fear of God, and who is noble, knowledgeable, skilled, critical, creative, innovative, healthy, independent, self-confident, tolerant, socially sensitive, democratic and responsible. Law of the Republic of Indonesia No. 20 of 2003, Article 4 of education in society said that education is to develop a culture of reading, writing and counting.

Can we transmit culture trough Mathematics? Mathematics is a science of counting. In addition, Thrupp (2013) said that Mathematics is a science that is needed in the day-to-day life. Schools take an important role in learning mathematics due to what is taught in school would have a good relationship with the things that happened at school, at home, at leisure and at work. If the school is not clear in giving direction the students, Mathematics teaching and learning will not have a clear goal [2]. Mathematics as a universal science which based on the development of technology, became part in various science and advance the human intellect (Kemendikbud, 2006). Primary School is an important agent that guide the students to learn Mathematics in six years. The success or failure will affect the teaching and learning process of students to study at the next level as well as in their daily lives and even their lives in the future both in the world of economics and business, politics, culture, and education that considers many aspects including the including the ability to think, skills and society.

The correlation here between Mathematics and culture and its agent is drawn in this scheme:

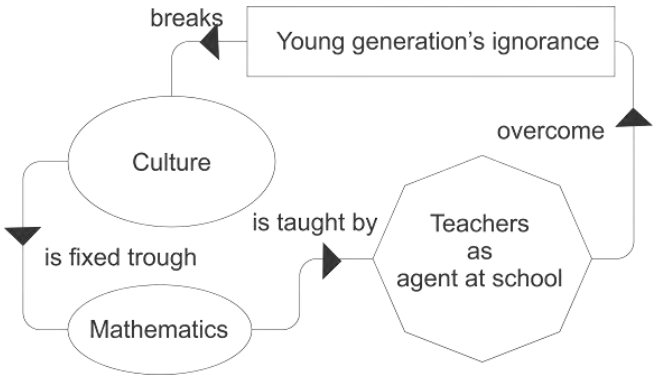

Figure 1. Scheme of Culture transmission trough Mathematics

In SD Pentekosta Magelang, grade five, the same problem was found. They have no pride of Magelang cultural richness. "Where is the best place that you love to go in your holiday in Magelang?"They gave vary answers like Mall, Supermarket, and grandma house. Nobody said Borobudur temple or Diponegoro Museum. "What is your favorite food / snack?" Their answers were noodle, meat ball, burger, pizza, and many more. None said gethuk. What's wrong with gethuk? Maybe they forgot.

This research was a classroom action research that fixed Mathematics problem. Based on the reported value of final replay value of odd semester report, as the minimal completeness criteria is 70, there are 37.5% of students did not pass. According to Bloom, only 5% of students may fail if teacher teach classically with good quality and appropriate corrective action against students who have learning difficulties (Basuki, 2012) [3]. The shocking fact is that in the first semester, the school determined the minimal completeness criterion is 70 whereas in the second semester, the school has set a policy that the minimal completeness criteria raised to 75. There is fear within school whether there is increasing of student's percentage that did not pass it.

For more fact, based on the observation on Friday, January 24th, 2014, the Mathematics learning process was still teacher-centered and there were social gaps between students with other students who were considered different from the others. In the classroom, there was a child who had speech disorder, some students who did not concentrate on the lesson and some students who were too much talking. Students mocked each other in the classroom. In contrary, there was a transfer student who was 14 years old, who of course had faster cognitive development.

Those problems were far away from Indonesia curriculum (KTSP and K-13) goals. The list of the problems were cultural problem, teacher-centered that caused bad achievement and both teacher and student could not accept the diversity in the class, it was feared that there would be negative impact in the future, so there needed an action taken by teacher. Researcher offers Project Based Learning as a way to overcome this problem. Project *Based Learning* is a learning model in the 21st century emphasizing on student-centered and Learning by Doing (Stix & Hrbek, 2007) [4]. In this age, students who started to be mature and eager to acquire new skills [5], (Cooper, Halsey, Laurent, & Sullivan, 2009) Project Based Learning is expected to be a model of learning that can improve learning outcomes and improve the attitude of fifth grade elementary school students Pantekosta Magelang Year 2013/2014. In addition, the benefit of Project Based Learning is to foster curiosity and how to cooperate not only among students but also the teachers. Project Based Learning also helps students build knowledge and capabilities as well as prepare them for the 21st century world.

Project Based Learning is focused learning activities to students. According Lighthart, in a good school, students do everything (Vastenhouw, 1982). Project Based Learning is a systematic method of teaching that engages students in learning essential knowledge and 21st century skills through an expansion; a process that affects students' curiosity structured surrounding complex, questions and tasks that can be proven and well-designed products. It brings students to improve their ability to find their own answer to a question, problem or challenge. It also makes the student should be able to speak out, make their choice, create a project that is designed, managed and assessed carefully in order to achieve the learning objectives that is being intensively carried out in the 21st century (i.e. collaboration, communication and critical thinking), and create original product (Education, 2013)[7].

Talking about project, project is derived from the Latin *proyectum,* the meaning is intention, purpose, design, budget, and plan (Vastenhouw, 1982) [6]. Project Based Learning brings students to design or make a plan and execute their projects where the teacher becomes a facilitator whose only job is to evaluate project, in which the evaluation is based on the results of the project criteria negotiation class discussion. The students will finish their products independently without the help of a teacher. In fact they also perform an assessment of the group's work. Projects are not arranged haphazardly, but it is accordance with the learning experience, which has a variety of completion time, which passes through the phases, which can be done by making posters, making crafts and even multi-media.

Here is the syntax of the implementation of *Project Based Learning* (Stix & Hrbek, 2007):

(1)Teachers give concrete examples or real condition to students; (2) The students act as project designers; (3) Students discuss and accumulate background information for their project; (4) Teachers and students negotiate assessment criteria; (5) Students collect data or materials may be required equipment in the project; (6) Students are compiling the project data; (7) Students prepare a project presentation; (8) Students present the project; and (9) Teacher and students are evaluating the project according to the results of the negotiations.

What is GEthuk CERIA? Gethuk CERIA is actually the project title of the students. Gethuk is a traditional food from Magelang that is made from cassava. The texture is soft, the taste is sweet, it has at least four colors; white, brown, green, and pink. Gethuk's shape was various. CERIA is an Indonesian word of cheerful. In this research, CERIA also an abbreviation of Creative, Elaborative, Real, Integrative, and Associative. Is kind of idea is to develop students' cognizant about Gethuk as Magelang's special food.

The problem in this reasearch can be formulated as follows there were 37.5% fifth grader year 2013/2014 of Pantekosta Primary School could not pass minimal completeness criteria in Mathematics and also the students' attitude that might be less enthusiastic in Math. Therefore, Project Based Learning is expected to be a method that can improve learning achievement and improved student attitude and to transfer cultural education.

The purpose of this research was to improve Mathematics learning achievement and improve student cultural awareness in fifth graders of Pantekosta Primary School Magelang, year 2013/2014 by applying the model of Project Based Learning and using Gethuk CERIA as its media and project.

2. Discussion

This research is Classroom Action Research with the fifth grade students of elementary Pentekosta as a research subject. Implementation is done using a model of Kemmis and Tanggrat in two cycles. Each cycle consist of three meetings. There are planning, action and observation and reflection [8]. Every cycle includes Project Based Learning's syntax. Student achievement data were obtained through test and the attitude obtained through a questionnaire completed by the students.

In the first cycle, the topic was about ratio and scale, using Map of Magelang the project was making a map of their dream city, garden, or room. The second cycle was using Gethuk CERIA to discuss Geometry, Three Dimension shape's characteristic.

2.1 Result of Project Based learning in increasing the students' achievement and attitude

Before we go deeply about how second cycle works, this are the result of teaching using project based learning. The increase of students' achievement and the development of attitude, are shown in table 1 and table 2.

Table 1 Results of Student Learning Achievement Class V SD Pantekosta Magelang

Category	Pre-test 1	Test Cycle I	Test Cycle I + projects	Test Cycle II	Test Cycle II + projects
The number that follows the test	30	30	30	31	31
The number of students do not pass the minimal completeness criteria 75	19	14	8	1	0
The percentage of students do not complete the minimal completeness criteria 75	63.33%	46.67%	26.67%	3.23%	0%
The number of students completed the minimal completeness criteria 75	11	16	22	30	31

The percentage of students completed the minimal completeness criteria 75	36.67%	53.33%	73.33%	96.77%	100%

Table 2. Comparison of Attitudes on Questionnaire I, II Questionnaire and Questionnaire III

Questionnaire	I	II	IIIa	IIIb
Total Score	509	532	632	654
Number of respondents	30	30	30	31
Description Attitude	Not Good	Good	Very Good	Very Good

To strength the ability of Project Based Learning in improving student attitudes, the researchers also analyzed the results obtained from the evaluation of student assessment form groups. The assessment includes nineteen points; there are enthusiastic, hospitality, selflessness, sharing, shared her thoughts with a decent, honest, good listener, be tolerant of the weaknesses of others, problem solvers, organized, cooperative, sportsmanship, commitment to the task, the collaboration to another, reliable, patient, adaptable, creative, and trustworthy. These points are offered by Stix and Hrbek (2007). In the first cycle Pantekosta primary school, fifth grade student collect 1752 point in Cycle I and collected in 2072 points in Cycle II, there is an increasing points that is 320 points. This indicates that there is improvement in students' attitudes.

Based on the description researcher proved the hypothesis about the application of the Project Based Learning is able to make a good attitude of fifth graders in Mathematics.

2.2 How Second Cycle Works

Here is the steps of the second cycle.

2.2.1 Teacher creates and sets conditions with a sample project class.

Students were given questions about Magelang, is there anything that makes Magelang different from other cities, what are the characteristics of Magelang, what they know about Gethuk, and How to make Gethuk. Then students look at the picture that had been provided by the teacher about the process of making gethuk. Student saw usual Gethuk and "Gethuk Ceria". Gethuk ceria is a set of unique gethuk (geometry, 3-D shaped). Students assess which Gethuk is more unique. Students were going to make "Gethuk Ceria".

2.2.2 Students act as project designers

Students were formed into groups consisting of 5-6 students. Students make an agreement what they want to do. Teacher would advise that an exhibition or competition.

2.2.3 Students discuss or accumulate background information

Students did discussion that the activity has been provided in the group work sheet.

Photo 1 Students work in group

They discuss about Gethuk, how its made, do they know gethuk.

2.2.4 Students negotiate criteria for project

Students were given questions about How to assess the project "Gethuk Ceria"? Will people buy it? Do the gethuk can be consumed and healthy? What is the range of values? Is the performance of the group must also be assessed? Is the best group deftly additional score points? What about the students who will not work or interfere? Students collect materials on Build space guided by the group worksheet.

2.2.5 Students gather materials needed

Students did discussion that the activity has been provided in the group work sheet.

Photo 2 Complete the worksheet about what kind of shape that will innovate gethuk.

They build a 3D shapes using sticks and sterofoam and analize the characteristic of the Shape (how many sides, edges, vertex of the shape?) It was guided by the worksheet.

2.2.6 Students design a project

Guided by group worksheet, students made their Gethuk Ceria design.

2.2.7 Students prepare project presentations

Students need to determine idea of making their projects; how do they create the project; what is the uniqueness of their designs? And they were going to make Gethuk Ceria.

Photo 3 Students' Project preparation

2.2.8 Students present projects

Students explain how to make their projects.

Photo 4 One of Gethuk Ceria

2.2.9 Students reflection and evaluation

Guided by group assessment form, students reflect on and evaluate their projects. We add some gethuk party too.

The strength of this cycle is a good worksheet. At that time, researcher act as observer, facilitator even camera man at class because students could work in group independently lead by the worksheet. The most important one is to awaken their pride of being Magelang citizen trough learning geometry using Gethuk Ceria. Reseacher also want to make an unforgettable experience without any feeling of "Math is a monster of numbers."

2.3 CERIA as a new design of learning

Researcher proudly present a design of learning that actually will help teacher to reach both KTSP and K-13 goals.

(C) Creative, in learning proses, not only students but also teacher need to be creative in giving idea. Creative teacher will stimulate student creativity. How to be creative? Enlarge your experience and don't close your eyes to an old or new things.

(E) Elaborative, be sure that student must have a scientific learning pattern. Teacher must be a good class planer and act only as facilitator. How the class will work? By giving them an elaborative worksheet. Let the student find the way to answer it through their curiosity and mistakes.

(R) Real, Do not give students $10 + x = 3$ without any real problem that they will face in the real life. It was not interesting! It is stressful! (Especially for primary education)

(I) Integrative, the learning subject must be integrate other subject and material. For example Math + Science + Art, Math + Social + Art, Math + Physical Edu + Language (Bahasa Indonesia). However just follow what your student need because they have many form of intelligence. Juts do something fun with them.

(A) Associative, build students' social skills by making a group activities. Switch their partner so that they know how to act in social life.

3. Conclusion

The Application of Project Based Learning in Mathematics Learning in fifth grader of Pantekosta Magelang Primary School, Academic Year 2013/2014 was proven to improve learning achievement of students and develop students' attitude in class.

By this research the researcher want to show that by making a project, the student will gain more value of learning. The school especially teacher does not need to be worry for student test and how they responsible to the parents because they have authentic result that is student project. Moreover we need to start new education culture based on project rather than based on test.

Learning now a days supposed to be CERIA or cheerful. However, don't forget to add some cultural education so that Indonesia's cultural resource will not vanish. It is one of responsibility of teacher especially elementary school teacher to civilizing the student. Let's build our young generation for a better future.

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CONFIRMATORY FACTOR ANALYSIS OF CRITICAL THINKING DISPOSITION IN TEACHING MATHEMATICS IN JUNIOR HIGH SCHOOL

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Abstract

The habit of thinking is one dimension of learning that needs to be developed and measured farther than just mastery of the concept and its application. Critical thinking is a component of the mathematics educational goals. In the daily practice of teaching critical thinking skills can be developed during the learning process by integrating the students' understanding of critical thinking skills through assignments and activities. Critical thinking is reflective and reasonable thinking that is focused on deciding what to believe or do. The problem in this research is how to develop an instrument of critical thinking disposition in teaching mathematics which is valid and reliable. This study aims to develop assessment of critical thinking disposition in teaching mathematic which is valid and reliable. The subjects in this study were 1,446 students of junior high schools in DIY. Content validity used expert judgment, the analysis of empirical validity and reliability using CFA. The results of research and development are as follows. (1) The Peer assessment questionnaire of critical thinking disposition consists of seven aspects with 23 items. The results of the measurement model fit test of critical thinking disposition shows the model is fit to the data. (2) The validity of peer assessment critical thinking disposition validity achieves significance degree indicated by the lowest and the highest of factor loading of 0.66 and 0.76 subsequence. (3) The construct reliability for each aspect is 0.75; 0.81; 0.73; 0.77; 0.74; 0.76; and 0.72.

Keywords: critical thinking disposition

1. Introduction

The habit of thinking is one dimension of learning that needs to be developed and measured farther than just mastery of the concept and its application [11]. Critical thinking is a component of the mathematics educational goals [2]. In the daily practice of teaching critical thinking skills can be developed during the learning process by integrating the students' understanding of critical thinking skills through assignments and activities [18].

Most people define critical thinking is a mental activity to evaluate whether a logical and rational statement or statement is illogical and irrational. [14] emphasizes the skills and processes associated with critical thinking. He distinguishes critical thinking in the weak sense from critical thinking in the strong sense. In the weak sense it implies the ability to think critically about positions other than one's own; and in the strong sense, the ability to think critically about one's own position, arguments, assumptions, and worldview as well. For Paul, critical thinking includes a deep knowledge of oneself, which takes both intellectual courage and humility. A strong critical thinker is able to understand the bigger picture holistically, to see different worldviews in perspective, rather than just to critique the individual steps in a particular argument.

McPeck argues that critical thinking is specific to a particular discipline, and that it depends on a thorough knowledge and understanding of the content and epistemology of the discipline. Siegel claimed critical that critical thinking means to be 'appropriately moved by reasons', defends both a 'reason assessment component' in the skills domain, and a 'critical attitude component' in the dispositional domain [13].

Disposition is something we want students to evidence on their own ─ without being pushed or prompted to evidence it" [3]. Disposition critical think influence not only on success in learning and other things, but also control themselves and approach on others [10]. Someone who has a component of critical thinking disposition will have particular characteristics as well as a certain skills: the character in which one tends to find out something that underlie decisions and actions; character impartially and not arbitrary, character

to assess objectively the facts relevant; character worth aspects of critical thinking as intellectual honesty, fairness, sympathetic, objectivity. Therefore, the skills and principles of critical thinking disposition is essential for critical thinkers.

Ennis indicated critical thinking dispositions involved seeking information, seeking precision, and being open-minded in his book [4]. Halpern provided the taxonomy of critical thinking dispositions: verbal-reasoning dispositions, argument-analysis dispositions, thinking disposi-tions, thinking in terms of likelihood and uncertainty, decision-making and problem-solving dispositions .

California Critical Thinking Disposition Inventory (CCTDI) is an instrument for measuring disposition developed by Peter Facione and Noreen Facione. In the CCTDI mentioned that the ideal critical thinker is habitually inquisitive, well-informerd, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prodent in making judgements, willing to reconsider, clear about issue, orderly in complex matter, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as subject and the circumstances of inquiry permit. [5]. Acording to this expert concensus, there are seven aspect to the critical thinking dispositions that was truth seeking, open mindedness, analyticity, systematicity, self-confidence, inquisitive, and maturity.

This study uses the framework of two theories, namely the Critical Thinking Disposition (CTD) model [5]

We briefly describe these components as follows: (1) The inquisitive person is one who has intellectual curiosity and desire to gain and learn new things even when the benefits and application of knowledge are not obvious; (2) Open-mindedness refers to an individual's tolerance to divergent views, and also sensitivity towards his own thoughts and thoughts of others while making decisions; (3) Systematicity refers to an individual's tendency to use organized and planned opportunities for problem solving or decision making; (4) Analyticity indicates an individual's tendency to analyze issues and challenges; (5) Self-confidence expresses an individual's confidence regarding his/her own process of problem solving and decision making; (6) Trust-seeking refers to a person's disposition to seek the best knowledge in a given context through asking questions and evaluating new information and evidence; and (7) Cognitive maturity refers to a person's capacity to make sound judgments.

In this paper we developed and validated an instrument - the Critical Tingking Disposition Assessment - to assess students' level of critical thinking disposition in junior high school in teaching mathematic. The critical thinking dispositions assessment is based on seven different aspects, namely truthseeking, open-mindedness, analyticity, systematicity, self-confidence, inquisitive, and maturity in the form of peer assessment questionnaire which consisted of a 5-point Likert scale. From the classroom observation, homework submission and peer assessment submission to the system, the researcher found that the junior high students became more active and prudent in learning. [1].

Definitions of peer assessment have been quite varied although evaluators generally agree that peer-assessment involves one student's assessment of the performance or success of another student. Peer assessment is a process through which students and instructors share in the evaluation of student work. It can have many different forms. Researchers find that peer assessment deepens students' understanding of their own learning and empowers students to become more actively engaged and self-directed in their learning processes [6].

Teachers use peer and self-assessment to enhance learning: (1) to increase student involvement in the learning process (e.g. students assume teaching responsibilities), (2) to increase social interactions and trust in others, (3) to facilitate individual feedback, and (4) to focus students on the process rather than the product. Peer assessments used as formative evaluations are especially useful with group instruction and can both enhance the learning experience and positively influence student achievement.

2. Research Method

The participants of this study involving 1,466 students from junior high school junior high school in Yogyakarta. In this study, an instrument has been validated by a expert who are lecturers in the field of assessment, mathematic educations, psychology. The quality of the instrument is also seen from the empirical validity and reliability. Reliability is a measure of the internal consistency of indicators a construct that indicates the degree of the extent to which each indicator indicates a latent constructs.

Two statistical procedures used in analyzing the data. First, Bartlett Test of Sphericity by using SPSS. The statistical test used to determine whether there is any correlation between

variables. Second confirmatory factor analysis (CFA) using LISREL program. CFA is used to test the measurement model. The first phase included all indicators at each construct or variable, then performed the modification of indicators and indices to obtain a fit model (final stage). The next phase of the endogenous constructs confirmatory factor analysis using confirmatory factor analysis measurement model.

Confirmatory Factor Analysis (CFA) is conducted to estimate factor loading of variables. In fact, a factor loading presents the level of a regression path from a latent to its indicators. In this study, all of latent variables had at least three indicators (the questionnaire item). According to [7], an acceptable factor loading value is more than 0.5 and when it is equal to 0.7 and above it is considered good for one indicator. The level of CR is another guideline to review convergent validity. According to [7], the acceptable value of CR is 0.7 and above. It is calculated by Equation 1.

$$CR = \frac{\left(\sum_{i=1}^{n} \lambda_{xi}\right)^2}{\left(\sum_{i=1}^{n} \lambda_{xi}\right)^2 + \left(\sum_{i=1}^{\rho} (\varepsilon_i)\right)} \quad (1)$$

With $\varepsilon_i = 1-(\lambda_{xi}{}^2)$

Some of the indicators used in assessing the fit model, among others, the Non-normed Fit Index (NNFI), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), and Standard Root Mean Square, Residual (RMSEA). A series of simulation studies by Hu and Bentler [9] states that the cutoff value close to 0.08 for the RMSEA and close to the cutoff value of 0.95 which supports a suitable model in relation to the data. In addition to these indicators, χ^2/df is used to reduce the sensitivity of the test χ^2 with sample size. As a rule of thumb, the value χ^2/df acceptable as it should be below 5 and preferably below 3 [9].

3. Discussion

Development of critical thinking disposition instruments in mathematics learning is done through two main stages, namely: a qualitative and quantitative phases. Stages qualitatively using the Delphi technique to obtain expert judgment, while the quantitative stage involves confirmatory factor analysis (CFA) to test the suitability of the measurement model, reliability and validity of the attributes disposition of critical thinking in learning mathematics.

The 42-item peer assessment questionnaire which consisted of a 5-point Likert scale (ranging from 1= strongly disagree to 5= strongly agree) measured the seven dimensions of the quality of critical thinking disposition, namely truthseeking, open mindedness, analyticity, systematicity, self-confidence, inquisitive, and maturity.

The first step using CFA is necessary used KMO and Bertlett test to determine the feasibility of each item to be tested. The result showed that a few items that have variance approaches zero, so the item is not good. Some item that have zero variances is no 3, 4, 6, 13, 15, 16, 21, 22, 23, 29, 30, 31, 34, 35, 38, 40,41,42,43 and 45. The 23 items who maintained return analysis, and the results show the value of KMO MSA SPPS obtained 0.93> 0.05 with a p-value of 0.000 <0.05. The test results lead to the conclusion that the data correlation matrix has enough so that it can be used to perform factor analysis.

Further analysis of the value of the MSA shows 23 items which have a value above 0.3 MSA is acceptable limits. The test results of the measurement model of first-order CFA I be obtained p-value = 0.0889 (> 0.05) and RMSEA = 0.025, which means that the model fit to the data, whereas the result of measurement model of first-order CFA I be obtained p-value = 0.0869 (> 0.05) and RMSEA = 0.035, which means that the model fit to the data. First-order CFA II test results to describe the indicator what the indicators in measuring devices can be used as a latent variable measuring instrument in this case disposition to think critically

Changes in the value of the construct reliability test results of the first order CFA at the first filed try out and the second first filed try out tests are presented in Table 1 below.

Table 1 First Order CFA I and CFA II

No	CFA I		CFA II		description
	Factor Loading	R^2	Factor Loading	R^2	
A1	0,61	0,37	0.65	0,42	Item fit
A2	0,65	0,43	0.69	0,48	Item fit
A3	0,65	0,42	0.69	0,48	Item fit
A4	0,69	0,48	0.76	0,58	Item fit
A5	0,66	0,44	0.73	0,53	Item fit
A6	0,65	0,42	0.72	0,52	Item fit
A7	0,67	0,45	0.69	0,48	Item fit
A8	0,68	0,46	0.72	0,51	Item fit
A9	0,59	0,34	0.70	0,52	Item fit
A10	0,68	0,46	0.68	0,49	Item fit

A11	0,64	0,41	0.67	0,46	Item fit
A12	0,65	0,42	0.71	0,45	Item fit
A13	0,66	0,44	0.66	0,50	Item fit
A14	0,64	0,41	0.68	0,44	Item fit
A15	0,61	0,38	0.73	0,47	Item fit
A16	0,61	0,37	0.70	0,54	Item fit
A17	0,62	0,38	0.68	0,49	Item fit
A18	0,62	0,38	0.73	0,46	Item fit
A19	0,67	0,44	0.70	0,49	Item fit
A20	0,64	0,41	0.72	0,52	Item fit
A21	0,61	0,37	0.68	0,46	Item fit
A22	0,70	0,49	0.74	0,54	Item fit
A23	0,70	0,50	0.72	0,52	Item fit

The test results of the measurement model of second-order CFA I be obtained p-value= 0,0779 (p>0,05), and RMSE= 0,023 (RMSEA<0,08), which means that the model fit to the data, whereas the result of measurement model of second-order CFA II be obtained p-value = 0.0869 (> 0.05) and RMSEA = 0.035, which means that the model fit to the data.

The results of second order CFA can be used to identify the construct reliability (CR) which is visible through the resulting value of the factor loading.

From the test results of second order CFA I and CFA II obtained niai reliability construct that does not vary much. The change in the value of CR due to possible presence of measurement error. Besides random errors, do not rule out the possibility of measurement is affected by systematic errors. The fundamental difference between the measurement error is a systematic error of measurement error does not affect the average score, but the effect on the variability around the average value whereas systematic errors affect the average score of the sample. This is confirmed by Thompson et al. [19] that if the same measuring instrument administered to a sample group of heterogeneous or homogeneous, will demonstrate the reliability scores were different.

Changes in the value of the construct reliability test results of the second order CFA at the first filed try out and the second first filed try out tests are presented in Table 2 below.

Table 2 Second Order CFA I and II

Item	CFA I			CFA II		
	Loading Factor	R^2	CR≥0.7	Loading Factor	R^2	CR≥0.7
Factor 1: truth-seeking						
*x*11	0.72	0.51	0.78	0.67	0.44	0.75
*x*12	0.75	0.57		0.73	0.53	
*x*13	0.73	0.54		0.73	0.53	
Factor 2: open mindedness						
*x*21	0.71	0.51	0.79	0.76	0.58	0.81
*x*22	0.69	0.47		0.73	0.53	
*x*23	0.66	0.43		0.72	0.52	
*x*24	0.70	0.49		0.69	0.48	
Factor 3: analitik						
*x*31	0.74	0.54	0.75	0.70	0.49	0.73
*x*32	0.65	0.42		0.70	0.49	
*x*33	0.72	0.52		0.68	0.46	
Factor 4: sistematik						
*x*41	0.68	0.46	0.78	0.68	0.46	0.77
*x*42	0.70	0.49		0.67	0.45	
*x*43	0.68	0.46		0.71	0.50	
*x*44	0.68	0.47		0.66	0.44	
Factor 5: self-confidence						
*x*51	0.68	0.46	0.71	0.68	0.47	0.74
*x*52	0.66	0.44		0.73	0.53	
*x*53	0.66	0.43		0.70	0.49	
Factor 6: inquisitiveness						
*x*61	0.64	0.40	0.72	0.66	0.48	0.72
*x*62	0.71	0.51		0.69	0.51	
*x*63	0.69	0.48		0.71	0.50	
Factor 7: maturity						
*x*71	0.65	0.43	0.78	0.68	0.46	0.76
*x*72	0.77	0.59		0.74	0.55	
*x*73	0.77	0.59		0.72	0.52	

From the test results of first order and second order indicates that the item fit to the data.

4. Conclusion and Suggestion

In this study, we preliminarily develop the questionnaire peer assessment of critical thinking disposition consists of seven aspects with 23 items. Factors of critical thinking disposition are truthseeking, open mindedness, analyticity, systematicity, self-confidence, inquisitive, and

maturity. From the results of the model test construct reliability for each aspect are 0.88, 0.79. 0.84. 0.88, and 0.86 which are in good category.

It's important to develop a good instrument and in accordance with the learning objectives to be achieved. One of the learning objectives to be achieved is critical thinking skills. Furthermore, when it has obtained information from students about the weakness of critical thinking disposition in more detail, if specific information obtained may indicate a weak aspect of critical thinking disposition, then the information can be used to make improvements under the conditions of the students so that the students' critical thinking disposition can be improved.

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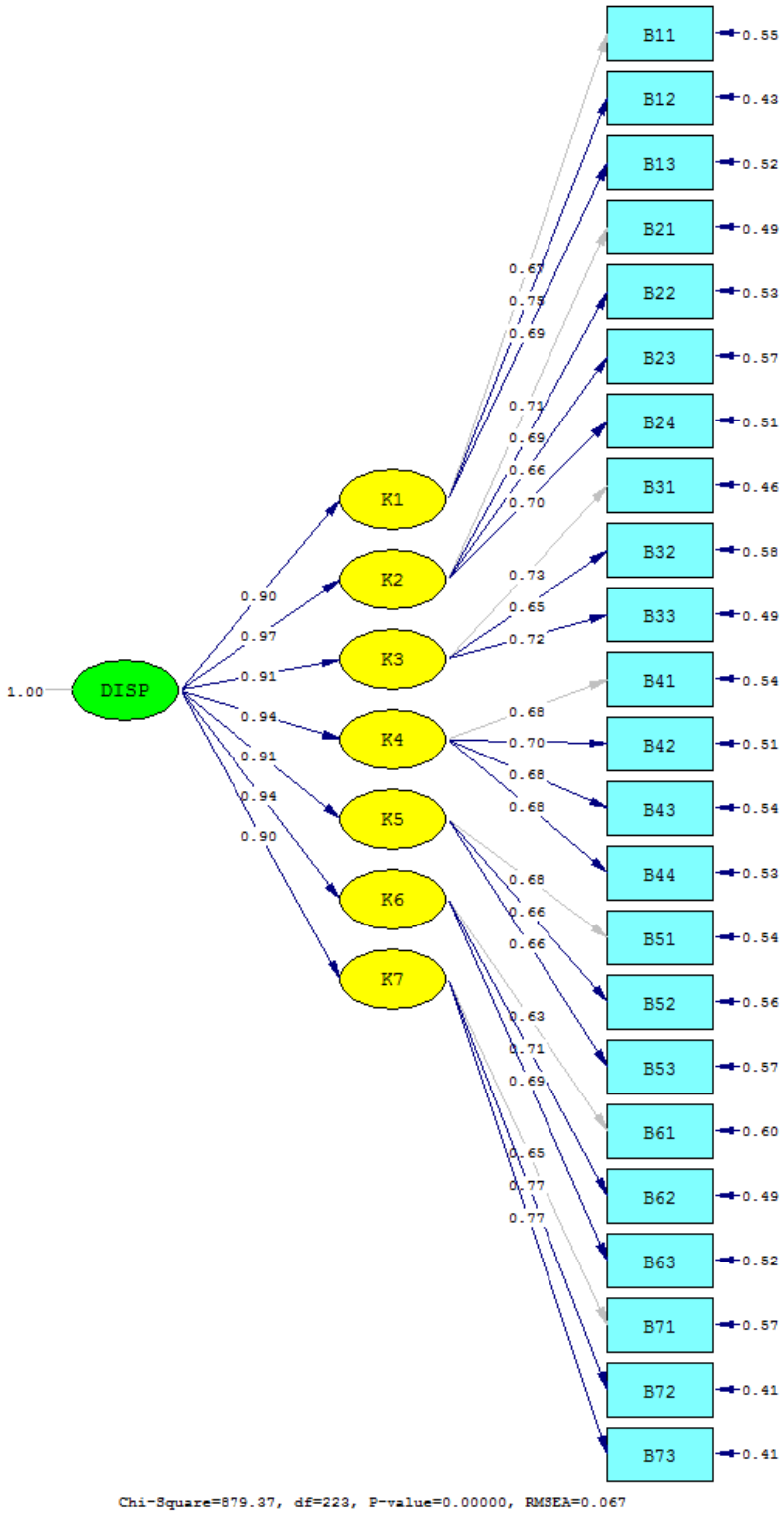

Picture 1. Second Order CFA of Critical Thinking Disposition

DEVELOPMENT OF AN EXPERIMENTAL SCIENCE MODULE TO IMPROVE MIDDLE SCHOOL STUDENTS' INTEGRATED SCIENCE PROCESS SKILLS

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Abstract

A 7-week learning module was developed intended mainly for Grade 7 and 8 students who need a beginning knowledge of scientific writing. This module puts Inquiry as the heart of learning sciences and aims to support students' understanding of sciences by providing them with opportunities to independently investigate through both research and experimentation. The use of open, student-led investigations alongside scaffolded teaching of research skills and the integration of science process skills allowed students to learn what it means to do science, solve problems and develop thinking skills. This experimental science module emphasized the use of the scientific method in performing an investigation by experimentation (inquiry-based learning) to develop critical thinking and science process skills. The students were given the opportunity to design and execute experiments in a strategic and unified manner. As they go through their investigations they were expected to master different Integrated Science Process Skills. To culminate their learning in this module, the students were required to write a full science report. This study utilized a research-validated paper-and-pencil test for assessing integrated science process skills developed by Kazeni (2005). The test is consist of 30 multiple choice items that are content independent; and gender, race, school type and location neutral. Comparing pre-test and post-test scores, 66% of the students learned positively from the module. Item analysis of the test scores showed improvement in the different integrated science process skills: 8% in identifying variables, 11% in stating hypothesis, 16% in operationally defining variables, 8% in graphing and interpreting data, and 14% in designing experiments. *T-test* for paired samples further revealed that students' scored significantly improved after going through the module.

Keywords: inquiry-based learning, science process skills, science investigations

1. Introduction

A holistic view of 21st century teaching and learning focuses on the discrete combination of 21st century student outcomes (a blending of specific skills, content knowledge, expertise and literacies) with innovative support systems to help students master the multi-dimensional abilities required of them in the 21st century and beyond [1].

The purpose of science education today should be aligned to produce a support system that produces 21st century outcomes for today's students [2]. Science education should focus on the development of scientific literacy to enable understanding of the Nature of Science and its relationship to society, rather than a focus that is heavily weighted in content knowledge. This new approach should enable students to engage in thinking creatively, critically and constructively around complex real world problems [3, 4].

Learning sciences should develop students as inquirers, scientifically literate, caring and responsible individuals who will think critically and creatively when solving problems and making decisions about aspects affecting themselves, others and their social and natural environments - it is more than simply learning technical scientific terminology. As student learns science they should become competent and confident in accessing, using and communicating scientific information. Students are expected to use scientific language correctly and select appropriate communication formats for oral and written communication. They are also expected to demonstrate critical-thinking skills to analyse and evaluate information in order to make informed judgments in a variety of contexts [3].

This 21st century purpose of science must be relevant to the interests of students, providing them with opportunities to explore the connections between science and everyday life. Students are encouraged to be interested in and

engaged with the role of science in the world. Through the investigation of real examples of the application of science, students gain insight into the tensions and dependencies between science and societal, environmental and ethical factors [3].

This simply puts Inquiry as the heart of learning sciences and aims to support students' understanding of sciences by providing them with opportunities to independently investigate relevant issues through both research and experimentation.

The use of open, student-led investigations alongside scaffolded teaching of research skills and the integration of science process skills allows students at all levels to learn what it means to do science, solve problems and develop thinking skills[3]. Notably, these foundations are important for students who are going to continue in science, as well as for those who will not continue beyond secondary school [4].

The cognitive ability of creating meaning and structure from new information and experience are referred as science process skills. These skills are an important and necessary means by which the learner engages with the world and gains intellectual control of it through the formation of concepts and development of scientific thinking [5].

Science - A Process Approach (SAPA), defined science process skills as a set of broadly transferable abilities, appropriate to many science disciplines and reflective of the behavior of scientists. SAPA grouped process skills into two types-basic and integrated. The basic (simpler) process skills provide a foundation for learning the integrated (more complex) skills.

The Basic Science Process Skills are:

Observing. The use of the senses to gather information about an object or event.

Inferring. The making an "educated guess" about an object or event based on previously gathered data or information.

Measuring. The use of both standard and nonstandard measures or estimates to describe the dimensions of an object or event.

Communicating. The use of words or graphic symbols to describe an action, object or event.

Classifying. The grouping or ordering objects or events into categories based on properties or criteria.

Predicting. Stating the outcome of a future event based on a pattern of evidence.

The different Integrated Science Process Skills are:

Controlling variables. Being able to identify variables that can affect an experimental outcome, keeping most constant while manipulating only the independent variable.

Defining operationally. Stating how to measure a variable in an experiment.

Formulating hypotheses. Stating the expected outcome of an experiment.

Interpreting data. Organizing data and drawing conclusions from it.

Experimenting. Being able to conduct an experiment, including asking an appropriate question, stating a hypothesis, identifying and controlling variables, operationally defining those variables, designing a "fair" experiment, conducting the experiment, and interpreting the results of the experiment.

Formulating models. Creating a mental or physical model of a process or event.

Science process skills can be learned if taught in a formally in the classroom with the use of proven teaching methods. Furthermore, these skills can be retained for future use if lessons are based on science investigations and practiced over a long period of time.

A science investigation emphasizes the use of the scientific method in performing an investigation by experimentation (inquiry-based learning) to develop critical thinking and science process skills of the student. This scientific method allows scientists to collect and analyze data in a strategic and unified manner and this is the same method that students use to design and execute their project - they use the same steps professional researchers use to gather new information. The different science process skills can be integrated in the conduct of science investigations [6]. Thus, science investigations are giving students an opportunity to undergo the process of conducting an investigation using the scientific method making them gain a considerable understanding of the nature of obtaining solutions to problems or answers to questions in a systematic and scientific way.

A 7-week learning module was developed intended mainly for Grade 7 and 8 students to give them a beginning knowledge of scientific writing. This module aims to support students' understanding of sciences by providing them with opportunities to independently investigate through both research and experimentation. The effect of this module to students' integrated science process skills was investigated.

2. Methodology

Development of the Experimental Science Module

This experimental science module was developed to help students understand the basic

aspects of scientific inquiry and to provide students with an opportunity to practice and refine their critical-thinking skills. Middle school science class offer an ideal setting for integrating many areas of student interest. This module enables students to participate in activities that integrate inquiry science, physics, chemistry and biology. The context of the module's classroom lessons is engaging, and the science process skills gained can be applied immediately to students' courseworks and laboratory practicals.

Experimental Science Module Contents

I. The Scientific Method and Science Process Skills
   a. Steps of the Scientific Method
      1. Steps in the Research Process
      2. Searching Scientific Literature
      3. Evaluating Web Sources
      4. Citing Sources (APA Format)
   b. The Integrated Science Process Skills
      1. Identifying and Controlling Variables
      2. Stating Hypotheses
      3. Operational Definitions
      4. Graphing and Interpreting Data
      5. Experimental Design

II. Measurement and Laboratory Techniques
   a. Safety in the Laboratory
   b. Different Laboratory Apparatus and their Uses
   c. Measurement and Uncertainties
      1. Principles of Experimentation
      2. Measures of Central Tendencies
      3. Systematic Errors

III. Writing the Science Investigation Report
   a. Title and Research Question
   b. Abstract
   c. Introduction
   d. Methods
   e. Conclusion
   f. References

Subjects

Two experimental science classes consisted of 41 students were exposed to various science investigations chosen by the teacher. Each class followed a 7-week researcher-developed curriculum and meets 7 periods in week. This experimental science module emphasizes the use of the scientific method in performing an investigation by experimentation (inquiry-based learning) to develop critical thinking and science process skills of the student. The students are given the opportunity to design and execute varied experiments in a strategic and unified manner. As students go through their investigations they are expected to master different Science Process Skills such as Identifying and Controlling Variables, Stating Hypotheses, Operational Definitions, Graphing and Interpreting Data, and Experimental Design. Students were required to submit a comprehensive written report for each science investigation they performed.

Integrated Science Process Skills Test

This study utilized a research-validated paper-and-pencil test for assessing integrated science process skills developed by Kazeni (2005). The science process skills tested by the instrument are: identifying and controlling variables, stating hypotheses, experimental design, graphing and interpreting data and operational definitions. The test is consist of 30 multiple choice items that are content independent; and gender, race, school type and location neutral. For this study, some proper nouns were changed to a more locally family names to make the test more culturally valid.

Test Administration and Analysis

The integrated science process test was administered to students before and after they finish the 7-week module. To identify students' mastery of each science process skill, an item analysis was carried out for each item in the test.

Mastery for each item was determined by:

$$M = \%Post - \%Pre \qquad (1)$$

where:

M = *Percentage of Mastery; Learning occurred*

%Post = *Percentage of students who are correct in the post-test*

%Pre = *Percentage of students who are wrong in the pre-test*

Students' proficiency levels were also interpreted as follows:

≤50% beginner,
51-60% developing proficiency,
61-75% proficient , and
≥76% advanced proficiency.

Positive learning was determined by computing the percentage of students who

improved their integrated science process test after they underwent through the module.

The mean of students' pre-test and post-test scores were compared using t-Test for paired two samples of means to determine if students significantly improved their integrated science process skills.

3. Results and Discussion

Integrated Science Process Skills

Figure 1 shows the performance of the students in each skill tested through the Integrated Science Process Skills Test. Science process skills are defined as a set of broadly transferrable abilities that reflect the behavior of scientists.

Even before the students went through the module, they already have at least proficient level of the integrated science process skills except for stating hypotheses where they only have skill level of developing proficiency. It can be noted that 8% of the students learned the skill of identifying variables, 11% acquired the skill of stating hypotheses, 16% learned skill of operationally defining variables, 8% acquired the skill of graphing and interpreting data, and 14% learned the skill of designing experiments.

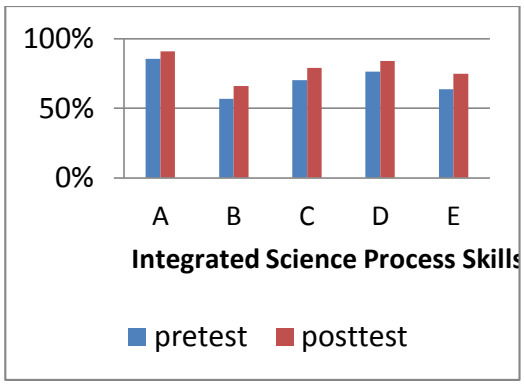

Fig. 1. Mean percentage of students' performance for each science process skills

After 7-weeks of learning the module, the students reached an advanced proficiency level of almost all the integrated science process skills except for stating hypotheses in where they only reached the proficiency level. Statistical analyses through t-Test for paired two samples of means reveal that students significantly improved their stating hypotheses, graphing and interpreting data and designing experiment skills but did not significantly improved their identifying and operationally defining variables skills.

Students' moderate mastery and high proficiency levels can be attributed to the fact that they already have the opportunities to learn about science process skills through some courses and subjects that cover some of the skills without teaching them under the concept of science process skills [7].

Overall Integrated Science Process Skills Proficiency Levels

Overall Analyses of students' proficiency level reveal that more students after going through the 7-week module reached advanced proficiency. Comparing pre-test and post-test scores, 66% of the students learned positively from the module. Statistical analysis of students' overall scores showed that students of the experimental science module significantly improved their scores in the integrated science process skills test. It can be inferred that students exposed to the experimental science module had the opportunity to identify variables, state hypotheses, operationally define variables, graph and interpret data and design experiments as they involve themselves in the science investigation activities.

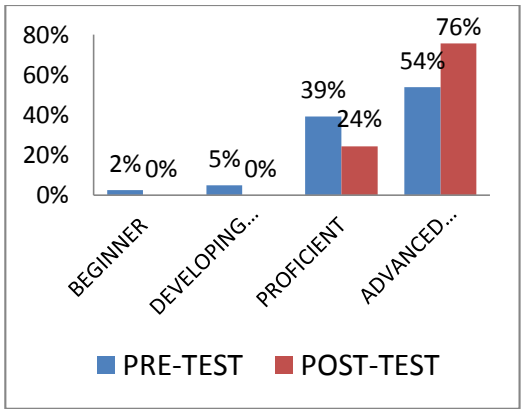

Fig. 2. Students' integrated science process skill proficiency levels

Various studies showed that inquiry-based teaching approaches enhanced students' science process skills which are in agreement with the findings of this study. Numerous studies also revealed the positive effects of science process skills on scientific creativity, academic achievements and attitude towards science.

Science investigations utilize inquiry-based learning as its framework. As students conduct an investigation using the scientific method they gain an understanding of the nature of obtaining solutions to a problem in a systematic way.

Doing science investigations develop students' natural curiosity. They acquire the

skills necessary to conduct inquiry and research and show independence in learning. They exercise initiative in applying thinking skills critically and creatively to pose and approach complex problems, identify variables, design appropriate experiments and make reasoned conclusions. This inquiry-based approach in learning allows the students understand science by operational defining variables in the context of their investigation. They are able to express ideas and information confidently and creatively in a variety of modes of communication such as graphs, written and oral presentations. This activity also allows them work effectively and willingly in collaboration with others.

By doing student-led investigations, the students are enable them to manage their time in order to accomplish all tasks within the set deadlines. Collaborating with their partners to critically and positively analyze ideas and constant communication with the teacher, enable them to produce outstanding outputs. They are able to effectively and independently conduct literature reviews from different sources using different forms of technologies. Their knowledge and understanding are effectively transferred and communicated to solve the problem at hand. This activity enabled them to reflect and think of ideas to make a plan, present arguments in a logical sequence, identify problems and evaluate available solutions, and create strategies to solve the problem different perspectives.

It is important to note that the success of the approach may depend on the competence, enthusiasm, and confidence of the science teacher and the ability of the students in making use of the opportunity provided [8]. Student generated questions play an important role in inquiry-based science classrooms. However, science teachers know how to use students' questions to guide instruction [9].

4. Conclusions

The researcher-developed experimental science module emphasize on the development of science process skills and scientific knowledge as its major objectives to give varied opportunities to young scientists to acquire knowledge and skills for solving problems. Students' proficiency in their integrated science process skills is significantly improved after going through the 7-week module.

Further research is needed to compare results reported in this study to other inquiry-based programs. Second, additional studies are needed that follow students for longer periods of time after they take the experimental science module. It would be enlightening to determine the impact of module designed for middle school students have on students' streaming choices. And finally, while students showed a high level of proficiency in the integrated science process skills test, further studies should examine the correlation of among students' interest in science, their understanding of science and their science process skills.

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GAYONESE LITERATURE EDUCATIONAL POLICY IN THE CURRICULUM OF ELEMENTARY, JUNIOR, AND SENIOR HIGH SCHOOL IN TAKENGON

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Abstract

This study was a descriptive qualitative method since this study refers to an investigation with the purpose of description of the Gayonese literature educational policy. The data collecting technique in this research were observation, interview, and documentation. The data were analyzed qualitatively that included the steps of identification, categorizing, reducing, displaying. The triangulation was used to validate the data. The results of the study are as follow. The educational policy of the Gayonese literature is proposed in the term of additional subject in every grade of school. The additional subject of Gayonese literature in elementary, junior and senior high school is proposed by the *Kelompok Kerja Kepala Sekolah* (K3S). The function of additional subject of Gayonese literature in Takengon is to develop knowledge, skill, and character of the students in line to the Gayonese's culture, as they: (1) knowing the nature, social, and Gayonese's culture, especially the value (Sumang, Mukemel), (2) having the knowledge, ability, and skill about the Gayonese's culture to help them in social, and (3) having the attitude in the corridor of Gayonese's values to keep and develop them to support the national development, especially in Takengon.

Keywords: Gayonese literature, educational policy, curriculum.

1. Introduction

Educational policy plays important role in curriculum decision making. Besides, it support the communication and education in Indonesia, thus, it can be hinder the economic and social crisis that affect the nationalism stability. It means that the educational policy is proposed by the Indonesian government in consider to the economic, social, and politic condition of the country. In conclusion, educational policy is important in every aspect of daily live, especially in education itself.

In addition, education is the basic aspect in the development of a country. Education produces high quality employees. It is encouraged the government to improve the educational quality through some ways. They are proposed the new education rules, revise the curriculum, improve the teachers' quality, and renovate the educational property.

Government conducts control and survey to the education. For our national curriculum or core curriculum each level of education, from primary school up to the university. However, there is adequate room for each region and school to determine and implement their own local policies, budgets, and regulations. Those factors above, are planned by the government with the stipulation of Regional Autonomy Law, developed and implemented basically by the local government.

On the other hand, educational policy is able to defend the Indonesian literature. The state of education ministry of Indonesia number 22 on 2006 about the standard content that additional subject, in this study is Gayonese literature, and the activities of self development are the integral aspect of the elementary to high school curriculum. The policy of the additional subject Gayonese literature is supported by the diversities of the geography condition, nature, and the people with the background of the different histories and cultures.

Gayonese is an ethnic group living in highland of Aceh. There are a lot of literatures, arts, and traditions. The gayonese literature includes the norms of Islamic *syariah*. Gayonese literature should be maintained to preserve the existence. One of the ways in keeping the

existence of Gayonese literature is taken them in to the school curriculum from elementary, junior high school to senior high school.

According to the explanation above, the curriculum should be proposed to give knowledge to the students. The knowledge should cover the characteristics and the strengths of the society, through the additional subject Gayonese literature. The curriculum is proposed to accommodate the differences of each school's additional subject.

According to the explanation above, it is necessary to describe the Gayonese literature educational policy. The description can be useful in the target competences decision making. Therefore, the aims of this paper were describing the curriculum of the Gayonese literature in elementary, junior, and senior high school in Takengon.

This research study was focused on analyze the curriculum of elementary, junior, and senior high school in Takengon that related to the Gayonese literature. This research was aimed at describing the educational policy of the additional subject Gayonese literature that conducted in elementary, junior, and senior high school. Thus, the result of this research can give recommendation that needed by the local government in reaching the purpose of the educational policy.

2. Method

This research was descriptive qualitative research. Sellinger and Schohami (1989: 124) define qualitative research as research that involves a collection of techniques used to specify, delineate, or describe naturally occurring phenomenon without experimental manipulation. This research described the Gayonese literature education policy in the curriculum of elementary, junior, and high school in Takengon. The method that was applied in this research is a content analysis in which the researcher analyzed the *qanun* of the related curriculum.

In this research, the sources of the data were the documents of school curriculum. Moleong (2002: 121) states that the instrument of this type of research is the researcher himself. He acted as the planner, data collector, analyst, and finally the reporter of the research findings. Being the instrument of the research, He was the key component of this research. The steps of this content analysis were prepare and organize the data, review and explore the data, code data into categories, construct description, build themes, and interpret the data (Lodico, Spaulding, and Voegtle; 2010: 180). The triangulation was used to validate the data.

3. Finding and Discussion

In the curriculum of 1994, the additional subject of Gayonese literature is conducted formally by monolithic in form of subject learning. The development of curriculum of the additional subject of Gayonese literature is used to balance the weaknesses of the development of centralistic curriculum. Its function is to improve the students' appreciation to their society.

The improvement of the educational relevance is one of the four basic strategies of the national development. The Indonesian government tried to improve the educational relevance by the development, improvement, and evaluation of the additional subject. The other way was by insert the learning facilities, the learning sources, and the teachers' quality.

In relation to the UUSPN and the state government of Indonesia number 28 in 1990 especially in chapter 1 number 2 stated that basic education is nine year education includes six year educational program in elementary school and three year education program in junior high school (1990: 2). It means that every six to fifteen years old children get formal education. When the nine year was done success, the students were learned additional subject. The quality of the graduation is not oriented to the job. Thus, the graduated students do not understand the chance of the local sources.

The additional subject curriculum consists of some subject studies that aimed to give opportunities to the students to develop their knowledge and ability in accordance to the conditions and the needs of the social region. There are three aspects of the additional subject namely culture, skill, and region education (Suharsimi Arikunto: 1988). Each aspect is able to be described in the learning material in reference to the needs. Below is the dividing of each aspect.

(1) The culture aspect includes art, culture, social rule, technology (producing of traditional medical), and the local language.
(2) The skill aspect includes household, technology, house ware, gardening, farming, veterinary, dan maritime.
(3) The region education includes physically (cleanness, tidiness, comfort, and wonderful), social region (safety, healthy, job), culture region (building, antique, norm, and rule).

The application of the additional subject of the Gayonese literature is used to balance the weaknesses of the centralistic curriculum development, to improve the students' appreciation in knowing the region, and able to keep and improve the nature potential, culture and social quality which support the national and local development. Thus, the students do not lose their culture. The specific functions of the additional subject of Gayonese literature curriculum are:

1. Keep the nature and the value wisely, and improve the local culture and the education quality as self identity of the Indonesian people in reaching the national education.
2. Develop the value of hard working, socialization, and obedience to improve the live quality of the Indonesian people.

In relation with the purposes of the additional subject, students have understanding about the social and culture knowledge. Thus, students are able to develop and maintain the nature sources. Suharsimi Arikunto, (1998) said that the purposes of the additional subject of the Gayonese literature are as follow:

1. Knowing the social and nature condition and also the culture in the region.
2. Applying the skills and ability that had been learned in reference to the problem solving that found in the region.
3. Having the specific skill in accordance to the self rescue in completing the live needs.
4. Using the learning sources in the region to improve the people qualities.
5. Having good manner in line to the rules in the region, keep and improve the culture to support the national development.

Unfortunately, the application of the educational policy of additional subject in elementary, junior, and senior high school are not including the development of the region's potential. The additional subject of the Gayonese literature is applied in the subject of Arabic language. It hider the students to understand the potential of the culture, region, and nature.

Joni MN (2012) stated that the function of additional subject of Gayonese literature in Takengon is to develop knowledge, skill, and character of the students in line to the Gayonese's culture, as they:

1. Knowing the nature, social, and Gayonese's culture, especially the value (Sumang, Mukemel)
2. Having the knowledge, ability, and skill about the Gayonese's culture to help them in social
3. Having the attitude in the corridor of Gayonese's values to keep and develop them to support the national development, especially in Takengon.

The educational policy of the Gayonese literature is proposed in the term of additional subject in every grade of school. The educational government of Aceh Tengah provides the additional subject of the Gayonese literature curriculum development to the head masters. The phenomenon leads the head master works together to propose the curriculum.

The additional subject of Gayonese literature in elementary, junior and senior high school is proposed by the *Kelompok Kerja Kepala Sekolah* (K3S). The members K3S consist of the head master of Aceh Tengah. It is differentiated according to the cluster of schools. Thus, there are three clusters of K3S, as they K3S for elementary school, K3S for junior high school, and K3S for senior high school. Each cluster of the K3S is conducted at least once in two years.

The functions of K3S are to decide, design, evaluate, and revise the additional subject of Gayonese literature. In the other hand, it is used to take the same perception of the material, method, and approach of the additional subject teaching learning process. Besides, K3S decide the position of the Gayonese literature in additional subject in every grade of the schools.

In Takengon, there are 130 schools consist of 58 elementary school, 46 junior high school, and 26 senior high school. However, not all school chooses Gayonese as the additional subject. There are only about 118 schools that conduct teaching learning process of additional subject of Gayonese literature. There are some aspects in the decision making of choosing the additional subject. Below are the aspects of additional subject of Gayonese literature.

There are some weaknesses of the Gayonese literature additional subject. First, there is no standard curriculum of the Gayonese literature additional subject. The edicational department of Aceh Tengah gives a change to head masters of every school to propose the additional subject of the Gayonese culture. Thus, the frameworks of the additional subject are overlap.

Second, the material of the additional subject of Gayonese literature is focused on the Gayonese language. Basically the themes of the materials are the same. The variation of the material in every grade of school is only on the activities and the input of the material. It hinder the creativity both teacher and students to express thir knowledge about Gayonese culture.

The last is that there is no additional subject teacher who has the background of Gayonese education. It means that the qualities of the

teachers are not appropriate to the subject. It is happen because there is no subject education of Gayonese culture in university. Thus, there are inappropriate teachers who teach the Gayonese literature additional subject.

According to the explanation above, the education government of Aceh Tengah should be solve the problems about Gayonese literature wisely. It is to support the existence of Gayonese culture. "When you lose a language, you lose a culture, intelectual wealth, a work of art" (*The Economist*, in Spolsky and Hult, 2008: 298).

In line Spolsky and Hult (2008: 398) state that although vernacular languages have some sort of official status, there is no guarantee that effective language education policies will put into place. The reason is the perceived cost. Implementing mother tongue-based programs would be too expensive. Economic analyses of primary bilingual programs have demonstrated that while new bilingual programs appear to raise per-pupil expenditure, costs are actually lower when balanced against the benefits of lower dropout and failure rates. Even appropriate policies are in place, there is often another hurdle, they are Indigenous literacy programs are given low priority or lip service policies are passed with no intention to implement them.

4. Conclusion

The educational policy of the Gayonese literature is proposed in the term of additional subject in every grade of school. The function of additional subject of Gayonese literature in Takengon is to develop knowledge, skill, and character of the students in line to the Gayonese's culture, as they: knowing the nature, social, and Gayonese's culture, especially the value (Sumang, Mukemel); having the knowledge, ability, and skill about the Gayonese's culture to help them in social; and having the attitude in the corridor of Gayonese's values to keep and develop them to support the national development, especially in Takengon. The additional subject of Gayonese literature in elementary, junior and senior high school is proposed by the Kelompok Kerja Kepala Sekolah (K3S). There are some weaknesses of the Gayonese literature additional subject, as they: there is no standard curriculum of the Gayonese literature additional subject, the material of the additional subject of Gayonese literature is focused on the Gayonese language, and there is no additional subject teacher who has the background of Gayonese education.

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CULTURE-BASED EDUCATION REFORM

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Abstract

Educational reforms implemented in Indonesia since the promulgation of Law No.22 of 1999 requires the implementation of regional autonomy and insight democracy in education. This study is a qualitative study was conducted in Kalisat, Jember. The purpose of this study is to describe and analyze how the use local wisdom can improve education. This research method using an ethnographic approach. Data collection through participant observation, in depth interviews, life history, group discussion, and analysis of documents as material to identify the culture in educational reform. The analysis was performed based on perspective of ethics and emic with domain analysis, taxonomic analysis, componential analysis, and analysis of cultural themes to obtain optimal research.The results showed that the local wisdom can be used by schools in developing a relationship with the community to improve education. This study sought able to provide advice to the government on the importance of an Indonesian cultural framework as a reference frame for the sake of development in the field of education and other fields, inter-ethnic harmony as well as a means of preserving the culture of Indonesia. The results of this study are expected to rise in international journals. The conclusion from this study that the use of local wisdom can improve education both academic and non-academic with a direct or indirect way.

Keyword: Local wisdom, Education quality, The school public relation management.

1. Preliminary

In essence, education is an effort to build a culture and civilization. In the process of education should be to develop the existence of learners who socialized, entrenched in the governance dimension of life locally, nationally, and globally. “Ref [4]” Education is a continuous process, and the process should not ignore or harass another or override the guidance of living together and its possibilities and limitations provided by the natural surroundings (Hatimah I, 2008: 7:16). This is in accordance with the Universal Declaration of Human Rights which confirms that, all beings are born free and equal in terms of the degree and the rights and have all the rights and freedoms without distinction of any kind, either race, color skin, sex, language, religion, political opinion or any national or social origin, birth and any status.

“Ref [8]” Based on data from the United Nation's Development Programme (UNDP) in 2013 put the Human Development Index (HDI) of Indonesia on the order of 121 of the 187 countries (http: // www.mitrainvestor.com / blog / 2013/03/18 / human-development) . Even compared to neighboring countries such as Singapore, Brunei Darussalam, Malaysia, Thailand and the Philippines, Indonesia was under them. The three components of the HDI improvement of health indices, the index of the economy, and education indices. The above conditions associated with the demands of the development of human resources continuously increased from time to time. Good quality standards of the type of work, quality of services, and products, as well as experiencing the dynamic quality of service to meet the needs and satisfaction of human life that continues to increase as well. This means that our education services must be able to follow the changes.

Since the occurrence of educational reform in Indonesia has issued rules relating to decentralization, the rules are: (1) Law Number 22 Year 1999 concerning: the local government demanding the implementation of regional autonomy and insight democracy in education, (2) Regulation No. 25 of 2000 on authority government and the provincial authority as an autonomous region i

n the field of education, (3) Law Number 20 Year 2003 Chapter XIV Article 50 Paragraph 5 states that the government of the District / City manage primary and secondary education, as well as units of local education-based education,

(4) Government Regulation Number 19 of 2005 Chapter III, article 14, paragraph 1 that the curriculum for junior high / MTS / SMPLB equivalent or other form, may include education of local excellence. Under the legislation above

is set that the implementation of education outside the authority of the central government and should be done in the area. In connection with the local conditions of the area and potential areas in Indonesia are quite diverse, it is necessary to increase the area of regional potential through education in schools.

National education according to Ki Hajar Dewantoro is education that is consistent with the livelihood of the nation. If the education of our children will not know our needs, physically and spiritually, in addition, children may not have the love of the nation and the state. Some of the philosophy expressed by Ki Hajar Devantoro with regard to education are: (1) all the tools, effort and also how education should be in accordance with nature, (2) the nature stored in the customs of each community with various peculiarities, all of which aim to achieve a life orderly and peaceful, (3) the customs nature is always changing (dynamic), (4) to determine the characteristics of the current required in-depth study of the life of the community in the past so that they can predict the future life in the community, and (5) development culture will be influenced by other elements, this happens because of the association between nations.

Increasing globalization has increasingly emphasized the importance of learning about effective leadership. “Ref [3]” The leaders increasingly faced with the need to influence people from different cultures, and the influence of successful requires a good understanding on these cultures. Leaders must also be able to understand how people from different cultures look at them and translate their actions (Yukl G., 2005). “Ref [1]” In line with this (Brauckman, S and Pashiardis, P, 2012) states that, "The greatnest needs for improvement and leadership training are following three areas: (1) trust building and collaboration: with parent and community relations, promotian of cooperation with other organizations and businesses from the community so that students' needs are addresses and initiation of trust building activities within the local community, (2) encouraging instructional leadership and human resources development, (3) initiating school improvement and development ". In terms of the function of education is one of public service institutions in services. So that education needs to take advantage of local resources as a reference to improve the quality and educational services.

Each region has the potential and diversity of the work produced as a characteristic of the area. Local knowledge in an area can accelerate development in the region based on the potential of the local community. This is in line with the results Sopana, A. (2013): "Public Participation in Local Budgeting Process-Based Local Wisdom (Studies in Society Bromo Tengger Tribe East Java)". This study successfully uncover participation (Truly Holistic Partisipation) Tengger tribe community informally "deliberation residents perch" when planning the budget. These findings managed to break the previous literature, that community participation is merely a "ceremonial budgeting".

Based on the context of the above study, the researchers took the main focus of "Culture-Based Education Reform". Based main focus is then broken down into sub-focus as follows: (1) How does culture of Madura in Jember, (2) What is the profile of local wisdom Madura in education in Jember, (3) How to understand the local wisdom Madura schools in improving the quality of education , (4) How does the school develop a school with community relations programs in accordance with local wisdom Madura to improve education. In keeping with the focus of this study, the main purpose of research is to describe the Culture-Based Education Reform.

To this research are as follows: (1) For the government, as a cultural frame of reference Madura in Jember, (2) For schools, the results of this study can be used as a reflection in improving relations with the public schools, (3) For other researchers, the results of this study can be used as a reference that could be developed through further research.

Culture-based education reform research uses qualitative research methods or types of ethnographic strategy. “Ref [2]” Creswell (2012) describes, "Ethnographic qualitative research design are procedures for describing, analyzing and interpreting a culture-sharing group's patterns of behavior, beliefs, and language that develop over time". Kalisat Subdistrict Jember is the location specified by the study investigators for the following reasons: (1) this district is located in the northern region of Jember, which means the majority of the population is ethnic Madurese, (2) District of Kalisat a district that the highest number of people's participation in education compared with other sub-districts in the region of North Jember. Location of the study is 1 Kalisat SMP, SMP and SMP Negeri 2 Kalisat Al Badri Kalisat.

In this ethnographic study researcher's presence is key in the study. “Ref [5]” The presence of researchers directly, can awaken the relationship of familiarity with the subject of the study, the relationship is more reasonable, and the growing belief that the researchers did not use the results of research for the benefit of the wrong

and harm others (Muhadjir, 2000). As a key instrument, researchers directly related to the subject of research by plunging directly into the field. Thus researchers will be able to understand what is the subject of research.

"Ref [7]" Conclusion culture conducted by ethnographers through three sources, namely (1) of what people say, (2) of what people do, and (3) of the artifacts that people use as proposed by Spradley (1980). The data collection techniques in ethnographic research as follows: (1) in-depth interviews, (2) life history, (3) participant observation, (4) focus group discussions (FGD), and (5) analysis of the document. The analysis was performed based on the perspective of ethics and emic with domain analysis, taxonomic analysis, componential analysis, and analysis of cultural themes to Obtain optimal research.

2. Research Result

Kalisat sub district is a district located in northern Jember by District Arjasa, District Sukowono, District Mayang, District Ledokombo, District and Sub-District Jelbuk Pakusari. Subdistrict Kalisat has 12 villages, the village Gambiran, Plalangan, Ajung, Glagawero, Sumberjeruk, Gumuksari, Patempuran, Kalisat, Sumberketempa, Sukoreno, Sumberkalong and Sebanen. Kalisat sub district has a population of 68 337 in 2011 to number as many as 22 825 households. The number of junior high school as much as 4 to the number of students and 1,683 MTs as many as 9 schools with 720 pupils.

According to statistics of the number of households using cement or brick floor ranks first as many as 14 096, followed by floor ceramic / marble / granite as 4553, and the ground floor as much as 3,703. While the number of households using meter illumination without as much as 12,616 PLN PLN 10,140 and not the electricity meter 69. The fuel used for cooking the most widely used wood as much as 13 460 households, using gas as much as 8976 and using kerosene as much as 234 households. Drinking water sources that are used most uses protected wells 17,469 households, 3,420 unprotected wells, bottled water as much as 459 and pump as much as 70 households. Households access the internet as much as 1,480 and as many as 21 345 are not.

The main livelihood is farming community Kalisat as many as 26 292, trading as 1027, as many as 842 construction, transport as many as 215, the industry as much as 158, and others as many as 716. Society has become Kalisat largely prosperous families as many as 17 246 and as many as 8,124 underprivileged families.

Kalisat society largely ethnic Madurese that marriage rules are still largely used is endogamy is a habit that requires members of society who are still married to their own relatives or their own group or village itself. Endogamy must usually still restricted to members who are not too close relative of blood relationship. For the arrangement of community residential home Kalisat still being followed taneyan lanjhang, namely family residential complex adjacent to the nuclear family, just because of the high price of land, then the order has changed.

One person's identity is the language of Madura. The use of language is determined by the interaction context they face. Indonesian will be used by the Kalisat if they are dealing with institutions or in formal situations, but when they find out that their interlocutors are Madurese then they also will use that Madura.

Madurese community in and around the famous Kalisat very fond of activities such as parades, marching, drum bands and it has become entertainment for the people Kalisat. In Kalisat there ruwatan tradition by inviting art tambourine or macapatan. Kalisat community has begun to advance proven by the number of people who access the internet, there is even a community forum Kalisat in social media. Even when SMP Negeri 1 Kalisat winning football competitions provincial level, then their photos uploaded to the internet.

Kalisat society that largely Muslim still believe in things pertaining to the mystique that is a form of religion which is based on the belief in one God who is considered, covering all things in nature, and this religious system consists of ceremonies aimed at achieving unity with God . When they grow crops still makes salvation so that their crops fertile, when building a house they also make salvation, when entering the month of fasting held salvation by themselves or collectively.

SMP Negeri 1 Kalisat there is association football (kamrat) formed by people who strongly support the sport of football at the school. SMP Negeri 1 Kalisat have achievements to the provincial level. In SMP Negeri 2 Kalisat, chairman of the school committee is a tutor who is highly respected by parents. So that the participation of the parents of the high school, it appears there was an invitation from the 99% school attendance. If none of them todus invitation to come to school. SMP Negeri 2 Kalisat also have a team of drum band that is often invoked by the surrounding community even outside the subdistrict Kalisat certain to

enliven the event. BOS funds in SMP Negeri 2 Kalisat divided equally to all students in accordance with the consensus results of the meeting the parents. SMP Al Badri is a school that is under the foundation boarding school. Figure clerics are highly respected by the community Kalisat. Communication teachers and students still use the language of Madura in school because 100% of the teachers here are ethnic Madurese. Parents often come to boarding school if there is a warning Islamic holidays, imtihanan and nyabis. In the imtihanan regarded as a birthday school, boarding schools are very crowded because it was visited by parent and the surrounding community. Imtihanan held ini Juni which aims to remove students who graduated, entertain students after the semester exam and invite new student. Around boarding as there is a market selling impromp because the surrounding communities. Event *imtihanan* usually enlivened by drum band, entertainment and *pengajian* that lasted from morning till night. SMP Negeri 1 and 2 Kalisat lift staff of the area around the school that ethnic Madurese. Of the three schools have BK teachers who are ethnic Madurese.

3. Discussion

Jember city has been known since the time of the Netherlands because it has a lush tobacco plantations and wide. Madurese is one of the most important ethnic in this region. One of the most important contributions of the presence of Madurese here is the emergence of Islamic boarding schools as social institutions of education. Madurese, tobacco and boarding are elements that are very important in the study of Jember.

Subdistrict Kalisat a Jember district located in the northern part of the public participation in the higher education and most of the ethnic Madurese are mostly Muslim. SMP Negeri 1 Kalisat ranks fifth in Jember in academic terms. Community leaders in District Kalisat contributed greatly to the improvement of education. Haji Rosidi who works as a lecturer at the University of Jember give an example to the community tauladannya Kalisat. He and his family (his nephew) who was educated there until the doctoral program.

SMP Negeri 2 Kalisat having Chairman of the Committee a tutor, so the direction is very heard by parents. Chairman of the Committee (H. Hosnan Djafar) very menjembati the school and parents.

SMP Al Badri which is a school that is under the Foundation boarding school led by a clerics. Pesantren Islam always commemorate the big day and parents come to boarding schools to participate commemorate, imtihanan and nyabis.

From the above findings we can say that local knowledge in the District Kalisat is the religion of Islam and the expression Bhuppa 'Bhâbhu', Ghuru, Rato, that Madurese be respectful and obedient to parents (father and mother), teachers, and government. The phrase implies that in this life there are three important components. Perama components are the parents (father-mother) and in social and cultural life should be interpreted as represetasi of the family institution. The second is the figure of scholars / clerics as the form and representation of the world ukhrowi (sacred world). Third is the figure of the king / leader / formal government should be viewed as a form or representation of the world (profane world). These three components must be regarded as an entity and must play a role and function in accordance with the capacity and authority both of the socio-cultural dimension as well as religious.

Figure clerics have a very big role in bridging the relationship between school and community. They not only give direction but also gives an example of the importance of education for the community Kalisat particular. Here we can see that in SMP Negeri 2 Kalisat that His committee chairman tutor a direct impact on relations with the public schools to improve education n.

In SMP Negeri 2 Kalisat implement consensus when determining BOS. Parents have agreed to divide the BOS funds so that all children receive. It shows that consensus is a form of local wisdom that are still used in deciding an issue at school. The results of this decision will further motivate parents to support their children and reduce school dropout rates.

Familial is very visible in the boarding Al Badri when imtihanan event, where parent and the surrounding community came to boarding school by bringing food to come celebrate the birthday of the school. Imtihanan event give entertaiment for surrounding community.

SMP Negeri 1 Kalisat is the oldest junior Kalisat that stood since 1963 have the advantage of academic and non-academic. Non-academic achievements attained by SMP Negeri 1 Kalisat is the sport of football that often gets champions until the provincial level. SMP Negeri 1 Kalisat also accept new students through sports. Football in SMP Negeri 1 Kalisat supported by the football association formed by Kalisat

community. Community organization that was formed as a hobby equation is often called as *kamrat*.

Schools can understand Local Wisdom Madura (KLM) can be internally and externally. Internally means of the school itself, in this case the teachers and staff are ethnic Madurese. While externally means external to the school as the chairman of the school committee or community leaders are sometimes invited to celebrate Islamic holidays.

Because schools can understand KLM can raise the quality of education with academic and non-academic achievement. Academic achievement increases with decreasing the dropout rate because of the support of parents to their children. Increased non-academic achievements as a football team SMP Negeri 1 Kalisat that often gets champion or team SMP drum band 2 Kalisat which often appear as invited by the community. Because it often appears that the team can be more complete drum band facilities and infrastructure.

4. Conclusions and suggestions

Culture-based education reform means that the school should be able to understand the local wisdom through school relationship with the community so as to enhance the academic and non academic achievement. Local wisdom Madura (KLM) related to education in sub Kalisat is the religion of Islam, *Bhuppa' Bhâbhu', Ghuru, Rato*, deliberation, familial and *kamrat*. How to understand the local wisdom can be internally and externall by developing relationships with community shools. By absorbing the local wisdom, the people will be participating in education because they feel their interests have been accommodated by the school.

To better understand the local knowledge of an area, we need a cultural frame of reference that the school more easily absorb such wisdom, Cultural frame of reference has been made should be reviewed after a few years because the conditions are very dynamic community.

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TEACHER PROFESSION THE DEVELOPMENT THROUGH OPTIMIZATION OF CLUSTER SCHOOLS IN PRIMARY SCHOOLS DIFFICULT TO REACH

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Abstract

Primary school as the first unit of the formal education as the initial effort and the development of human resource development. The one is the system of competence development through cluster school's. The problem in this research are: 1) aspect developed, 2) organizational development, 3) form or model of development, 4) the process of development, 5) means of support, and 6) the implementation of development results.

The purpose of this study was to describe the professional development of teachers through school clusters, and find substantive theories related to professional development of teachers who are appointed from the three study sites.

This study used a qualitative approach to the study design multisitus. The data collection techniques: (1) in-depth interviews, (2) participant observation, and (3) study the documentation. Data analysis was performed in two stages that include single-site data analysis and data analysis across the site. Checking the validity of the data is done by using the degree of confidence by both the source and method triangulation.

The results showed that: 1) The four aspects are developed teacher has mastered. Qualifications and relevance of education, maximal have got the standards of education, 2) Organizing development include tim work of instructure school, tim work of headmaster, and tim work of teacher. The trio was formed from personnel members of their respective groups. The organizational structure of each cluster is clear in accordance with their respective duties, 3) Forms or model of development include evaluation of classroom administration, upgrading, workshops, training, seminars, classroom research, scientific papers, workshops, study, discussion, and lesson study, 4) The process of development in the procedure starts from the core elementary school to the impact of the latter, 5) Supporting facilities such as financing sources of funding support and regular funds taken from each elementary school are included in the cluster. Location coaching placed in SD because the core is easily accessible and located on the main street. Reference or source of learning that is used is to utilize the school environment as a learning resource, and 6) Implementation of the results includes the development of quality, processes and learning outcomes.

Keyword: the development of teachers professional, school groups, it is difficult to reach

1. Preliminary

The quality of teachers or teacher professionalism can not be separated from the process of teacher development, either directly by the development of school principals and supervisors, or by the Centers for Development and Empowerment Education and Personnel (P4TK). The development is very important for teachers especially SD / MI in general still have a lot of problems ranging from low welfare, low protection, low quality to the low level of professionalism of teachers. The low quality of teacher SD / MI adversely affects the quality of human resources nationally when compared with other countries. Data quality human resources we occupy the number 108 out of 173 countries, our competitiveness 47 of 48 countries, the performance of our education system is at number 38 out of 39 countries (Human Development Index, 2010). In the ASEAN region, Indonesia was under Malaysia (61st),

Thailand (67th), Philippines (77th) and Vietnam (all 108). State teachers in Indonesia is very alarming. Most teachers do not have sufficient professionalism to carry out their duties as referred to in Article 39 of Law No. 20 of 2003 that the learning plan, implement learning, assessing learning outcomes, coaching, training, conduct research and perform community service. Not only that, most of the teachers in Indonesia continues even declared unfit to teach. Feasibility teach it clearly relates to the level of teacher education itself. According to data published DG PMPTK Year 2010 of approximately 2,607,311 consisting of teachers civil servants and non-civil 1,579,381 1.02793 million. For elementary school teacher / MI as much as 13.8% educated diploma D2. According to data from Indonesia flying, approximately 54% of teachers in Indonesia do not have sufficient qualifications. According to data from Research and Education Ministry (2010), the percentage of teachers according to the feasibility of teaching in 2009-2010 at the primary level, which is worth teaching only 21.07% (domestic) and 28.94% (private).

In Trenggalek, East Java province, condition teacher until 2014 for elementary education level amounted to 5,543 people with the details of the number of primary school teachers that there are 3,035 civil servants and non-civil elementary school teachers as much as 2,508 people. The total number of 427 primary schools, private primary schools as many as 17 and as many as 151. MI (Source: List I In July 2014, the Department of Education and Culture Development SD Trenggalek). Referring to these conditions, the number of primary school teachers are so great an educational resource that needs optimal handling. Human resources in this elementary school teachers are the most important assets of the organization as it affects the efficiency, effectiveness and productivity of the organization. Tilaar (2001), revealed that human resources are now used and recognized as an organization's most valuable asset. School quality components depends on the size of one of the factors teacher. Teachers are human resources that have a strategic position in an effort to empower all potential school. In the Government Regulation No. 74 of 2008, explained that the teacher is the most important element in the national education system are held and developed for organizing teaching, coaching and training for educators. The teacher is the main element. Whether or not a school or a curriculum is highly dependent on the quality of teachers. so that teachers are required to have or meet the requirements specified capabilities. To that end, the teacher must always be developed so that the quality of learning ability can be maintained and enhanced. In such circumstances, it is clear the development of primary school teachers is a crucial part that needs attention in the development of quality education services.

Teacher professional development system which is done through groups PKG (Teacher's Activity Centre), KKG (Teachers Working Group), MGMPs (Council Subject Teacher), and the like have started to be developed in elementary school to middle school, which is an innovative step in development is done through education teacher in-service and in-service training. In line with government policy, through Law No. 14 In 2005, chapter 7 mandates that the coaching profession through the development of self-organized teachers conducted in a democratic, equitable, non-discriminatory, and sustained by upholding human rights, religious values, cultural values, pluralism, and the code of professional conduct. Besides, according to Article 20, in carrying out the task of professionalism, teachers are obliged to improve and develop the academic qualifications, teachers are obliged to improve and develop the academic qualifications and competence on an ongoing basis in line with the development of science, technology and art. The teacher is the oldest profession in the world for the rest of the human existence. Not surprisingly, in the community, the teaching profession is considered to be done by everyone. So now, the question still arises with regard to the teaching profession is "Is it a profession teacher job?" This question arises because on one hand, teachers are educators, so many people believe that everyone can and is entitled to educate. On the other hand there are some people who become teachers without through teacher education but can carry out their duties equal to or better than those whose background as teachers. For the teaching profession, the Law on National Education System has a very important meaning as in the Act the teaching profession has a clear legal basis. Even professorship specifically protected, recognized and guaranteed by the law. Protection was explicitly stated in Article 28 which states that "education activities can only be done by educators who have the authority to teach." (Paragraph 1) and "... have qualified as teachers" (verse 2).

Recognition that has the formal power when December 2, 2004, President Susilo Bambang Yudhoyono launched the teacher as a profession. One year later, was born Law No. 14 Year 2005 on teachers and lecturers, as the legal basis of recognition of the teaching profession in

all its dimensions. That means in the history of the profession, teachers recognized as a profession which requires the protection and respect deserving and appropriate development. In in this Act mentioned that teachers are professional educators with the primary task of educating, teaching, guiding, directing, train, assess, and evaluate students on early childhood education, formal education, primary education and secondary education. The implications of such recognition requires teachers must have adequate quality. Not only at the normative level alone but able to develop their competence, good pedagogical competence, personal competence, social competence and professional competence. This is because the teacher is the determinant of educational success through performance at the level of institutional and experiential, thus improving the quality of education should start from the aspect of teachers and other education personnel concerning the quality profesionalannya and welfare in the management of professional education. This study will focus on discussion of a teacher professional development through a cluster of primary schools conducted by a school principal, school superintendent and head of the Department of Education and Culture, on the organization and use of human resources effectively and efficiently to develop the professionalism of teachers in order to achieve a goal and objectives.

In Trenggalek, based on the results of preliminary observations in the field were no indications of teacher education background that varies from various college graduates, there are even educational background of teachers who just graduated from high school or equivalent. Based on these preliminary findings, it is to improve the ability of primary school teachers needed professional development activities of teachers in Trenggalek, particularly in Sub Dongko. This is because the professional development activities has not impact on improving the quality of teachers. In addition, there are many devoted great attention to the social improvement of the teaching profession. The problem is how to optimize the development of teachers, given the large number of teachers in the district so Psychology. As said Effendi (2000), that although the procurement management of primary school teachers all the important resources, but the man is considered the beginning of the most important resource. This argument suggests that, the development of primary school teachers as the most important resource in educational activities in elementary school can be a strategic alternative in the empowerment potential of primary school teachers in the district of Psychology. The development in question is related to improving the quality of education, especially in elementary school. This effort should be implemented in order to achieve national education goals. With reference to the national education goals, the Directorate of Primary Education seeks to various efforts to improve the quality of personnel or improving the quality of human resources managers of education. We need to know, that during this time the existing development efforts of teachers, one of them through school cluster. Based on the decision of the Directorate General of Primary and Secondary Education No. 079 / Kep / I / 1992 on Guidelines for Professional Development System through the formation of clusters of teachers in elementary schools is expected that primary school teachers can facilitate efforts to improve professional skills in improving the quality of learning and teaching and student learning outcomes to utilize all the resources and potential of schools, teachers and the surrounding community.

The problem is in line with the findings of previous studies by Djuariah (2001), entitled System Capabilities Teacher Professional Development Activity Through School Cluster, where the research explained that the system of professional development of teachers are implemented through group activities 03 is a relief and guidance activities undertaken in detail and systematically targeted, focused on improving the ability of professional and career development of teachers. Another study by Nurhatati (2005), entitled Professional Development Elementary School Teachers (research on the effectiveness of the professional development system Elementary School Teacher In Bandung municipality, West Java), explained that the professional development of teachers should be held based on the basis of the perceived needs of teachers themselves. Teacher development approach "bottom-up" is a strategic way to apply. Voice teacher about what is required and how to stay on the needs of what is perceived in the field and how compliance needs to be heard or considered. While the approach to professional development of teachers who are "top-down" as has been done today, it's time to be reformulated or modified forms and mechanisms, so that according to the perceived need for professional development of teachers themselves.

Based on the above description of the research context encourages authors to choose and discuss the professional development of teachers through school clusters with multisitus

study . The main focus of this research is how the professional development of teachers through school clusters in elementary schools is difficult to reach. The focus is detailed as follows : 1) aspects developed from teachers , 2) Organizing development , 3) Forms or models of development , 4) The process of development , 5) Means of support , and 6) Implementation of the development.

Based on the research focus , the purpose of this study was to describe the following things : 1) Describe the professional development of teachers through school clusters in elementary schools is difficult to reach , which include : a) developed aspects of the teacher , b) Organizing development , c) The model or models of development , d) process development , e) Means of support , and f) Implementation of the results of development , and 2) Finding a substantive theory related to the professional development of teachers who are appointed from the three study sites .

District Government policy implemented through the Department of Psychology of Education and Culture in accelerating the improvement of the quality of education is the formation of clusters of primary schools throughout the district. It is intended to facilitate the implementation of development for all teachers in the district of Psychology. Implementation of the intended development is related to an increase in the teaching profession, especially elementary school teachers in areas difficult to reach. The term jobs and professions are often confused. Actually, the two terms are not the same because it has a different sense. The term occupation has a broader sense than the notion of the profession. Currently with the teaching profession has experienced a broadening of perspectives and meanings. In the Government Regulation No. 74 Year 2008 regarding teacher, teacher designation includes: (1) teachers for classes, subject teachers / subjects, as well as guidance and counseling teacher or counselor; (2) teachers with additional duties as principal; and (3) teachers in supervisory positions. According to Law No. 14 of 2005 and Government Regulation No. 19 of 2005 and Government Regulation No. 74 Year 2008 concerning the teacher mentioned that the competence of teachers include personal competence, pedagogical, professional competence, and social competence. This competence is not an end point of an effort but rather a process that develops and lifelong learning. Professional development includes the planning, implementation, evaluation, and reflection that are designed to improve the characteristics, knowledge, understanding, and skills. Development is meant is how elementary teachers in elementary school core can improve professionalism. The existence of this core group of elementary school should get intensive training in order to grow into an established system, independent and can be used as a model of teacher professional development coaching system.

Based on the focus and purpose of the research, the results of the study are expected to be useful for various parties, among others, to: 1) For the builder, both the principal and the school superintendent, the results of this study are expected to provide input information for consideration in planning, implementing and evaluating development programs elementary school teachers, particularly in Sub Dongko, Trenggalek, 2) For elementary school teacher, is expected to be used as input to improve the professionalism, so that will have an impact on improving the quality of teaching and learning, 3) For the Department of Education and Culture Trenggalek, as education providers , the results of this study are expected to be considered in decision-making in choosing a model or form of training and professional development of primary school teachers appropriate characteristics, potential and needs of the region, 4) For the Directorate of Elementary Education and Culture Ministry, is expected to reveal the meaning of about coaching new teachers according to the needs in the field who can be appointed as an actual issue, hereinafter defined in a policy as an effort to enhance the ability of teachers' professional development system within the framework of improving the quality of education at the elementary level, 5) For other researchers, as initial information about the professional development of teachers, and 6) For the development of management science education, the results of this study are expected to contribute ideas on coaching employees in this case as a teacher coaching repertoire development of science, especially for science education management and Human Resource management.

This study used a qualitative approach to the study design multisitus . The data collection techniques : (1) in-depth interviews , (2) participant observation , and (3) study the documentation . Data analysis was performed in two stages that include single- site data analysis and data analysis across the site . Checking the validity of the data is done by using the degree of confidence by both the source and method triangulation .

2. Results and Discussion

The results showed that: 1) aspects of teacher developed that includes: (a) competence (personal competence, pedagogical, professional competence, social competence). This aspect has been controlled due to creating a quality students and the achievement of educational goals, (b) the qualifications and relevance of education, largely meets the standards of education, innovation and activity guides; 2) Organizing development include: (a) KKPS, PSC, KKG. The trio was formed from personnel members of their respective groups. Special KKG formed subgroups classroom teachers. Each sub-group of teachers formed subgroups of subjects. Supervisory monitoring to class, school, KKG, PSC, and PKG in accordance with their authority. PSC work program drawn up jointly, conducted on an ongoing basis and scheduled, monitored and evaluated, (b) Core SD, SD impact. SD core here three SD, SD is selected among the group members have a role as a center for the development of the group and institutional levels have infrastructure as well as education personnel. Furthermore, as a design activity, the implementation of discussions, and professional training of teachers in the form of PSC and KKG per each district. SD impact here as much as 24 primary schools, ie schools that are members of a group, because basically every effort to reform the primary education will be developed through the core and is transmitted to the primary impact, (c) the organizational structure of each cluster is clear in accordance with their respective tasks; 3) The model or models of development include: (a) evaluation of classroom administration, (b) upgrading, (c) workshops, (d) training, (e) seminars, (f) PTK, (g) scientific papers, (h) workshops, (i) comparative study, (j) discussion, (k) lesson study; 4) The process of development include: (a) procedure (from elementary school to the core of the impact of the latter), (b) planning and scheduling program, developed through the work program planning KKG in the cluster, the chairman of the KKG to coordinate with the PSC to fit the needs of teachers . Jawdal KKG in clusters arranged periodically and continuously, (c) personnel supervisors (school supervisors, principals, teacher guides, and other sources). The involvement of supervisors are required to have a sensitivity to the PBM and the factors that affect learning outcomes which they are responsible and act as advisor or facilitator. The involvement of personnel indicate that the involvement of teachers in KKG in the cluster can be designated as chairman, secretary, treasurer, tutors, and GPMP. GPMP involvement has an important role to assist teachers who experience difficulties in the learning process for certain subjects. The involvement of tutors to assist teachers who experience difficulties associated with the learning process for all subjects; 5) Supporting facilities include: (a) the cost of development, funded by supporters and regular funds taken from each elementary school are included in the cluster. Only the user is required once an attitude of openness, (b) the location of coaching, strategic selected. Coaching teachers in this case were placed in primary core is easily accessible and are due in the main street, (c) a reference or learning resources that are used to take advantage of the school environment as a learning resource into alternative learning strategies to provide theoretical and practical proximity to the development of student learning outcomes optimally; 6) Implementation of the development include: (a) the quality, process and learning outcomes. Material KKG in the cluster are discussed in accordance with the teaching. KKG focused on solving the problems faced by teachers in the classroom and improving the quality of learning, (b) career and rank. Of kenyatan it can be concluded that there is a teacher career development has not been fully realized. Career development is a lifelong process. A teacher let make efforts to improve the four kinds of competencies that must have in order that his professional career can grow better.

3. Conclusions and suggestions

Several conclusions can be drawn in this study are as follows: 1) The aspects that were developed from teachers that includes four competencies, have been controlled due to creating a quality students and the achievement of educational goals. Qualifications and relevance of education, largely meets the standards of education, 2) Organizing development include KKPS, PSC, KKG. The trio was formed from personnel members of their respective groups. Special KKG formed subgroups classroom teachers. There are three primary core and 24 elementary impact. The organizational structure of each cluster is clear in accordance with their respective duties, 3) Forms or models of development include evaluation of classroom administration, upgrading, workshops, training, seminars, TOD, scientific papers, workshops, study, discussion, and lesson study ; 4) The process of development in the procedure starting from elementary school to the core of the final outcome. Program planning and scheduling, compiled through the work program

planning KKG in the cluster. Jawdal activities arranged periodically and continuously. The involvement of supervisors act as advisor or facilitator. The involvement of personnel can be designated as chairman, secretary, treasurer, tutors, and GPMP. GPMP involvement to assist teachers who experience difficulties in the learning process for certain subjects. The involvement of tutors to assist teachers who experience difficulties associated with the learning process for all subjects, 5) Supporting facilities include coaching fees, location and references or sources of learning. Funding comes from the supporting funds and funds routinely taken from each elementary school included in the cluster. Location coaching placed in SD because the core is easily accessible and located on the main street. Reference or source of learning that is used is to utilize the school environment as a learning resource, and 6) Implementation of the results includes the development of quality, processes and learning outcomes. In this case the teacher career development has not been fully realized**.**

Based on the above findings and conclusions, the proposed some suggestions as follows: 1) To improve the professional teachers through group should really get serious attention of all parties to the program can be realized as expected, 2) Should the group can actually function as the container in order to improve the competency of teachers both pedagogical, professional, social and personality, 3) To be able diberdaya group to develop its function needs to be supported by: a) high commitment, b) adequate cost, c) infrastructure supporting adequate, d) the attention of all parties are serious, e) the strict supervision of piha related primarily as principals, school supervisors, department of education and LPMP, f) a clear timetable, and g) the need for an integrated cooperation with the related parties and 4) It is expected that all members of the group that is not only able to give examples of their work, but can be used as role models by other stakeholder.

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EFL TEACHERS' PERSPECTIVE ON PROFESSIONAL DEVELOPMENT IN IMPROVING TEACHERS' TEACHING SKILL

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Abstract

Indonesian government sets some teacher standard competences, one of these competences discusses teacher's professional competence. However, not many previous researchers have found out teachers' perspective on professional development. Therefore, this study attempted to investigate teachers' perspective on professional development in improving teachers' teaching skill as one of the standard competences and the most useful professional development in improving teachers' teaching skill. This research was conducted in basic interpretive qualitative research and used semi structure interview as technique of collecting data. The data were analyzed by describing and interpreting the data. The participants of this research were five EFL teachers in Bandung selected randomly. The study revealed that teachers have positive perspective on professional development in improving their teaching skill. The teachers did many activities to improve their teaching skill, but the most useful professional developments were peer coaching, and attending seminar and workshop.

Keywords: teachers' perspective, professional development, teaching skill

1. Introduction

English is a foreign language that is learnt in many countries included Indonesia. Besides, Indonesia joins the global computation, namely Trade Organization (WTO), Association of Southeast Asian Nations (ASEAN) Community, Asia-Pacific Economic Cooperation (APEC), and ASEAN Free Trade Area (AFTA) that becomes an external challenge for Indonesia. Therefore, in the current curriculum, education ministry decides English as one of the subjects that is taught in the schools started from Junior High School and the content is developed by the government [1]. The government not only fixes the curriculum, but also sets the teacher standard competencies. The competencies are pedagogic competence, personality competence, social competence, and professional competence [2]. Of course, the teachers should develop their competencies. However, only few researches have been done to find out teachers' perspective on teacher standard competencies. Therefore, the researcher was interested to find out teachers' perspective, especially on professional development in improving their teaching skills as one of the professional competences.

2. Research Problems

There are two questions as guided in this study are:

1. What is EFL teachers' perspective on a professional development in improving their teaching skill?
2. Which professional development is more useful according to the teachers?

The scopes of this research were teachers' overviews of definition of professional teachers and professional development, their attitude toward professional development, and the most useful professional development according to the teachers.

The significances of this research were as a resource for educators and researchers of EFL teaching and as information for the novice and experienced teachers in what they need to improve their teaching skill.

3. Theoretical Framework

This section will elaborate literature reviews, including teaching skills, professional

development, the activities of professional development, and some related studies.

Teaching is an activity that has three main characteristics, namely lecturing knowledge, transferring knowledge, and facilitating students in gaining knowledge [3], but Dornyei and Murphy as cited in reference [4] argue that the most important in teaching are promoting and facilitating the students to learn autonomously. Then, the students need a competent or good teacher to be successful in their learning [3]. Besides, Allen as cited in reference [5: p. 429] argues that one of the teachers' good characters that teachers should have is the professional citizenship.

Johnson as cited in reference [6: p. 19] mentions that many factors also can influence a successful teaching-learning; they are the level of instructional resources available, staffing levels, administrators and parents support, and continuing professional development. One of the best teacher attributes and the factors which influence the success of teaching learning is professional development. In Indonesia, the government sets four teacher standard competencies, one of them is professionalism [2].

Professional related to someone's work that involves some performances in specific functions with some degrees of expertise that not only need knowledge and skill, but also many experiences and extensive study or formal education for instances doctor, teacher, and lawyer [7]. Professional development is an important key in helping the students to be successful because helping the teacher to be better means helping the students to be successful learners [8].

Then, the professional development is also the activities which are done by someone to improve his or her knowledge, skill, expertise, and other activities as a teacher [9]. Many professional developments that teachers can do, namely attending workshops, reading, self-monitoring, teacher support groups, keeping a teaching journal, peer observation, teaching portfolios, peer coaching, team teaching, and action research [4, 5, 10, 11, 12]. Generally, the teachers dislike the idea of being observed by the other teachers [5, 11, 12]. Further, Richard, Gallo and Renandya as cited in reference [11] point out that most teachers choose to attend the workshop as one of the most useful professional development.

Previous studies found that the teachers changed their attitudes towards learning in general, when they have been given an alternative perspective about teacher self-development through professional development that called 'quality from within' approach [13]. Further, Zwart et al explained in their study that the teachers became more open about their problem and prefer to share their ideas and vision. Then, it gave specific effect to school culture in where teacher can share information with each other.

The teachers also have positive attitudes in terms of interest, confidence and enjoyment on professional development intervention in using English as instruction in teaching science [14]. They emphasized that continuing professional development was important [15], and in Gaza, action research continually was the most common strategy of professional development that was done by teachers [16].

4. Method of Study

This part will discuss the research method, including the research design, the participants, the techniques of collecting data, the procedures of collecting data, and the data analysis.

The design of this research was a basic interpretive qualitative study. In this research, the researcher only focused on the teachers' perspective on professional development in improving teacher's teaching skill.

The participants of this study were five EFL teachers in Bandung that were chosen randomly. One of the teachers is a teacher in Junior High School, who has taught more than fifteen years, and the others are teachers in Senior High School who one of them has taught since two years ago and the others have taught more than twenty years.

Because of the limited time and opportunity to meet the teachers, the researcher decided to only use semi-structure interview as the technique of collecting data. During the interview, the researcher would give five basic questions, including the definition of professional, what the teachers do to be professional, teachers' perspectives on their own professionalism, the impact of professional development on teachers' teaching skills, and the most useful professional development. The result of this interview would be transcribed first and then this transcript would be described and interpreted.

The procedures of collecting data were four steps. The first, the researcher chose the EFL teachers randomly. The second, the researcher informed and confirmed the EFL teachers about interview by giving formal research letter. The third, the researcher confirmed the teachers before interviewing them and gave the consent to

them to permit to record the interview and to not write their names in this research and the consent was adapted from reference [17]. The fourth, the researcher interviewed the EFL teacher. The interview was done at teachers' school and in different days. The first teacher was interviewed on 3rd October 2014, second teacher was interviewed on 7th October 2014, the third teacher was interviewed on 8th October 2014, the fourth teacher was interviewed on 11th October and the last teacher was interviewed on 14th October 2014. And the duration of the interview was about fifteen minutes. And the last, the researcher transcribed the interview record, and analyzed the data. The interview transcript was enclosed in the appendix.

In analyzing the data, some procedures were done, namely data reduction, data display, and drawing conclusions [18]. As stated before that in this study the teachers' interview were employed to gain data.

In the first step, all the data gained were selected and simplified into the data focus. All the irrelevant data would not be taken into account in order to get a clear picture of teachers' perspective on a professional development in improving their teaching skill.

The second step is the data display. The presentation of the data could be in the form of charts, graphs, flowcharts and tables. In this research, the data were displayed in the form of text and table. Those displays were aimed at simplifying the data presentation regarding teachers' perspective on a professional development in improving their teaching skill [18].

The last is drawing a conclusion. After the data were reduced and displayed, the drawing conclusion would be presented in this research. It would cover two research questions as mentioned before, namely (1) What is EFL teachers' perspective on a professional development in improving their teaching skill?; and (2) Which professional development is more useful according to the teachers?

5. Discussion

This section will present the findings and the discussion from the interview. The findings would answer the research questions as stated before, namely (1) what is EFL teachers' perspective on a professional development in improving their teaching skill?; and (2) which professional development is more useful according to the teachers?

For five basic questions of the interview, the first question until the fourth question would answer the first research question and the fifth question would answer the second research question.

Based on the interview, these five EFL teachers had a different overview of the definition of a professional teacher. Here are their comments:

The first teacher:

"Professional teacher is a teacher who can deliver the information to the students well, using media and up to date."

The second teacher:

"Professional means that you know somebody has to be qualified, not only in their way in teach but also have some knowledge that teacher should have not only master English very well but understand the students very well too. If it according to me, we have to in time to school, very discipline, teach based on the book, not only from the book but also add other information that students need and responsible to our students. And I not only be a teacher but also be friend for my students, be a mother for my students. We have to keep reading, keep knowing everything."

The third teacher:

"Someone who teach with good character, has many knowledge and teach with full of responsibility."

The forth teacher:

"We need to master our profession as a teacher. Only that."

The fifth teacher:

"Can manage the class, can transfer the knowledge to the students well. It is for in the classroom and outside the class, teacher should be able to be friend and parent for students, be good model for students as discipline."

However, from their perspective on definition of professional teachers, there was similar, namely the professional teacher should master the material well.

These teachers said that they are still not professional and need to improve their teaching ability. To improve their ability, they did some activities. From ten professional developments that the researcher chosen for this research, based on the interview, these five EFL teachers only chosen a few of them that can be seen in following:

Table 1. Teachers' Professional Development Activities

Professional development	1st Teacher	2nd Teacher	3rd teacher	4th Teacher	5th Teacher
Attending workshops/seminar	√	√	√	√	√
Reading			√		√
Self-monitoring					
Teacher support groups		√			
Keeping a teaching journal					
Peer observation		√		√	
Teaching portfolios					
Peer coaching	√	√	√	√	√
Team teaching					
Action research		√			

From the table, it could be seen that 100% of them chose to attend seminar and workshop, 20 % choose reading educational books and journals, 10 % teacher support group, 20% chosen peer observation, 100 % chosen discussing with colleagues or peers mentoring and 10 % chosen action research.

According to the first teacher, professional development is important. Students need always change and we live in IT century now that information is easy to find now. The students can gain knowledge by themselves and are more creative. Therefore, she needs to develop herself because the teacher should be more up to date than the students.

According to the second teacher, she gains many things from professional development. For instance, by attending seminar and workshop, she gets new information about education and last information is about *KurTilas* as a current curriculum in Indonesia. Besides, she also uses IT to get more information about strategy and media in teaching English. She also joined a government program to learn how to be a professional teacher in Australia and got the certificate. According to her, teaching is more about practice, not theory.

The third teacher more focuses on gaining knowledge by learning about teaching and learning, and discuss with friends as his professional development. One thing that surprised the researcher was his comment that to be professional, he should be rich first so he could focus on teaching in one school. He has a negative perspective on the seminar or workshop because sometimes seminar is not always appropriate with what he needs in his teaching.

The fourth teacher has a simple perspective about professional teacher and professional development. According to her, professional teacher is a teacher who masters the material. And to develop her profession, she chose peer observation as the best way, although not all teachers in her school like to be observed by the other teachers.

For the fifth teacher, professional teacher is a teacher who master the material, has good teaching skill and personality. Therefore, she needs to develop herself by a attending seminar or workshop and discussing with colleagues.

However, two of these teachers do not prefer to read a journal or education books. They prefer to practice than only get theory, because theory is not always similar to the fact in the field.

Thus, it can be concluded that based on the teachers' perspective, professional development is important because it really helped them to increase their teaching skill. And by improving their teaching skill, they can help the students to learn better.

Next, for the most useful activity in developing their teaching skill, the first teacher chose to attend a seminar, the second teacher chose to discuss with colleagues or peer coaching and peer observation, the third teacher chosen discuss colleagues, the fourth teacher chosen peer observation, and the fifth teacher chose to attend a seminar. Therefore, the most useful professional development for these teachers were peer observation, discuss with colleagues or peer coaching and attending seminar.

Based on the finding in data analysis, three of five EFL teachers chose peer observation as the most useful professional development. By peer observation, they could see how the good ways in teaching the materials, how teacher should interact with the students and it was more real than only read the book. Nevertheless, it contrasted with the argument that the teachers dislike the idea of being observed by other teachers [5, 11, 12].

The teachers also argued that professional development is important. By doing professional development means they are improving their profession as a teacher that would affect the result of students' learning. It was appropriate with the statement that professional development is an important key in helping the students to be successful, because helping the teacher to be better through professional development means helping the students to be successful in learning

[8]. They also emphasized that continuing professional development was important as what was found in reference [15].

Based on their effort in improving their teaching skill through professional development, it could be interpreted that these teachers have a positive perspective on professional development in improving their teaching skill. It was in line with what has been found in reference [13, 14].

According to the teacher, attending workshop is one of the most useful professional developments for the teachers which is also supported by Richard, Gallo and Renandya as cited in reference [11]. It was also appropriate with what was found in reference [16] that conducting action research continually was the most common strategy of professional development done by teachers in Gaza.

Overall, the teachers agreed that professional development is important, and they also attempted to improve their professionalism. Besides, they argued that peer observation or peer coaching and attending the seminar or workshop were the most useful way to develop their teaching skill.

6. Conclusion

This part will present the research conclusion, limitation of research, and recommendation for next the researchers.

The teachers had positive perspective on professional development which could be seen from their overview of definition of professional teachers and professional development, and their effort in continuing their professions. They did many activities, namely discussing with their colleagues, attending seminar and workshop, reading educational journals and books, searching current information about English through the internet, doing classroom action research, and doing peer observation. According to them, professional development helps them to improve their teaching skill.

Based on the research finding, it could be concluded that the most useful professional developments, according to these teachers were peer observation or peer coaching, and attending a seminar or workshop.

Because this research only used interview as the technique of collecting data and involved five EFL teachers in Bandung as the participants, for the next researchers, it will be better to use questionnaire, observation, interview, and more teachers as the informants to find more information to be more valid.

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MATHEMATICAL COMMUNICATION IN INTERACTIVE LEARNING

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Abstract

Working in an interactive CD-assisted group led to the independence of the group in exploring the concept, applying the concept in solving problems and evaluate the results of problem solving. The role of the teacher as a facilitator limited in 5 minutes early learning activities and 10 minutes of the end of the learning activity. During 60 minutes of core learning appears active interaction between group members in group discussions. Working group consists of 2-4 learners. The interaction successfully improved mathematical communication frequency of learners. It is one of the results of study on the development of Mathematic learning models. The study was conducted in SMA 4 Semarang in 2014. The observations indicate that more than 79% (27 of 34) learners actively exchange opinions in the process of the invention of concept of rotated objects volume and 100% of learners are actively involved in solving problems. Oral communication interspersed with the process of maintaining opinion reflects the ownership of adequate knowledge of learning materials. Character as a mediator in group discussions automatically appear in each group. Mediator successfully regulated the flow of communication. Communication between members took place smoothly and prolonged quarrel mutually maintains could be reduced. The Exploration of mathematical concepts occurs complementary. Interactive CD play back encourages the development of listening skills, oral and written communication skills and the ability to hold opinions.

Key words: Mathematical Communications, Interactive Learning, Working Group

1. Introduction

Adult age reflects independence, including in the learning process. Towards adulthood, high school students increasingly demanded independence in learning. The pattern of learning in college already requires students learn independently. Many high school graduates take a long time to adjust to the pattern of self-learning. The development of telecommunications and information technologies increasingly provide flexibility to teachers to create independent learning. Interactive CD is one such example. CD-assisted interactive Learning significantly reduced the role of the teacher during the learning process. The process of interaction cannot be separated with communication capabilities. If the material presented is mathematics, students are required ability to communicate about mathematics. During the lesson the students are forced to practice communicating with the language of mathematics. Therefore, CD-assisted interactive learning mathematics is one of the learning models that able to develop mathematical communication skills of learners.

Communication in Learning Mathematics

The importance of communication in the learning of mathematics cannot be ignored as communication is an essential part of human's activities. Through communicating student can build meaning and share his opinion to their friends and teacher. When students are facilitated to think and to make reason about mathematics and to communicate the result to others, they will master the material deeply. Listening to others' explanations in a discussion gives students opportunities to develop their own understandings.

Conversations in exploring mathematical ideas help students sharpen their critical thinking and make connection. Students who are involved in discussions will gain better mathematical understanding. They have to justify solutions to others, in the face of disagreement they have to convince their friends about differing points of view.

Language as a means of communication is used to reveal the results of students' thinking. By using language, teachers encourage students to interpret and create graph and mathematical data. Language helps students use mathematics to model real-world problems, to reason mathematically, to communicate mathematically and to solve problem [1]. The communication

that is used to communicate mathematical material is called mathematical communication which uses a language, the language of mathematics.

The language of mathematics is a system of language used to communicate mathematical ideas. The language uses everyday language, technical terms and symbols, grammatical conventions and specific types of discourse. Mathematics uses symbols to represent concepts, functions, values, operations or structures. Without proper symbols, students will get a lot of difficulties to express procedures or relation. Mathematical symbols and words are used to consolidate meaning [2].

In an interactive learning, students actively communicate their ideas. They are forced to use speaking, listening, reading and writing to communicate their understanding. In mathematic class, they communicate their understanding of mathematics words, symbols, and concepts.

Mathematical communication is an essential element in learning mathematics [3] but it is not an easy matter to make students to practice it. Teachers need to practice and familiarize the students with the symbols in mathematics, multiple mathematical representation, letters in mathematics and mathematics problem.

Mathematical Symbols are conventional signs used for the written notation of mathematical notions and reasoning [4]. There are four types of symbols, namely: 1) symbols for objects, which can be differed into a) symbols of number (0, 1, 2,…9), and symbols of values (x, y, z, …); 2) symbols for operations (- , +, :, x); 3) symbols for relation (=, ≤, ≥); 4) auxiliary symbols, which determine the order in which basic symbols are to be combine (parentheses that indicate the order in which arithmetical operations are to be carried out) [4] and 5) symbols of special uses (α, π, μ, φ …) [2]. Students should be encouraged to use multiple representations (such as diagrams) to move fluently between verbal, symbolic, graphical, and numerical forms of mathematics concepts words [5].

Letters in mathematics can have special uses that should be mastered well by students. Letters “A, B, C …” are used for pointing geometrical figures, letters “a, b, c…” are used for fixed values (constants), letters “i, j, k, …,n” are used for counting in positive integers, letters “…x, y. z” are used for unknown values (variables).

Each mathematics problem was structured in one of three ways. With *high-attachment* syntax, the final operation of the problem applied to a large chunk of the earlier part: (5+15)/5 in the problem 80-(5+15)/5. The final division (by 5) applies to the entire previous addition term (5+15). With *low-attachment* syntax: 15/5 in the problem 80-5+15/5 The final operation applied to a smaller previous chunk. With *baseline* syntax: problems like 80-5 [6].

CD Assisted Interactive Learning

In 2014 a team of researchers from UPBJJ Semarang, developed a CD assisted interactive learning model in SMA 4 Semarang. The model allows students to actively participate in the process by using a CD program. Teacher facilitates students in an interactive learning process to react, respond, select and process information. Teacher does not give an oral presentation anymore [7]

CD assisted Interactive learning actively involved student in exploring the material. Learning turned into a discussion. Students can ask their classmates questions and receive immediate feedback. The teacher becomes a facilitator in the course of the acquisition of knowledge. In the learning model, traditional lesson content is moved out of classroom to CD video and worksheets. CD interaction used in the study contains Mathematics learning materials about volume of rotated objects. The 90-minute lesson format is divided into a series of activities, included small group working with interactive CD, which typically are:

1. 10 min in length for initial activities (greeting, learning objectives, group formation, group work rules, explanation of sheet activities apperception)
2. 60 min in length for small group working with interactive CD. Interactive CD materials are divided into five sections of materials: 1) Standard of competence, 2) The concept of rotated objects, 3) The concept of volume of rotary object, 4) Exercises and 5) Quizzes
3. 20 min in length for interactive session with teacher (answer student questions, check their understanding, ensure that students have a solid grasp of the material, leverage feedback provided by quizzes and in-group discussion exercises to identify challenging concept, give home assignments).

CD assisted Interactive learning puts the mastery of content under the direct control of students. Students can synchronize the speed of the material display with their ability to understand. They can choose the material that suits their individual needs. Whenever they lack of understanding the material, they can immediately repeat the display of material. Materials presentation can be tailored to the students' understanding ability. In a traditional learning, students are walked through the material once at a set pace and leave with variable understanding.

Reflective questions within the CD allow students to check their understanding as they are learning a new concept. Wrong answers of each item in questions indicate an error in the process of understanding the concept. Students can quickly analyze and reflect on the process of understanding learning materials by turning back the CD.

Teachers do not have to teach the same material every year with varying conditions. They can enrich their best explanation of key concepts in a series of short videos. The use of short videos allows for the segmentation of the ever-growing material. Short videos in turn can be integrated into a larger curricular framework. As new material emerges, specific video modules can be updated.

By copying the CD material into a laptop or a tab, students can engage with the content at a time and place that is convenient for them. Whenever students have the best time for the best focus they can replay the material. This flexibility in turn frees up time for housework, exercising, sport and other activities.

CD-assisted interactive learning gives a chance to teachers not to transmit material in class activity. Teachers actively participate in the construction of knowledge in CD interactive, guiding students as they make sense of the content for themselves.

Classroom time is freed up for discussion group learning. During 60 minutes of core learning appears active interaction between group members in group discussions. Working group consists of 2-4 learners. Students interact around the content and make real-world applications through problem-solving and case studies. Teacher delivered the lesson material before class using the material in their discussion. In the small group interactive learning, students come to the group discussion with sufficient background to participate in knowledge-supported discussions. Class time is used to interact with peers and engage with the material in a meaningful way. In a small group discussion students are challenged to participate more actively.

Students' participation is completely observed. Interactive small group discussion is an area of effort that teacher is exploring as part of a larger communicative exercise. Using interactive small group discussion methods will mean more for communicative exercise. It takes some extra time to listen the other members' saying, to think through their opinion, to rethink owns' idea, to decide what they would like to say and to create their own opinion.

In-small group discussions deepen mastery the material and proficiency in communication by challenging students to actively explore the material. Through peer discussion, students make meaningful connections between the concept of volume of rotated object and its application to solving problem. Close interaction among peers, fully observation on students' participation, combined with group exercises focused on key concepts, facilitates timely and specific feedback on comprehension.

Small group interactive learning gives all students an opportunity to work closely together in teams and draw on their own expertise and experiences to enrich the learning process. **Establishing a cooperative learning where students work together** allows learning to continue after the class session. In a group interactive learning, students teach each other. The most effective way to learn is to actually teach, because this requires the highest degree of mental processing and greatly increases the likelihood that long-term memories will be produced [8].

Mathematical Communication in Interactive Learning

In ten minutes early of learning process, teacher gave an oral presentation about learning objectives, work group formation, group work rules, explanation of sheet activities and apperception. Teacher began learning activity by formatting small work groups with two to four students. Teacher formed groups by considering the equality of academic abilities of its members. In each group teacher chose student that he thought would prompt productive discussion.

Mathematical communication activities appeared when teacher gave opening activities about prerequisites material for volume of rotated plane in apperception section. Student gave immediate oral or written feedback to the questions posed by the teacher.

Teacher wrote down 'If $\frac{dy}{dx} = f(x)$, then y is…'

Fathia orally continued the statement "…. then y is a function that has a derivative of f (x) and is called anti-derivative".

Teacher wrote down $\int 2x^3\,dx =$

Febriani immediately showed her hand and wrote the full equation " $= \frac{2}{3+1} x^{3+1} + C = \frac{1}{2} x^4 + C$

Before giving their answers, Fathia dam Febriani made some step of mathematical communication. Fathia's steps: read the written uncompleted statement on board, think over the possible right completed statement, and stated orally the completed statement to the class. Febriani's steps: read the equation question, think over the possible right answer, and write it down.

The core activities of the learning process are group work assignments assisted interactive CD. In a small group 2-4 students discuss the material presented by interactive CD. The group assignments activity is set forth into five sections. In the first two section, namely: the presentation of Standard of competence and the presentation of rotated objects concept students act as an active viewer. They listen to the material display, process data in mind, write down the urgent information and ask some questions. However, only 35 % students (12 from 34 students) made material note. These sections did not much support efforts to develop mathematical communication ability.

Farida and Khoirudin (two students that did not make any note) said that the contents of competency standard are not important material to be remembered. The material will not be questioned in the final test. The concept of rotated object is not new concept for them, so they did not make any not of these sections.

The opinion of both students can be the representative opinion of the majority of students who did not make any note in these sections. At the end of these two sections there was not any discussion among the students. The absence of discussion indicated that the material did not cause any problems.

In the third section of the core activities students watched the presentation of the concept of rotated object's volume in two sub sections, namely: 1) animation of revolving a plane figure about an axis, about the x-axis and about the y-axis; 2) formulation of rotated object volume.

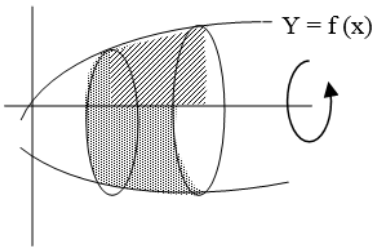

Fig. 1 Revolving a plane about x-axis

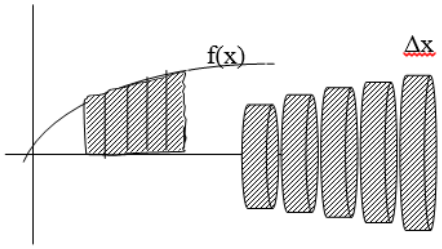

Fig. 2 Partitions of rotated plane

In the first sub section, each group watches an animation of process formatting a revolving plane about an axis. The process starts from drawing a coordinate plane, drawing a plane and revolve the plane about an axis. Each group can replay the presentation if there is a difficulty in understanding the material.

Students learn the mathematical concepts of a revolving plane about an axis, learn to separate a plane into a partition and learn the concept of finding the volume of a revolving plane. They

analyze the animation, organize their own understanding, share their opinions to others in the group in order to confirm the concept, make inferences and conclusion, reorganize the concept in their mind and formulate the concept in written form.

In the second sub section, an intensive discussion among students occurred in all work groups. "Why do we partition the object?', "How to partition it?", "How to measure its volume?", "How to sum up all of the volume of the partitioned plane?", "How do we declare it in ther mathematical sentence?" are questions that generally arise in each group.

Before formulating their questions, students must understand the concept of rotated object and the objective of their activities, namely finding the formulation of rotated object volume. Questions come from students and should be found its answer by students themselves in each work group. Teacher acts as an organizer of the learning process. They have to find different formula and try to apply them in different conditions.

They make some efforts to analyze data in the animation presentation, to replay the interactive CD to find the missing link data, to discuss all alternatives that they have got, and to conclude the most applicable formula. All of the activities can be done well when they have capability in mathematical communications, they mastered the symbols in mathematics, mathematical representations and letters in mathematics and have the mastery of the material.

The formula of rotated object volume is

$V = V_1 + V_2 + \ldots + V_n$

$= \pi r^2 t_1 + \pi r^2 t_2 + \ldots + \pi r^2 t_n$

$= \pi \int (x)^2 \Delta t_1 + \pi \int (x)^2 \Delta t_2 + \ldots + \pi \int (x)^2 \Delta t_n$

$= \Sigma\, ^5_{i=1} \pi f(x_i)^2 \Delta t.$

To communicate this formula, student have to know what are all words, numbers, symbols and representation of this formula stand for, to understand their meaning, to spell them out and to use them in an applicative problem.

The observations indicate that more than 79% (27 of 34) learners actively exchanged opinions in the process of the invention of concept of rotated objects volume. There were seven group which had a student who was not active enought in giving opinion.

In the fourth section of the core of learning activities students practice to aplicate the formula in problem solving exercises. They work in a small groups solve problems interactively on the computer screens. If members of the group gave the correct answer, a score of 10 will appear on the screen, otherwise if members give the wrong answer, a score of 0 will appear on the screen.

On any problem that arise, the students discuss the issues that arise, translating and analyzing every bis of information to collect data. They organize all of data that they have got and present data on a sheet of paper. Students share the way of analyzing data. The students who are less able to perform data anlysis will learn the way to analyze data from more affluent students. They discuss the data that has been collected to make inferences and to translate the problem into mathematical senteces.

During solving the problem, students were forced to use their ability as much as possible. Oral communication interspersed with the process of maintaining opinion reflects the ownership of adequate knowledge of learning materials. They proposed their opinion, contradicted each other, and argued their right opinion. The process of discusion came to a standstill when there was a disagreement among them.

This disagreement did not last long. Character as a mediator in group discussions automatically appeared in each group. The most intelligent members in each group were often believed to be the mediator. They gave the most rational argument in each case. Indirectly other members appointed him/her as a facilitor of the group. Mediator successfully regulated the flow of communication.

All students actively involved in the problem solving process. Active involvement of all students occured because the teacher had set the working pattern for all members of each group. Groups process each case in four steps: 1) identify existing data in the narrative exposure, 2) find a major problem, 3) change the narrative exposure into mathematical sentences, 4) determine and implement problem-solving process. Each member was responsible for one of the steps in turn. If in the first case he was responsible for the first step, then in the second case he should responsible for other step.

Students in charge for a step had to report his work first before being discussed in the group. Other members gave input, correction or refutation of existing exposure. Input, correction or refutation often cannot be accepted by other members. This disagreement raises communication deadlock. This communication deadlock requires the emergence of a mediator of fellow group members. Mediator regulated the flow of communication until the group reached a mutual agreement.

This section repeatedly gave students oppotunities to grapple with problem, to analyze,

to formulate, to solve complex problems with different conditions and to reflect on their answer. With the experience of failure and success repeatedly the students will have the mental toughness to face difficulties, will acquire positive ways of thinking about a problem, habits of persistence and curiosity and big confidence in facing unfimiliar difficult situation.

Problem solving through group work often leads to differences in argumentation. Arguing in the discussion developes students abilities in mathematical understanding and improve students' skills in mathematical communication. In arguing students hold their opinion by giving a rational argumentation in mathematical issues. To give a rational argumentation requires mastery of the material. By giving argumentation students expose their understanding of the material that has been held and practice their skill in mathematical communication. Exposing the understanding of the material and practicing in communication are steps to develop mathematical understanding and mathematical communication.

In the fifth section or the final section of the core of learning activities, students take the test. Individualy students face the computer's screen with interactive CD answering the questions. Independently students measure their ability to solve problems on the volume of rotated objects. The acquisition of scores depends on the number of opportunity he managed to solve the problems correctly. Success at the first opportunity obtains the highest score. At the end of each opportunity students get immediate respon to their answer.

For the last twenty minutes of the lesson, students have participated in an interactive session with teacher. Students can communicate their difficulties, can ask the subject matter that they have not understand, can get feedback on their ability to master the material, and receive home assignments. Teacher wants all of the lesson material can be grasped well by students.

2. Conclusion

Discussing the mathematical issues, translating and analyzing every bits of information, organizing data and presenting data on mathematic sentences, proposing opinion, arguing and counterarguing are all activities that occured in interactive work groups. These activities are guided by an interactive CD in small work group.

Interactive activities in a small work group give a big chance to the students to practice and develop their ability in mathematical communicating intensively. This lesson model forces students to communicate in mathematical language in almost all of the lesson time.

They watch mathematical materials exposures in the form of video and animation, listen to the explanation, process data in mind, express the ideas orally and/or in writing, receive input or disclaimer, argue the opinion and write down the final resume. In doing these mathematical communication students develop their understanding in verbal, symbolic, graphical, and numerical forms of mathematics concepts words. They practice the use of mathematical symbols and words to consolidate meaning in expressing ideas.

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ASSISTANCE PROGRAM FOR DEAF STUDENTS IN CENTER FOR DISABILITY SERVICES (*PUSAT LAYANAN DIFABEL*) UIN SUNAN KALIJAGA YOGYAKARTA

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Abstract

UIN Sunan Kalijaga through Center for Disability Services (*Pusat Layanan Difabel*) attempts to achieve an inclusive campus since 2007. In this academic year of 2014/2015, UIN Sunan Kalijaga has 11 deaf students, 26 blind or low vision students, 53 visual impairment students and 11 other students with physical disabilities, who must have access to equal and quality education, with the same content and to the same academic level as otherstudents.Students who are deaf have significant obstacles to overcome in order to have access an appropriate education that meets their unique educational needs, particularly their communication and related needs. They need different approaches and communication methods to interact with others in the academic environment. As known, language and communication are at the basic of everything that humansdo and without them any academic and social development becomes difficult. The major barriers to learning associated with deafness relate to language and communication, which is profoundly affect most aspects of the educational process.Thus, they often have difficulty in understanding the material and as consequently, they cannot show their academic performance (learning achievement) as well as other students. To respond this problems, PLD has various programs such as notetaking (recording dan taking note lectures in class), sign language interpreters, and study group discussion based on their subjects. On the other hand, to support those programs, PLD also has thesign language training for volunteers and adaptive learning strategy workshop for lectures.

Keywords: deaf, disability, education, assistance, disability Services

1. Introduction

Ratification of the CRPD (Convention on the Rights of Persons with Disabilities) [1] on October 18, 2011 [2] by the Parliament presents a challenge for many public sector that still disregard the rights of persons with disabilities. Therefore, since the ratification of the convention public institutions in Indonesia are required to be able to provide accessible services for the disabled. Buildings, public places, and other public facilities should be adapted,fixed, or modified in order to meet the special needs of the disabled.

One area of public services is also charged with the responsibility is higher education.After the ratification of the CRPD, the ministry of religious affairs is one of the ministries that quickly respond to the CRPDratification.By a letter of Secretary General of the Ministry of Religious Affairs Number SJ/BI/I/HM.00/1655/2012 dated 24 April 2012, units under the Ministry of Religious Affairs are encouraged to immediately implement the CRPD by opening the accessibility for persons with disabilities.

Statistical data indicates the level of education participation with disabilities in primary and secondary level in Yogyakarta was still low. Until 2004, children with disabilities who attended school reached 63.24% [4]. There are no official data relating to disabled participation in higher education [3]. As a comparison, according to data compiled by Pertuni (Persatuan Tuna Netra Indonesia) in 2005, only about 250 blind people who are taking higher education at the time. However, the number of the disabled population is estimated at around 3.5 million by the Department of Health

in 1995, or about 1.5 percent of the total population of Indonesia. The census data collected by the Central Bureau of Statistics in 2000 indicated population ofdisabled are 1,465,280 inhabitants [5].

UIN SunanKalijaga has been declared as an inclusive university since 2007, facilitated by Center for Studies and Disability Services (PSLD), which has now changed its name to Center for Disability Services (PLD) since July 19, 2013.PLD has been developing many programs to facilitate disabled students. In 2013, UIN SunanKalijaga received Inclusive Education Award from the Ministry of Education and Culture as one of an inclusive university.

As an inclusive university,UIN SunanKalijaga has been taking mainstreaming effortsto increase the participation of the students in higher education.In 2011, PSLD advocated the faculty board and admission to accept deaf student. As a result, there are 11 deaf students at the academic year of 2014/2015.

PLD has been caring out various program for deaf students, which aims both to respond to the learning needs in the classroom, as well as academic and social needs in general. The fundamental problem faced by deaf students is language barrier, where they tend to have a limited vocabulary and difficulty in communicate with others. This is what causes the problems of deaf learning become more difficult and complex, compared to the blind, where the challenge is as not complicated and complex as deaf. Blind students have mobility barriers and limitations in visual perception, whereas the deaf have language and communication problems.As known, language is a tool for understanding knowledge and communication is a tool to convey ideas. Therefore, deaf students often have difficulty in understanding the material.

PLD have been made various attempts to respond this problem, one of them is assistance program. Since last year, PLD provides a notetaker, sign language interpreters, and study group.To support assistance program, PLD has been organizing the sign language training for volunteers and adaptive learning strategy workshop for lecturers. Therefore, this researchis aimed at:

a. examiningproblems, obstacles, and challenges faced by PLD in organizing assistance program for deaf students;
b. providingrecommendations for PLD related to this program.

2. Literature Review

The concept of inclusive education has been spelt out in the Salamanca statement and the framework for action on special needs education 1994. It states that all governments have been urged to "adopt as a matter of law or policy, the principle of inclusive education, enrolling all children in regular schools unless there are compelling reasons for doing otherwise". The basic premise is that the school should meet the educational needs of all children irrespective of their disabilities or limitations.

Research conducted by PSLD UIN SunanKalijaga and World Bank (2010) shows that there wasa limit access and participation of the disabled to higher education.Only several numbers of universities (public and private) are willing to accept disabled.Furthermore, university that accepted disabled still has a limitation in interventions to tackle the disabled problems. They tend to make a program or policy that only responds to the case or matter without the basic need assessment and fixed plan [6].

In order to provide a better learning setting for deaf students, The Seven Principles can be applied to any classroom or lesson plan to increase equity and decrease exclusion[7], which are:

a. Teaching All Students
   Educators should take several different approaches to teaching the same material so that information becomes more interesting and tangible to a greater number of students.
b. Exploring Multiple Identities
   Students who are proud of themselves and excited by the world around them will be more compassionate and understanding people; the same is true for educators.
c. Preventing Prejudice
   Educators should take a proactive approach to debunking preconceived stereotypes and preventing them from escalating into prejudices and negative biases.
d. Promoting Social Justice
   Students are good judges of what is fair, especially when they are affirmatively challenged to consider issues of social justice. Educators should talk to them about issues of social justice and injustice in terms of fair versus unfair, respectful versus disrespectful.
e. Choosing Appropriate Materials
   Inclusive classrooms use books and materials that reflect accurate images of diverse peoples and challenge stereotypes.
f. Teaching and Learning About Cultures and Religions

Educators should create curiosity and expand students' horizons by teaching about others in a positive manner. Students should have the opportunity to learn from their peers as well as other cultures.

g. Adapting and Integrating Lessons Appropriately

Educators should be flexible when using and adapting lessons in our curricula, as well as in prescribed curricula in general. Many of the most teachable moments are unplanned and unscripted.

A number of studies related to inclusive education for the deaf have been done in America. Three studies recommended carefulness entering the Deaf in inclusive classrooms [8].Carefulness was associated with communication problems, developmental, educational, and social. Cohen suggests the need for sufficient number of deaf students at a school so that they gain experience and positive social communication.

Any other literature that is interesting to study, titled Teaching Strategies to Use with Deaf Students, Advice for Lecturer in Higher Education, published in the United Kingdom, by a team of authors from the University of Central Lancashire [9].Deaf Students in Higher Education may exhibit some or all of the following traits:

a. Difficulty in reading for meaning; including lecture notes, assignments, and reference texts.
b. Restricted vocabulary shown by:
    1) Acceptance of particular words as having fixed meanings relating only to previous experiences.
    2) Understanding and use of a far more limited range of words than one would expect.
    3) Difficulty and/or delay in absorbing and using 'new' technical terminology or the application of everyday words in specific technical contexts.
c. Misinterpretation of information which is presented, particularly where there is possible ambiguity in terminology or phraseology.
d. Incorrect verb endings and spelling mistakes in written work.
e. Errors in syntax – e.g. incorrect word order, words missed out, or included unnecessarily, and other abnormalities in the use of English.
f. Inappropriate or immature styles of writing in assignments.
g. Difficulty in producing discussion in-depth, or discursive elements of an assignment, particularly where they depend upon abstract thinking rather than practical observation.

Difficulties with reading mean that deaf students frequently need:

a. More than average time to read, understand and assimilate information.
b. More recourse to dictionaries references and tutors to check their understanding, than the average student.
c. Longer to plan, formulate, produce and check written work. Awareness of their own limitations often adds feelings of inadequacy and low confidence in the presentation of work.

These effects are completely independent of the intellectual ability or potential of a deaf student.

There are a number of methods for including the deaf student and for helping them to get the most from lectures and seminars [10].

a. Giving the student access to information
    1) Make sure the deaf student has book lists well in advance of the beginning of the course. They may rely more heavily on textbooks than lectures.
    2) A deaf student cannot make notes and lip-read at the same time. If a handout is not available, and a note taker has not been employed to take notes, arrange for another student to photocopy their notes and pass them on to your deaf student.
    3) During the lecture, you should make it clear if a subject is about to change, or a new concept is being introduced, by writing the topic on the board or holding up an appropriate book or article.
    4) It is important that the lecture follows a logical structure and includes regular opportunities to review the material.
b. Using visual aids
    1) Visual aids can be a great help to deaf students, but they need to be prepared and used appropriately. Overhead projectors (OHPs) are useful as they allow the lecturer to face students while working. But some models are noisy and cause problems for students with hearing aids.
    2) Write important information on the board or OHP, for example assignments, deadlines, and room changes.
    3) Try to provide a new vocabulary list in advance, or write words on the board or OHP as they come up.
    4) Viewing slides in a darkened room is a

particular problem for deaf students. Try to direct a light source on the speaker or interpreter and turn up the lights when commentary is given.

5) Use subtitled versions of videos where possible. If not, then try to get hold of a transcript of the commentary, or write the student a synopsis before the lecture.
6) If you use audiotapes, the deaf student will need a transcript before the lecture.
7) If the lectures give out a handout during their lecture, make it clear whether it is to be read immediately - in which case the deaf student will need time to read it before you continue speaking - or whether it is to be taken away and read in the students' own time.

c. Working in groups

Group discussions can be difficult for a deaf student to follow. There are strategies we can use to help them to participate fully:

1) Make sure other students are aware of the deaf student's needs.
2) Aim to have no more than six to 10 participants in a group.
3) Arrange the group in a circle or horseshoe and ensure that nobody is silhouetted against the light.
4) A deaf student may prefer to sit next to the chair of the group, as comments will be directed that way.
5) Make sure that your deaf student takes a turn in chairing discussions.
6) It is particularly important for students to take turns in speaking and to allow the deaf student time to look in their direction before starting to speak.
7) Try to summaries contributions from other students, so that the deaf student can follow the discussion.
8) If a deaf student uses a radio microphone system or loop system, all contributors to the discussion will need to speak into the microphone.

d. Working in practical sessions

1) Do not stand behind a deaf student when they are working. Deaf student will not know if the lecturers are speaking to them and will have to turn away from their activity to find out.
2) A deaf student cannot lip-read and continues with their work or observations at the same time.
3) During a practical demonstration, make sure the deaf student can see both what the you are saying and what you are doing.

e. Timetabling

Considerate timetabling can be of great benefit to a deaf student. Where possible, we should consider the following factors:

1) Lip-reading is very tiring, so try not to fill an entire day with lectures.
2) Communication services must be booked well in advance. If timetables are changed at short notice, suitable support may not be available for your student.
3) People who provide communication services usually charge a minimum fee regardless of how short a session they are booked for. Try to plan sessions to make the most efficient use of their services.

f. Choosing a suitable room

Choosing a suitable room for your lecture can make a big difference to a deaf student. Try these tips:

1) Choose a room with good lighting.
2) Make sure the room is quiet. Hard of hearing students are more affected by background noise than their hearing peers.
3) Ideally, use a room that has carpets, soft furnishings and ceiling tiles, all of which help to absorb sound.
4) Check which rooms in your college are fitted with hearing support systems for hearing aid users, and try to book them.
5) Try to avoid rooms with bright or distracting décor as this can make it hard for deaf students to concentrate on a speaker.

g. Communication checklist

The following checklist will be particularly useful to lecturers who are working with deaf students for the first time, or to use as a reminder before a new lecture series or term:

1) A deaf student will know where it is best for them to sit: this will often be near the front, slightly to one side of you. You should stand or sit facing your student, three to six feet away, at the same level as them.
2) Check that the student is looking before you start to speak. Try not to startle a deaf student by coming up to them from behind.
3) Face the light: do not position yourself in front of a bright window or a distracting background.
4) If you turn to write on a board or flipchart, remember not to continue speaking as it's impossible to lip-read the back of your head!
5) Do not obscure your mouth or eat while

you are speaking. Try to keep beards and moustaches trimmed.
6) Try to keep bright or light-reflecting jewelry to a minimum.
7) Ensure that background noise is kept to a minimum.
8) Do not shout. It distorts your voice and lip patterns, so speak clearly, with normal speech rhythms.
9) Remember that sentences and phrases are easier to lip-read than single words.
10) If your student does not understand something, then rephrase, rather than repeating what you said.
11) Give your student time to absorb what you have said.
12) Avoid exaggerated or misleading facial expressions, but use gestures where they are relevant.
13) If you change the subject, make sure your deaf student knows.
14) Check that your deaf student is following what you say.

h. Practical tips for working with sign language interpreters
If you follow these suggestions, it will make it easier for you, your student, and the interpreter:
1) Where possible, the interpreter needs to know the subject and format of the session in advance, as well as any key vocabulary. Try to give the interpreter any notes, handouts, or videos you intend to use.
2) Confirm rest breaks and meal times with your student and the interpreter. Interpreting is very demanding. The interpreter will need a break after about 30 minutes. If the lecture program is very intensive, you may need two interpreters or to divide the session with a short break.
3) Remember to talk to the deaf student and not the interpreter.
4) Everything you say will be interpreted, so you do not need to give instructions to the interpreter or face them when speaking.
5) Speak at your normal rate. The interpreter will tell you if you need to slow down, repeat a sentence or spell a name or unfamiliar word.
6) You should let the interpreter and the student work out where to sit during the lecture or class.
7) It is only possible to interpret one speaker at a time and it helps if the other students realize this, so they can avoid talking over one another.
8) Remember that the deaf student will receive the question slightly after the rest of the group because of the time the interpretation takes. They need to be given time to respond.

i. Note takers
Note takers are trained to take accurate and clear notes for deaf people. They do this in handwritten or on a laptop computer. If a deaf student is watching a sign language interpreter or lip speaker, it is impossible to take notes at the same time. In these situations, having a note taker means the student does not miss out on anything.

3. Research Method

This study includes qualitative descriptive study of assistance program organized by PLD. Data collected by observation and documentation study of noteswritten by notetaker, in-depth interview to deaf students and volunteers (notetaker and sign language interpreter), and Focus Group Discussion(FGD) between volunteers, deaf students, and lecturers.

4. Findings

Deafness in itself is not a learning disability and, given the right support, deaf students can make the same progress as hearing students of similar cognitive ability. Deafness in childhood has a major impact on the acquisition of spoken language which is so critical to the child's social, emotional and intellectual development. The impact of deafness varies hugely between students and will be influenced by factors such as the age at which deafness was acquired, whether deafness was diagnosed and managed early or late, the quality of professional support during childhood, the support from parents in developing language and ability to use technology. Deafness will impact on a range of skills that students will need to learn including: listening skills; attention and concentration; language development; literacy skills; working memory; auditory memory; processing time; incidental learning; social skills; self-esteem and learning style.

The assistance program for deaf students in PLD is designed by the needs, meaning that responds the needs of the students based on their requirements. Prior to 2007 where UIN Sunan Kalijaga declared itself as aninclusive university, students with disabilities accepted but must support for themselves to be able to adapt the learning situation.It means, they are accepted if they are capable of not disturbing the functioning

of the university. It is up to them to excel because they will not receive support to facilitate their academic journey. At the beginning of establishment PSLD, students with disabilities are supported by volunteers.PSLD faced a series of difficulties and requires a wide range of adaptation by accepting the deaf students in 2011. One of the solution is assistance program to help the deaf students getting a better access to study.

Before the assistance program is implemented, PLD conduct needs assessment regarding the difficulties experienced by deaf students.Some problems are identified:

- Lack of vocabulary to communicate with their environment,they only use sign language and not trained voice phonic yet.
- Lack of human resources that able to use sign language, especially lecturers who interact with deaf students.
- Lecturer yet has specific teaching strategies for deaf students, who are able to understand the needs and difficulties of deaf students.
- The circumstances is less concerned about students with disabilities impaired speech.

Assistance program has 2 main activities, organizing volunteers and managing programs.

4.1 Organizing Volunteers

PLD only has 3 professional management staffs. Outside the management staff, there are 50 volunteers gathered from nondisabled students. Organizing volunteers consist of three main activities, i.e. retention,monitoring, and evaluation.

1) Recruitment is the activity of searching, selecting, and recruiting volunteers.
2) Retention is assisting and caring volunteers.It is the core of organizing volunteer activities. Volunteer assistance is primarily based activities aimed at improving the capacity and guiding the volunteers. Caring volunteers associated with the activities aimed at keeping volunteers comfortable;minimizing burn-out(psychological exhaustion) at once feel appreciated. These activities includeoutbound/recreational activities, conferment of awards/ certificates, and debriefing. In general, retention can increase or maintain the motivation of volunteers to work and drive the organization.
3) Monitoring and evaluation activities include supervision and providing an assessment of the volunteers'performance. This is important not only provide feedback to them but also to evaluate this program.

4.2 Program Management

Other activity in assistance program is management of sign language training. Sign Language training goal are:

- to facilitate communication between deaf students who have difference languages due to differences region.
- to minimize the difficulties of communication between the volunteers and lecturers to deaf students.
- empowerthe volunteers to be independent in carrying out assistance to deaf students.
- provide skills to the volunteers to be able to communicate with deaf students.
- provide basic ability to learn about the culture of deaf students in the academic term.

Based on the focus group discussions with participants, Sign Language training produces benefits as below:

- Deaf students be more aware and realize the difference between their sign language to the other deaf students. By this, they learn other different fingerspelling and hand shape for a same word.
- Volunteersget the benefit as a new knowledge, even though most of them stated that the six sessions is not enough to be able to master the sign language

Learning strategies are implemented in sign language training relies on several methods, which give an example, explain, practice, repeated then tested one by one. Some participants said there was no problem with that method because they can learn quickly, but others experienced problems because it is difficult to distinguish between the hand movement or fingerspelling,hard to memorize the hand shapes, unclear grammar, and the material is much enough.

There are some 'notes' that must be considered when implementing this training.

For Sing Language trainer

a) Start learning the alphabet and study over the material given in the previous meeting;
b) learning using face to face or participants made into small groups, aims to passive participants/embarrassed to ask, can more easily understand the material provided, and can argue and ask in the group;
c) participants who understand can help his friend, in order to understand the fingerspelling;

d) provide an example when finished giving new vocabulary;
e) additional hours, for discussion with the deaf in order to apply the vocabulary that has been learnt;
f) test the participants, by asking a question in accordance with the material that has been delivered.

For Sign Language training participants

a) Participants need to review the previous meeting, and recall the alphabets in fingerspelling and hand shapes;
b) the vocabulary is taught needs to be combined in a more varied sentence;
c) expanding the exercise to make an example;
d) participants make a list of sentences, to ask the tutor at the next meeting;
e) applying the vocabulary that has been taught to a friend who understands sign language;
f) studying the vocals, the pronunciation of some sign language vocabulary.

In the study group (self-study assistance),PLD provides a tutor who already knows or understands sign language, in order to facilitate the participants if they want to ask more.

4.3 Learning Strategy

In every higher education institution there is an offer organizing advice and support for students with disabilities, including deaf students. One of his/her roles is to offer advice to lecturers about appropriate learning strategies. Deaf awareness session may be provided, which are likely to include information on the needs of deaf learners, and ways in which these can be met in different educational context.

Before providing an individual assistance, PLD promote socialization to the academic community, and aimed to increase the environment awareness to the deaf students.

a. Socialization

This activity is conducted to provide information to the academic community in UIN SunanKalijagathat deaf students have characteristics and different learning culture with others in general. Socialization is important because the dialogue or discussion between PLD with lecturers and assistant who will share his field experience of assisting deaf. Lecturers who have deaf student in their subject attended the meeting.

The main material discussed in this socialization is a process of self-study assistance for deaf students. PLD also explained the role of each participant who attended the meeting during assistance program at 1 (one) semester.

b. Self-assistance

There are a number of strategies, which can be used by teaching staff, which will help enormously, and there is an important role for tutors in educating other student members. The first meeting, assisting independent study focuses on strengthening the motivation and confidence of deaf students.Tutors also focus on efforts to create more extroverted deaf students, so they are able to tell what kind of difficulties they encounter when studying.

In the process of identifying these issues, deaf students were interviewed by the research team. This interview was conducted in order to determine the opinion of deaf students associated with the process of learning in the classroom and learning support facilities needed. Interview for deaf students performed in verbal language and sign language facilitated by volunteer (sign language interpreter). The results obtained from these interviews are important issues surrounding the problem of learning for the disabled, as follows:

General constraints experienced by the volunteers are communication barriers. In particular, it is expressed by a volunteer named Nuha when accompanied Desi. When Desi using sign language fairly quickly, it is not easy for Nuha to understand. In addition, there are other problems such as the use of “scientific words” that are not easily translated into sign language.Deaf students have limited concept and imagination because of the limitations of language and the information they have.

Another problem is the grammar that sometimes reversed when deaf students write messages (e.g. via SMS), so the sentence structure is often not the subject-predicate, but the predicate-subject. For example: "*MakanSaya*", not "*SayaMakan*".

Volunteer said that by this assistance program,deaf students be more independent in studying, although they had no assistant on particular subjects. They are more confident to involve class participation. This program is implemented to make the deaf students to be more assertive, confident, and independent. They are always motivated to be able to learn actively and independently.

5. Recommendation

Assistance programs can be applied effectively in the learning process for deaf students.They can succeed academically by

support from volunteer and lecturer. Deaf student should enrich themselves with words, terms, sentence formation, as well as writing papers that it has become the main daily activities of a student.

Some evaluation of teaching methods, as follows:

- Approaching disabilities directly. A lecturer should not communicate to the disabled through a friend or a sign language interpreter. This is important because deaf student should perceive the lecturer expression to understand the message.
- Attract their attention by touching their shoulders.
- Overlooking the disabled and speak normally with expressive gestures or body language and using eye contact.
- Lecturers must be patient when communicating with deaf student and use short sentences, but still with the complete structure.
- Lecturers may not cover the mouth with a hand or have a mustache that covers the movement of the lips when speaking. Articulation lecturers should be clear.
- Deaf students cannot do two things at the same time. Thus, the lecturer should provide additional time for them to take notes or tasks.
- Using one voice rule because deaf students can only be observed with either one person at a time.
- Choose a quiet room with a quiet background noise or no noise. In addition, it is suggested that the room has adequate lighting beam.
- Provide additional time for the disabled and the translator to do its job. Lecturer should realize that writing notes or translate takes longer time than listening.

6. Conclusion

Based on the results of research and discussion, it can be concluded:

1. Problems, obstacles, and challenges faced by PLD UIN SunanKalijaga in assisting deaf students are:
   a. Volunteers need assessment related to skills in assisting.
   b. Volunteers and lecturer requires sign language training, at least for the basic skills to communicate with deaf students.
2. Recommendations for PLD is this program should be conducted and evaluated periodically before the semester.

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IMPLEMENTATION GENDER MAINSTREAMING MODEL IN EDUCATION POLICY ANALYSIS

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Abstract

This study aims to assess the literary gender mainstreaming and finding out the hypothetical model of the implementation of gender mainstreaming in education policy analysis. The research approach used is the approach of Research, Development, and Diffusion (Research, Development and Diffusion) for the development of training programs of the implementation of gender mainstreaming in education policy analysis at schools. This study includes three stages: 1. Research; 2) development (development); and 3) diffusion (spreading). This first phase of the approach Research, Development, and Diffusion (R, D and D). This study is the first phase of research through conducting literature review to find the model of implementation of gender mainstreaming in educational policy analysis in schools. The results show that: 1) Responsive education policy is education policy taken by inserting differences experiences, aspirations, and problems faced by women and men as targets and objectives of the development of education, to the process of planning, so that the policy / program / activity has contributed to the development that ensures the realization of justice and gender equality in the education sector; 2) It is important for educators to be able to implement gender mainstreaming and to understand gender analysis pathway (GAP) in education policy to the unit level, especially for the policy makers at the unit level of education. Common perception of the importance of the implementation of gender mainstreaming is a realization of Permendiknas No. 84 in 2008 to create a gender-fair education; and 3) Hypothetical model prepared is an instructional design used for the training of educators at unit level education.The instructional design model for the training of educators at the unit level is something urgent for GAP implementation. Instructional design is intended to provide guidance to the parts who are concerned to give a training to implement PUG.

Keywords: implementation, gender mainstreaming model, education policy analysis

1. Background of the Problems

Education as seen as the process of humanizing can be viewed as a vital means to achieve equality, development, and peacefulness. Equal education is worth both for men and women, especially to make the relationship between them equal. Education is also considered as the way to escalate women status.

The development of equitable gender human resources remains far from the ideal. Although the government has made a policy to eradicate illiteracy, there still a number of children, teenagers, and adults who have not been educated. In the South Asian countries, it is estimated that only 94% of female children go to elementary school while 100% of male students go to elementary school. In addition, according to Women Journal No.50 (2006:10), 85% of 100 drop-out students in the world were female students. If there is no political will through policy formulation and certain actions, gender gap will remain to exist in education.

In society, men and women have different role of gender. It is influenced by several factors such as environment, stories, and myths used to break the enigma of the difference of gender, why such difference exists, and how two persons with different gender can make a good relationship as well as with surrounding (Mosse, 2007:5).

From the reasons above, this study is conducted at school level to analyze the model of gender mainstreaming implementation in the implementation of the policy in schools. There are some problems are possibly urged: 1) What is the gender-responsive educational policy? 2) How is gender mainstreaming implemented in educational policies? 3) How isthe model of Gender Analysis Pathway (GAP) used in analyzing educational policies?

Gender

Basically gender differs from biological sex. Biological sex is given; we are born as males or females. Each community has their own scripts of roles of gender as well as the role of language which should be followed by the members such as how to act the feminine or masculine role. Gender is actually a set of roles telling other people that we are feminine or masculine (Mosse, 2007:2-3).

The concept of gender is the inherent nature of men and women who are socially and culturally constructed. The understanding and distinction between sex concept and gender are necessary in doing the analysis of getting good understanding of social inequality problems happening to women. It is caused by the close connection between gender differences and gender inequalities with the structure of the equality of a community in general. Therefore, a clear understanding and distinction between sex concept and gender are needed in order to discuss the problems of social inequalities (Fakih, 2005:3-4). Actually there is a connection between gender problems with other social inequality problems.

The difference of gender is not a matter as long as it doesn't make such gender inequalities. However, the problem is that gender difference leads any kinds of inequalities, whether for men or women in particular. Gender inequality is a system and structure where both men and women are being the victims of the system. Gender inequalities are manifested in some forms, for examples: marginalization or the process of economic impoverishment, subordination or not important assumption in political decisions, the formation of negative stereotypes or through labeling, violence, the workload is longer and more (burden), as well as the socialization of gender role ideology value (Fakih, 2006: 12).

Many facts prove that the gender gap in education until now continues to occur. Facts that showed the participation of women in almost all levels and education programs are still lagging behind. Symptoms of gender gap also appears on the treatment of the learning process itself which is less responsive to gender. Male students are placed in a more decisive position (Kosasih in Harlan, 2004).

Education and Gender Equality

Women can participate actively in the development process, but in practice a lot of obstacles encountered. Although we have various legal instruments and policies that ensure the advancement of women's equality and justice for women and men, as well as an improvement in the condition and situation of women, but the factshows that in everyday life, widespread discrimination and violence against women in all fields, including education, are still common.

Indonesian education is still covered by gender bias. Even gender stereotypes still persist in school, namely that there is discrimination against boys and girls in the education system. As the findings of research conducted by Marie Astuti (Women's Journal 44, 2005: 22), that the school books for elementary school children in Yogyakarta filled with nuances of gender distinctions. In addition, gender bias is also venturing into territory of relationship between educators with students, and treatment of school for students. The materials contained in the subject seems to be prepared for the division of gender roles for the purpose of social status.

Education is a product or a social construction. Gender either male or female is not always benefited as the result of the construction. The gap in the education sector has been a major factor that affects the overall gender bias. Almost in all sectors, factors such as employment, position, role in society, and the problems of giving opinion as well as educational differences between men and women cause gender bias.

In the family and school education we can find this gender bias and will constantly take place when there is no settlement. For example, the student textbook, found many images as well as the formulation of a sentence that does not reflect gender equality. Like a picture of a pilot always men because a job as a pilot requires skill and strength are "only" owned by men. While the image of teachers who are teaching in the classroom is always women as teachers always identified with the task of caring for or educating. Ironically students also noticed that although many teachers are female, but the principal generally is male.

Some notion / concept associated with the transformation of gender equality study include:

a. Gender blind: condition or state of a person who does not understand the meaning or concept of gender or someone who does not understand that there is a divergence of interests between men and women.
b. Gender sensitive: the ability and sensitivity of a person in view and assessing the results of development and other aspects of life from the perspective of gender or ability to analyze every aspect of life adapted to the different interests between men and women.
c. Gender neutral: policies, programs, activities or conditions not favoring one gender male or female.

d. Gender bias: policies, programs, activities or conditions that favor one gender male or female.
e. Gender responsive: policies, program, activity or condition that has taken into account the interests of men and women.

To achieve gender responsive, the government issued a Presidential Instruction 9 of 2000 on Gender Mainstreaming in National Development on December 19, 2000. Gender mainstreaming is a strategy that is built to integrate gender into an integral dimension of the design, preparation, implementation, monitoring, and evaluation of policies and programs of national development. While gender mainstreaming aims for the implementation of the planning, preparation, execution, monitoring, and evaluation of national development policies and programs which are gender perspective in order to realize gender equality in family life, community, nation, and state.

2. Research Method

Research method used in this study is Research, Development, and Diffusion which aims at developing a training on gender mainstreaming in terms of school policy analysis in schools. This research involves three stages: 1) Research; 2) Development; and 3) Diffusion. This research is the first stage of the approach used in Research, Development, and Diffusion (R, D, and D). This study covers the literary review to find out the gender mainstreaming model in terms of the analysis of educational policy in schools.

3. Findings and Discussion

3.1 Findings

Description of Gender Mainstreaming Policy

Policy is basically an instrument of the government which is not only meant as a government related to state apparatus but also meant as a government involving any kinds of institutions (privates, entrepreneurship, or civil society). A policy functions as a base of acts in the field. The policy can be generated into strategies, plans, regulations, agreements, consensus and ethics, programs and projects. The success of a policy is highly determined by the process of its making and implementation (Tony, et.al, 2003:7).

A policy is a means of a government to do good things to their people well. Therefore, a policy is considered as a public interest. A policy can be implemented in the form of: 1) legal instruments such as legislation; 2) economic instruments such as policies of fiscal, taxes, subsidies, price, finance and monetary; 3) guidance, instructions, and commands; 4) political statements; and 5) outlines of development, strategies, plans, programs which are interpreted into projects and details of a specific budget.

From the definitions mentioned, there are important elements of a policy, namely:
1) Problems to solve through a policy
2) Ways to solve the problems
3) Goals to achieve
4) Desired interests
5) Actors who will do it
6) Instruments to do the policy
7) Rules how to use the instruments

Gender mainstreaming as a policy is a way to solve the problem related to the relation between men and women. The discrimination is sued on account of inequality and injustice for women. Therefore, it is necessary to have such a policy which is used to solve the problems, for the sake of justice and gender equality.

Gender Analysis Pathway (GAP)

The strategy of gender mainstreaming is broaden into gender responsive in developing policies, programs, projects, and activities which are expected to restrict gender gap leading to gender equality and equity manifestation. Moreover, the strategy of gender mainstreaming improves the accountability of government (the Ministry of Women Empowerment, 2002:4).

Responsive gender is the plan arranged by integrating experiences, ideals, issues, and different needs of men and women in the process of formulating policies. Therefore, in setting a plan, it is important to complete it with gender analysis in every development of policies, programs, projects, and activities. The meaning of a policy involves the whole micro and macro policies, national policies, province policies, and regional policies (the Ministry of Women Empowerment, 2002:8).

To develop policies, programs, projects, and activities in the process of setting the plan, policy makers can use Gender Analysis Pathway (GAP). GAP is a set of gender analysis which is developed by BAPPENAS used to assist planners in doing gender mainstreaming. GAP is conducted through simple and understandable methods by planners. There are 8 steps to meet in doing GAP categorized into three major phases: 1) analysis of gender responsive policy, 2) formulation of gender responsive policy, and 3) action plan ofgender responsive.

3.2 Discussion

Urgency of GAP Implementation in Education Policy Analysis

Gender Analysis Pathway (GAP) as one of gender analysis tools can be used to assist planners in formulating gender mainstreaming in planning the development of policies, programs, projects and activities, including in the field of education. As a follow-up to Presidential Instruction No. 9 of 2000 on Gender Mainstreaming, the government has issued a decree of the Minister as follow-ups, the Minister of National Education Regulation (Permendiknas) No. 84 of 2008 on Guidelines for Gender mainstreaming in the field of Education in the Ministry of National Education. It is stated that each unit of work in education while doing the planning, implementation, monitoring and evaluation of all policies, education and development programs has to integrate gender in it. Increased gender equality in education is very important to be done in order to ensure all citizens both men and women to access education services, participate actively, and have control and benefit from the development of an education, so that men and women can develop their potential to the fullest. It is also mentioned that the implementation of gender-responsive education is applied at various levels such asat province level, regency/city level, and at education unit level.

The one who is responsible to implement Gender Mainstreaming (PUG) in Education Unit level is Head of Education. For the implementation, the Head can form a Working Group (Pokja)of PUG. The Pokja members are all stakeholders in the unit concerned with the following tasks: to promote and facilitate the implementation of PUG to all stakeholders in the work unit; to conduct dissemination and advocacy of PUG, to develop programs each year; to promote the establishment of educational unit budget which is concerned with gender perspective; to make the work plansof PUG each year; to beresponsible to the Department of Education in the regency/city; to formulate policy recommendations to the Head of Education Service in the regency/city; and to monitor the implementation of PUG in the work unit.

Through Permendiknas No. 84 of 2008 is, it is important for all educators at the provincial, district / city and unit level to understand the Gender Analysis Pathway as a tool to analyze the implementation of gender mainstreaming in education. By using GAP, planners of policies, programs, projects and educational activities at various levels can identify the gender gap and gender issues for planning and also formulate policies, programs, practices and activities aimed at narrowing or removing gender gap in education.

GAP Implementation Model in Education Policy Analysis at the School

Education policy analysis using the GAP at unit level of education (school) just to gender is an important part of the process of elimination of gender disparity. With the analysis of the education policy, the policies, programs, projects and activities at the unit level is expected to be more gender equitable. As suggested by Len-Rhynie (1999: 18-23), several important elements of the educational unit that needs to be taken to ensure gender equity and should be given attention are as follows:1. School Organization; 2. General Content and Structure of Schooling; 3. Curriculum; 4. educationa materials;

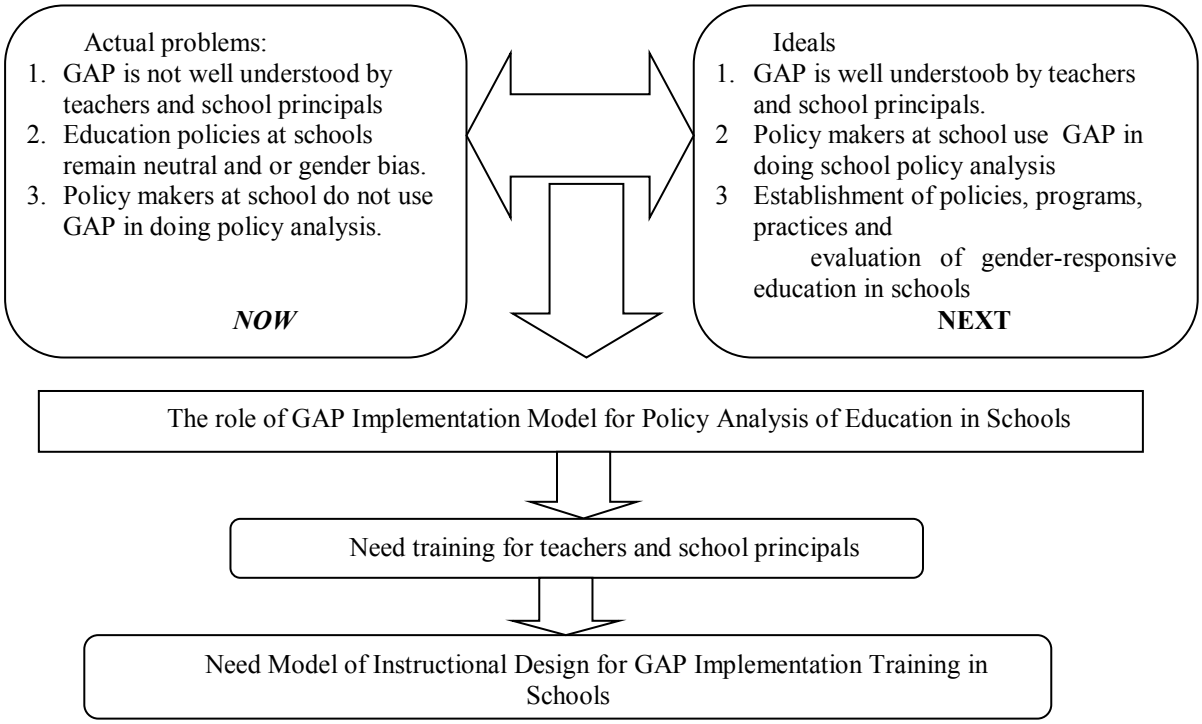

Figure 1: Background of the needs for GAP Implementation Model in Education Policy Analysis

5. Perception and Attitude; 6. Parental Attitude; 7. Career Counseling; 8. Employers'attitudes; 9. Sex-based haras-sment; 10. Girls at risk;n 11. Vocational training; 12. Informal Interaction Among Students

It is also important to develop a model for implementing GAP (Gender Analysis Pathway) in the analysis of education policy at the unit level of education (school). This model is a hypothetical model that will be tested at the implementation stage. Developing instructional design for the training of educators and education at the unit level is something urgent for GAP implementation. Instructional design is intended to provide guidance to the parts concerned to give a briefing to implement PUG. This line of thought of the importance to have a model of GAP implementation in educational policy analysis and instructional design training can be seen in Figure 1.

Figure 2 illustrates the use of the materials for the instructional design of GAP implementation in educational policy analysis at the level of the educational unit. Table 1 expresses ideas about competencies and indicators that should be owned by educators to be able to perform the gender equity analysis of education policy at the unit level, especially schools that policies, programs, projects and activities.

Instructional design for GAP implementation in education is necessary to conduct research and development (R and D). Development research is intended to find a proven instructional design to training for educators. From trials of instructional design in training, it can be found the implementation models of GAP in education policy analysis.

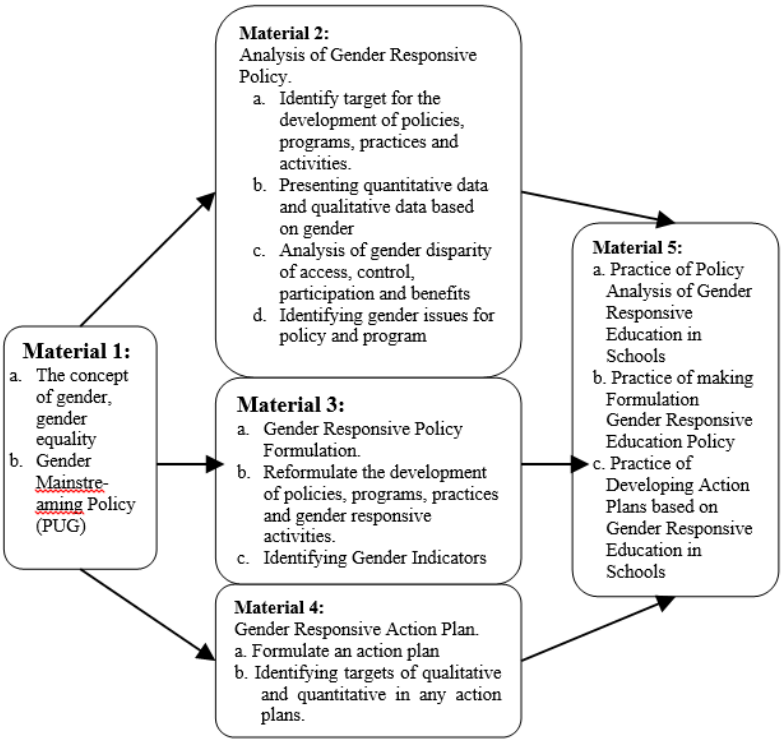

Figure 2: The contents of Instructional Design of Implementation Training of GAP

Table 1: Analysis of Competence of Teachers and Principals for Education Policy Analysis Responsif Gender

Standard of Competence:
Principals and teachers are able Develop Education Policy at the School of Gender Responsive

Basic Competencies	Indicators	Core Materials	Time Alocation
Understanding the concept of gender equality and gender equity	Identifying gender roles Identifying forms of inequality and gender injustice Showing the forms of inequality and gender inequality in education	The concept of gender, gender equality Forms of inequality and injustice of gender Gender inequalities in education	4 hours
Understanding Gender Mainstreaming Policy (PUG)	Explaining the history of the women's movement in the female voice Describing the development strategy of women in gender and development. Explaining the Gender Mainstreaming Explaining the Gender Analysis Pathway (GAP) in developing gender responsive education policy in schools Explaining gender mainstreaming in education	Global Women's Movement History Gender Mainstreaming Policy (PUG) Gender Analysis Pathway (GAP) d. Gender mainstreaming in education (Permendiknas No. 84, 2008)	6 hours
Conducting Gender Responsive Policy Analysis	Identifying the target of the development of policies, programs, practices and education activities in schools Preparing and presenting quantitative and qualitative data on gender-based school Making Analysis of the gender gap in access, control, participation and benefit in school Identify issues for gender in policies and programs of the school	The target of the development of policies, programs, practices and educational activities in schools Quantitative and qualitative data on gender-based school Gender gaps in access, control, participation and benefit in school Gender issues for policy and school programs	8 hours
Making Gender Responsive Policy Formulation.	Formulating development policies, programs, practices and gender responsive school activities.	Techniques to formulate policies, programs, practices and gender responsive school activities.	4 hours

Basic Competencies	Indicators	Core Materials	Time Alocation
	Identifying indicators of success of gender in school.	Techniques to develop indicators of success in school Gender	
Developing Action Plan for Gender Responsive	Formulating gender-responsive action plans in schools Identifying qualitative and quantitative targets in any gender responsive action plans	Techniques to Formulate gender-responsive action plans in schools Techniques to identify qualitative and quantitative targets in any gender responsive action plans	4 hours
Developing programs and activities of Gender Responsive at Schools	Practices of Gender Responsive Education Policy Analysis at the School The practice of making Gender Responsive Education Policy Formulation Practice of Developing an Action Plan on Gender Responsive Education in Schools	Exercise: Make the analysis of gender-responsive education policy at your school! Make the formulation of policy or gender responsive education program in your school! Establish an action plan on gender-responsive education in your school!	10 hours

4. Conclusions and suggestions

From the analysis it can be concluded that:

1. Responsive education policy is education policy taken by inserting differences experiences, aspirations, and problems faced by women and men as targets and objectives of the development of education, to the process of planning, so that the policy / program / activity has contributed to the development that ensures the realization of justice and gender equality in the education sector.
2. b.It is important for educators to be able to implement gender mainstreaming and to understand gender analysis pathway (GAP)in education policy to the unit level, especially for the policy makers at the unit level of education. Common perception of the importance of the implementation of gender mainstreaming is a realization of Permendiknas No. 84 in 2008 to create a gender-fair education.
3. Instructional design model for the training of educators at the unit level is something urgent for GAP implementation. Instructional design is intended to provide guidance to the partswho are concerned to give a training to implement PUG.

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STUDY OF RATIO JUNIOR HIGH SCHOOL'S SCIENCE TEACHER AT HULU SUNGAI SELATAN REGENCY AND THEIR SKILLS IN CLASS MANAGEMENT

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Abstract

We have researched the dissemination of junior high school's science teacher at Hulu Sungai Selatan (HSS) regency and their's skill in class management. Population of this research are all of science teacher junior high school at HSS regency and that sampel at SMPN 1 Daha Selatan, SMPN 2 Daha Utara, dan SMPN 6 Kandangan. This research used quantitative descriptive. The technique of collecting data used observation, questionnaire, and interview. The result shows that: (1) there are 56% of all schools are in high ratio, 36% of all schools are in medium ratio and 8% of all schools are in low ratio (2) the science teacher's skills in class management at SMPN 1 Daha Selatan, SMPN 2 Daha Utara and at SMPN 6 Kandangan are satisfy.

Keywords: ratio, science teacher, skills in class Management

1. Introduction

The teacher is one of the factors that influence the success of an education. The teacher is required to have a professional life with the primary task is to educate, teaching, guiding, directing, train, assess and evaluate students [1].

The teachers amount in Indonesia is not yet enough because the teachers amount that will be pensioner has no balance with oppointment the new teachers. Like explanation by Head of Department of Education at Tabalong regency that needs to reorder about dissemination teachers because there are schools that have overcertain subject teachers while at outlying place shortage them [2].

What was happening in Kabupaten Tabalong's condition could be happening too in Kabupaten Hulu Sungai Selatan. This will have an impact on teachers' classroom management, so that learning becomes conducive environment.

Class management is important factor to help student realizing the purpose of learning [3]. Class management objectives so that every child in the class should to work orderly, so could reached the purpose of teaching by effectively and efficiently [4]. Because of that, the teachers are demanded to increase their competence, the competent teachers will be more able to create effective atmosphere learning and be more able to manage class which is helping student to increase the result of learning.

The purpose of research is describing science teacher ratio in Hulu Sungai Selatan Regency and skill of class management which include basic data about science teacher ratio in Hulu Sungai Selatan Regency and skill of class management at SMPN 1 Daha Selatan, SMPN 2 Daha Utara, and SMPN 6 Kandangan.

2. Method

This research used quantitative descriptive. The descriptive study simply describes a phenomenon. The description is usually in the form of statistic such as frequencies or precentage, averages, and sometimes variability [5].

The population in this research is the science teachers in junior high schools in Kabupaten Hulu Sungai Selatan which are 29 junior high schools. The samples is the science teachers in SMPN 1 Daha Selatan, SMPN 2 Daha Utara and SMPN 6 Kandangan.

The research instruments are questionnaire, observation guide, and interview guide. Data analysis using statistical techniques.

3. Result and Discussion

3.1 Science teacher ratio

Science teacher ratio data which is gained by researcher is as following:

Table 1. Science teacher ratio

No	Number of School	Percentage (%)	Catecgory
1	14	56	low ratio (over teacher
2	11	36	moderate ratio (enough teacher)
3	4	8	high ratio (less teacher)

Table 1 showing that there are 14 schools in low ratio or over teacher, 11 schools in moderate ratio or enough teacher, and 4 schools in high ratio or less teacher. That is based necessity to transfer teacher from low ratio schools to high ratio schools, from one regency to another regency, from one education level unit to another education level unit**,** which is based on five ministers united rule.

3.2 Science teacher's skill of class management

Classroom management indicators in this research were: (1) responsive (2) create a dynamic of group (3) to take corrective action, (4) provide clear guidance (5) provide reinforcement (6) divide attention [4]. .

The result from three instruments of SMPN 1 Daha Selatan shows that science teacher's skill of class management is satisfy. The final result from observation and interview guide of SMPN 2 Daha Utara shows that science teacher's skill of class management is satisfy and the final result from questionnaire is excellent. The result from three instruments of SMPN 6 Kandangan shows that science teacher's skill of class management is satisfy.

From three samples which are observed, researcher get the facts for indicator create a dynamic of group are less good skill. That is needed to get special attention from teachers to optimize their skill of class management.

4. Conclusion and Suggestion

Many Junior High Schools in Hulu Sungai Selatan Regency are in low ratio schools as many as 14 schools. Low ratio means the quantity of teachers is more than quantity of teaching hour each week in that school.

The science teacher's skills in class management at SMPN 1 Daha Selatan, SMPN 2 Daha Utara and at SMPN 6 Kandangan are satisfy.

Suggestion for Government in Department of Education and the Regional Employment Board Hulu Sungai Selatan Regency, as soon as possible to take mutation for Junior High School Teacher so equalization can be realized and then no more Junior High School that will be deficiency or excess Science Teachers.

ACKNOWLEDGMENT

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THE EFFECT OF THE PRIOR KNOWLEDGE TO THE STUDENTS LEARNING PROCESS AND OUTCOMES ON COURSE THE BASIC FINANCIAL ACCOUNTING I

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Abstract

Some previous study results show that prior knowledge has positive influence on one's learning outcomes (Warsnak, 1996; Hailikari et al, 2008; Froyd and Symson, 2010). Students will gain a better learning outcomes if they already have prior knowledge about the subject studied. The students of Politeknik Negeri Batam, especially students of managerial accounting, graduated from high school with a variety of disciplines. Most of them are the graduates of high school majoring science and social. Some others are the graduates of vocational school majoring in Accounting. Therefore, the authors are interested in figuring out the influences of prior knowledge on learning outcomes of students taking The basic financial accounting I. The research is comitted at Politeknik Negeri Batam. The sample students are Managerial Accounting students academic year 2011-2013, who have already taken The basic financial accounting I. In addition, the role of lecturers are also assessed in order to determine whether the lecturers teaching materials as well as teaching techniques contribute well to the learning outcomes. The method of analysis is qualitative descriptive that describes the influence of prior knowledge toward student learning results (grade). The results of the research shows that prior knowledge is not fully proven to give positive influence to the learning outcomes of the students.The positive effect is applies only to to the students who got an A in the subject whilts the other students'grades do not show the positive effect. In addition, the writer finds that the contribution of the lecturers, the teaching materials and the teaching techniques) give positive influence toward the students' learning out come. The students who have no accounting prior knowledge can still get A in the subject since the lecturers design an easy-to understand materials as well as the lecturers give personal guidance for the students who have difficulties in understanding the subject..

Keywords: *prior knowledge, learning outcomes, teaching materials, teaching techniques*

1. Introduction

The basic financial Accounting is a compulsory subject for students in the first semester in Managerial Accounting Study Program. All students enroll in this course generally is a new student who graduated from General high schools and vocational high school. Some of them are from Social Sciences,some other are from Science, and the rest are even from accounting major. The students who were majoring accounting Accounting when they were at high school find the principle of accounting as a repetition subject. In addition, the students majoring social science had also got the same content of accounting principles. On the other hand, the students who are majoring science find the subject as a new one. They did not have any background knowledge about accounting when they were at hogh school.

These differences bring the students of first semester in Managerial Accounting department to different level of knowledge. Since they are from different level of knowledge on accounting, their learning process and learning outcomes respectively will be affected. Many studies have found that prior knowledge contribute a major impact on learning outcomes Some of the previous studies which are generally discussed about the effect of prior knowledge on learning outcomes are committed by Warsnak (1996), Hailikari et al (2008), and Froyd and Symson (2010).

Referring to the result of the previous studies, the researchers are interested to see how much the influence of prior knowledge (PK) is contributed to the learning outcomes in the basic financial accounting I subject. This study also wants to see how it affects the learning process in the course itself. The influence of the learning

process will be seen from the side of the students, teacher, and the contents of the courses that have been defined on the course curriculum.

2. Problem Formulation

The information that will be discussed in this study are:

a. How Prior Knowledge influence towards the process of learning and learning outcomes of students in the basic financial accounting I.
b. The content of the basic financial accounting I subject in Managerial Accounting Department.
c. The role of lecturers in facilitating students who do not have accounting basic knowledge.

3. Limitation Problem

The data used in this study are limited only to:

a. Data from the academic division to know the educational background of students enrolled from 2011 to 2014.
b. The data obtained from the administration staf of Managerial Accounting Department, especially student scores for the basic financial accounting I subject from 2011 to 2014.
c. Data from the questionnaires completed by the lecturer of the basic financial accounting I.
d. Data from questionnaires filled out by the head of managerial accounting department related to the curriculum and the content of the course the basic financial accounting I.

4. Research Objectives

The objectives of committing the research are:

a. To determine the influence of prior knowledge on student learning outcomes.
b. To determine the curriculum content of the basic financial accounting I in Managerial accounting department of Politeknik Negeri Batam.
c. To determine the role and techniques of the lecturers teaching the basic financial accounting I subject to give good understanding to all students.

5. Benefits Research

The result of this study is expected to contribute ideas which can be used as reference at Politeknik Negeri Batam, particularly in setting or developing the curriculum for the basic financial accounting I subject as well as creating the teaching materials. Those two things are expected can eventually eliminate the gap between students who already have knowledge in the same field the student who is completely new in the course, so that the process and outcomes of learning in this course is not only determined by prior knowledge.

6. Literature Review

Prior Knowledge

Knuth and James in Warsnak (1996) defines prior knowledge as life experiences vicariously or experienced by others, things that had previously been read or jobs previously done, and also the experience associated with the language. Strangman and Hill in Warsnak (1996) adds that prior knowledge is knowledge of specific dimensions such as metacognition, strategy, personal, self-knowledge, and knowledge of the concept.

Donald in Hailikari et al (2008) says that inadequate or fragmented prior knowledge can cause mismatch between the instructors' expectations of student knowledge and the students' actual knowledge base, learning may be hampered from the start of the studies. In addition, Hailikari et al (2008) find that the students will have difficulty in following the lessons if they do not have the same knowledge beforehand. Moreover, McCombs and Whistler in Froyd and Symson (2010) say that prior knowledge is a major influence on learning outcomes in one's future.

Curriculum

Nunan in Yilmaz (2011) defines curriculum as a basic principle, referral, and procedures to be planned, implemented, evaluated, and managed for an educational program. In addition, Al-Murabit McKeman (2012) understand the current curriculum as a concept used to describe the scope of teaching materials in an educational institution. In addition, Brown in Hall and hewing (2001) says that the curriculum can be developed with reference to five points, such as compatibility, relative advantage, complexity, trialability, and observability. Hall and hewing (2001) adds that compatibility of a new idea with the current idea, as well as the the condition of the teachers and

students, affect the future absortion and implementation of the idea.

Role Lecturer in Teaching and Learning

Damanpour and Evan in Hadley (2006) state that creativity is needed in developing a course for teachers because they are those who directly witnessed the situation and behavior of learners. In other words, teachers are the people who should know the material and what new things given for their students.

Rea-Dickins & Gardner (2000) added that the main task of a teacher is to prepare a plan related to what will be taught. Moreover, Markee in Hall and Hewings (2001) mentions that the role of the teacher in implementing the curriculum that has been prepared is very important because the teacher is a major player that will determine the course where it will be taken and how the course was going to be packed.

7. Research Method

7.1 Object of the Research

The object of this research is the students of Managerial Accounting department who have already passed the basic financial accounting I subject. They are all who enrol in AY 2011 to 2014. The quesionaire are filled by lecturers who had been assigned or are at the moment teaching the basic financial accounting I subject.

7.2 Data Collection Techniques

The data used in this study are collected by taking the data from the documentation of administration staff particularly the score of the students who are taken as the object of the research. In addition, the questionaire is given to the lecturers who had been assigned or are at the moment teaching the basic financial accounting I subject, to finds out the roles of the teachers in facilitating the students pass the subject.

7.3 Method of Data Analysis

Data in this research are analysed qualitatively and quantitatively. The data of students score for the basic financial accounting I subject are quantatively analysed whilts the data from the questionaire are analysed qualitatively. The quantitative analysed data is purpose to see the effect of prior knowledge on learning outcomes of the students based upon their knowledge on accounting. In addition, it is used to find out if there is difference between the outcome of the students with background knowledge of accounting since high from the the outcome of the students without background knowledge in Accounting since high school.

8. Result and Discussions

8.1 Description of Research Data

All data collected and used in this research are divided into 2 groups of data. They are the data about the major study of the respondents in high school and the data about respondents score in the principle of accounting I subject. All the data are showed in table 1 as followed:

Table 1. The Distribution of Respondents Major of Study in High Schools

Major Study	Quantity	Percentage (%)
Accounting	156	63
Non Accounting	90	37
Total	246	100

Source: analysed data

Based on the above data distribution shown in table 1, it can be seen that of the 246 respondents there are 156 students (63%) majoring/ Accounting, and there were 90 students (37%) majoring non Accounting . From the table above it is known that the number of students who have background knowledge in accounting are more than the number of students whose background knowledge are non accounting studies. It is which nearly doubled.

The distribution s of stu dents score for The principle of accounting I subject for the above groups are shown in table 2 as followed:

Table 2. The Distributions of Students Score for The Basic Financial Accounting I

Major Study	score											(%)
	A	A-	B+	B	B-	C+	C	C-	D+	D	E	
Accounting	83	31	8	7	14	6	2	3	0	2	0	63
Non Accounting	39	24	5	4	8	6	2	1	0	1	0	37
Total	122	55	13	11	22	12	4	4	0	3	0	100
(%)	50	22	5	4	9	4	2	2	0	2	0	100

Source: analysed data

Based on the distribution in table 2 above, it can be seen that there are 122 students who get A.

83 of them are from accounting major study. The number of students who get grade A- are 55 students. 31 of them are Accounting major study. The rest of the students get B +, B, B-, C +, C, C-, and so on with almost similar comparison between students from Accounting and non Accounting ones.

Further more, the questionnaires are given to 4 people lecturers. However,there are only 2 lecturers who fill in a questionnaire while 2 others do not fill it. The qquestionnaires describe that the teachers are objective and outcomes oriented. The teaching material is design based upon the condition of the students in the class. The design enables the students from non accounting background to understand well the basic theory in accounting. Beside that, the lecturers also provide extra time after class sessions for students to discuss any difficulties faced by the students.

9. Discussion of Research

9.1 The influence of prior knowledge on student learning outcomes

Based on the results shown in Table 2, it can be that the effect of prior knowledge on learning outcomes of Managerial accounting students at Politeknik Negeri Batam, especially in the basic financial accounting I subject is not fully applicable. The evident of student learning outcomes shows that the learning outcome of student with accounting background knowledge and the learning outcome of student witout accounting background knowledge do not differ much A Significant difference is noticably visible from the learning outcomes of students who get A. On the other hand, the number of students with accounting background and non accounting backgroun who get A- to E are almost equal.

The results of this study indicate that students who do not have basic knowledge in accounting do not have significant difficulties to understand the principle of accounting theories during the learning process. Therefore, the study result of Hailikari, et al (2008) which states that students will have difficulty in following the lessons if they do not have the same knowledge beforehand is not supported by the results of the data collected in this study. In addition, the statement of McCombs and Whistler in Symson (2010) who state that prior knowledge is a huge influence on learning outcomes, can be partially supported by the data of this research since the number of students with accounting background who get A is doubled the number of students with non accounting background who get A. However, the data of them who get A- to E can also support that the findings of McCombs and Whistler in Symson (2010) are also partially not proven in this study.

9.2 Curriculum Content for The Basic Financial Accounting I subject

The content of the basic financial accounting I syllabus shows that the lecturers who design the syllabus had accomodate all topics outlined in the curriculum. It means that lecturers had done their roles very well in preparing the design of the subject. Lecturers have made curriculum and syllabus as a reference and referral in designing teaching material as well (Nunan in Yilmaz, 2011). They start the subject with the basic concept of accounting which then move to more complex concepts. This way of organizing the syllabus or teaching material seems to follow the terms in developing the curriculum and sylabus introduced by Hall and Hewig Broewn (2011).

9.3 The role of lecturers in teaching teaching The Basic Financial Accounting I subject

Lecturers have big roles in teaching process. The data from the questionaires show that the lecturers for the basic financial accounting I subject always try to accomodate the needs of students with non accounting background. They creatively try to adjust the class condition where then all students can enjoy the subject and get better understanding to the subject. The lecturers give real and up to date example which can be simply understand by all level of knowledge in accounting. In addition, the interesting teaching materials as well as the models of exercises given by the lecturers are able to bring the students to an enjoyable classroom environtments. This is just like what Markee in Hall and Hewig (2011) stated about the roles of teachers. It is said that Adjustment method of learning in each class is a form of actualization of teachers' roles as parties who can see where and how to pack a lecture. Giving students the opportunity to ask indicates that the lecturers have positioned themselves as people who should know best the materials and people who are able to explain with a more understandable language to the students (Damanpour and Evan in Hadley, 2006).

10. Conclusions

Based on the analysis of the discussion in the previous chapter, this research can be summarized as followed:

1. The effect of prior knowledge on learning outcomes of the students in Managerial accounting department are not empirically support the previous study. The results of this

study show that the difference is only found to students who get A. The number of the students with accounting background who get A is double the number of students with non accounting background who get A. Meanwhile, the number of students who get grades A- to D almost have no difference between them with or without accounting background knowledge.

2. The lecturers have refered the content of the teaching materials with the content of the syllabus and curriculum for the basic financial accounting I subject.
3. The role of lecturers in teaching the students who are not from Accounting major study has been very good. The lecturers are also try to adjust the teaching method in order to accomodate the students with non accounting background knowledge. They provide a method of learning that is not monotonous so that the students do not get bored with the subject. Moreover, the lecturers also give extra time for the student after the class if they still have questions and difficulties with the subject.

11. Suggestions

The following items are suggestions to be applied in the next related study, which are also the weakness of this study:

1. The use of other variables that can affect student learning outcomes, such as the interests and talents of students are concerned.
2. The respondents who filled the questionaires should not only the lecturers of the subjects but the students should also ask related to factors that affect their learning outcomes.
3. the data for Future research on related topic can be analyzed using inductive statistic method to find out the differences between previous major study and the assessment process for learning outcome.

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FACTORS AFFECTING THE SUCCESS OF THE PROFESSIONAL TEACHER TRAINING

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Abstract

In-service teacher certification is the process of providing educators certification that accompanies an increase in teachers' welfare and knowledge through the provision of benefits. The program is expected to improve the quality of learning and the quality of education in Indonesia in an ongoing basis. Teacher certification is very important when seen from efforts to improve the overall quality of education. The certification of teachers is faced with complex problems, such as, budget, implementation, material certification, the determination of the certification implementing agency, teacher data, and coordination and evaluation of the implementation. Unfortunately, there is still a gap negatively associated with requirements, recruitment and the certification process; so normal the results/impact is not maximized, teacher certification is not satisfactory, nor yet able to determine the feasibility of teachers in carrying out duties as agents of learning and improve the quality of the educational processes and outcomes have not been fully able to bring about professional teachers. Therefore, it is necessary to increase improvement through education and training of professional teachers.

The professional teacher training model chosen is a reflective model; the actual participatory learning model emphasizes the process of learning, where learning in training is built on the basis of active participation trainees in all aspects of training activities, ranging from activities to plan, implementation, reaching the stage of assessing learning in a training activities. The coach puts forth efforts to emphasize principals based on motivation and to involve participants.

The reflective model was developed with the aim to improve the feasibility of carrying out duties as a teachers in the learning agent capable of improving the quality of learning processes and outcomes, as well as the professionalism of teachers. The participatory model of training as a form of professional teacher's training program's success is influenced by many factors and actors involved either directly or indirectly. The policies of a professional teacher training program will be successful if the implementation is progressing well.

The model of reflective training methods developed emphasizes a systematic and a comprehensive effort to design, conduct and evaluate the training program. It comprises a series of steps in three distinct phases. The pre-training phase focuses on designing the training programs. During the training phase, the focus is on group facilitation, debriefing and consolidation and creating a conducive learning environment. The post-training phase includes steps such as evaluation, follow-up and report writing. Training for Primary School teachers have followed 37 people and took place in the Teachers Working Group in Wonosobo in the 1st half of the 2013/2014 school year.

After the assessment of the reflective training model, it can be seen that this model is expressed efficiently and is effectively supported by data. There are 3 models of determining the benefits of training in improving the professionalism of teachers, namely 1) the commitment of teachers training, and 2) the example of the teacher as a learning agent, and 3) the suitability of the material being studied with the needs of the elementary school where work (influence of 47.80% - 75, 50%); while the spirit of learning or training and involvement in curriculum development has no effect.

Keywords: Benefits of Training, Professionalism, Commitment, Modeling Teacher, Education and Training Material Compatibility.

1. Introduction

The certification of teachers in Indonesia is an educator certification process that increases the teachers' welfare through the provision of various benefits. The program is expected to improve the quality of learning and the quality of education in the country on an ongoing basis. Teacher certification is very important when seen from efforts to improve the overall quality of education. The certification of teachers is faced with many complex problems, among others,

budgets, implementation, material certification, the determination of the implementing agency certification, the teacher's state data, and the coordination and evaluation of the implementation. Unfortunately, there is still a gap negatively associated with requirements, recruitment and the certification process; so it is normal that the results/impact is not yet fully maximized meaning, the teacher certification is not satisfactory or able to determine the feasibility of teachers in carrying out duties as agents of learning and improve the quality of the educational processes and outcomes in a professional manner. Therefore, it is necessary to make improvements.

The professional teacher training model chosen is reflective models; the reflective model represents a combination of the teacher's classroom expertise and recent scientific findings. In this model, the idea of professional knowledge is presented. This idea refers to two different kinds of knowledge which should be mastered by every teacher and should, therefore, be included in teacher education programs. The former refers to the day to day judgments, skills and interactions which the teacher carries out. The later is a natural activity that every teacher should reflect upon the quality of his professional performance.

Training reflective models as a form of professional teacher training program's success will be influenced by many factors and the actors involved either directly or indirectly. There are 5 factors that will influence success, namely: communication, resources, disposition implementtor, bureaucratic structures and socio-economic environment. Its success is also influenced by factors: 1) the policy design; 2) strategy; 3) the commitment and capacity of the bureaucratic system; 4) particularly the degree of support of opposition encountered in the community, and the ability of reviews those likely to benefit to be able to build effective coalitions of on-going support and political pressure.

The policies of the professional teacher training program will be successful if the implementation is progressing well. The merits of these implementations can be analyzed from 1) the practice observed and 2) the ideas, values and beliefs with the various aspects that can be used as a framework about the factors that influence it. The success of the professional teacher training as a form of policy, it is interesting to note that "to appreciate more fully why the key policy problems have been tackled in particular ways; it is helpful to have some understanding of the main policy actors involved and of the characteristic ways in the which education policy is developed and applied. Within any community, divergent and conflicting views are held often about where the real power lies in terms of education policy decisions. The actor is specifically concerning since there are five types such as: 1) the identity inclusion concerns, 2) investment of effort, 3) professional competence, 4) influence, and 5) fairness. At the end the critical success factors in the training of teachers is influenced by internal factors of the teacher as well, such as the training input and the commitment to training his trade; while including factors concerning the process of enthusiasm and passion to learn and practice, self-development, relevance of the materials and the development of curriculum.

2. Statement of the Problem

The problems of this developmental research on the training of professional teachers are:

1. How high is the level of success (i.e. effectiveness and efficiency) of the reflective model training in producing professional teachers?
2. Which factor, among other factors assumed to have affected the effectiveness of the reflective model training, serves as a determinant?

Factors under study are limited to teachers' internal factor as an input to the training, including their commitment to participate as well as their model as an example; while the process factor, such as enthusiasm and spirit to learn and practice, material concordance with the needs of the elementary schools where they work, and the curriculum development.

3. Theory

The commitment is defined here as the degree of positive, affective bond between the teacher and the school. It does not refer to a passive type of loyalty where teachers stay with reviews their jobs, but are not really involved in the school or reviews their work. Rather, it reflects the degree of internal motivation, enthusiasm, and job satisfaction teachers derive from the teaching and the degree of efficacy and effectiveness in achieve they reviews their jobs. To education researchers, the degree of teacher commitment is one of the most important aspects of the performance and quality of school staff. They argue that increasing the commitment of teachers is an important first step in the process of school reform: professionalization of teachers will result in higher commitment, the which will

positively affect teachers' performance, the which will lead to improvements in ultimately student learning [1]. The results show that some characteristics of professionalization are related to teacher commitment, and some are not. Four aspects of professionalization, in particular, stood out for reviews their association with the commitment: the classroom teacher reported amounts of autonomy; The reported amounts of faculty influence policymaking; the reported effectiveness of assistance for new teachers; and teachers' maximum end-of-career salaries. When comparing across the population of elementary and secondary schools, reviews those with higher levels of reviews these characteristics of call now had higher levels of teacher commitment, after controlling for the other factors (page 8). The rationale underlying this view is that upgrading the teaching occupation will lead to improvements in the motivation and commitment of teachers, which, in turn, will lead to improvements in teachers' performance, the which will lead to improvements ultimately in student learning (page 9). The domain of professional commitment encompasses the capacity of teachers to reflect critically on their own practice accompanied by a commitment to reviews their own development. This domain also describes the relationship of teachers to the wider community. There are two elements: teachers continually improve reviews their professional knowledge and practice, and teachers are actively engaged members of reviews their profession and the wider community [2]

According to Muhammad Yaumi [3], to become a model is making an example of something, or, providing a model as a guide. It is something related to what one says and how he acts that can be imitated or accepted as an example by others. Teacher's model is a good example of a teacher which is related to his attitude, behavior, words, mental condition, character, and morals which act as an example for his students. In the same way, Mulyasa [4] says that a model is "a habit formation of everyday behavior". Teacher's model is achieved by making a habit out of the examples shown by the teacher, such as how one presents himself, speaks, behaves, and discipline.

Spirit, according to Basukimega, A. D., et.al. [5], is energy which activates one to achieve something and which shows how strong the urge is for a person to achieve his desired goal. Davis [6] gives a broad definition on work morale, which is the individual and group spirit for optimal cooperation in line with the best interest of a company. Work morale can be understood as a brief statement of various psychological forces which provide a push to their work. It can also be said as an environment or work milieu in an organization which shows great enthusiasm in doing the work and, which encourages them to work even better and more productively. Basukimega [5] argues that in the educational context, such a spirit can be realized and even escalated by, among others, creating a competitive atmosphere in the student's mind. With this, the students will do their best to become better than the other students. Another way to give encouragement is to provide instructions or directions using specific statements or signs which may arouse optimism in the students' mind that they are able to achieve success in their efforts through repeated practice. Praises need to be given later when students find success in their efforts and yet, encouragement to do better is also given to those who have not achieved appropriately.

Educational literature, theory, and reform trends have long promoted putting teachers in a central role in curricular design. The work of early theorists recognized the importance of the role of the classroom teacher in curricular development at the building level [8]. The longevity of the academic discourse on meaningful and sustained teacher involvement in school-based decision-making suggests an underlying theoretical assumption that such organizational structures would ultimately result in improved student outcomes.

In order to create a strong curriculum, teachers must play an integral role in every step of the process [9] (Stacy Zeiger, 2000): planning, creation, implementation and reflection. 1) Planning; Teachers know their students' needs better than others involved in the curriculum process. While state or federal standards often dictate the skills covered by the curriculum, a teacher can provide insight into the types of materials, activities and specific skills that need to be included. Teachers from multiple grade-levels may collaborate to identify skills students need at each level and ensure that the curriculum adequately prepares students to advance to the next grade-level and to meet the standards. 2) Creation; because teachers must use the curriculum, they should have input in its creation. A teacher can gauge whether an activity will fit into a specified time frame and whether it will engage students. If multiple teachers will use the curriculum, allow as many of them as possible to provide input during the creation stage. As teachers provide input, they will gain ownership in the final product and feel more confident that the curriculum was created with

their concerns and the needs of their particular students in mind. 3) Implementation; Teachers must implement the curriculum in their own classrooms, sticking to the plan that has taken so much time, careful planning and effort to create. When a teacher fails to properly implement a strong curriculum, she risks not covering standards or failing to implement effective practices in the classroom. That does not mean a teacher cannot make minor changes. In fact, a strong curriculum is designed to allow a teacher to be flexible and to insert a few personalized components or choose from among a selection of activities. 4) Reflection; Reflecting on a curriculum allows teachers and others involved in the process to find any weaknesses in the curriculum and attempt to make it better. Teachers reflect on curriculum in multiple ways, such as keeping a journal as they implement the curriculum, giving student's surveys and reviewing the results or analyzing assessment data and individual student performance. Not only can reflection serve to improve a specific curriculum, it may guide the creation of new curriculum.

Training needs assessment is an ongoing process of gathering data to determine what training needs exist so that training can be developed to help the organization accomplish its objectives. Conducting needs assessment is fundamental to the success of a training program. Often, organizations will develop and implement training without first conducting a needs analysis. These organizations run the risk of overdoing training, doing too little training, or missing the point completely [10]. There are four main reasons why needs analysis must be done before training programs are developed.

1. To identify specific problem areas in the organization. HR and management must know what the problems are so that the most appropriate training (if training is answer) will be directed to those organizational problems.
2. To obtain management support. Management usually thinks training is a "nice thing to do". This stance can be laid directly at the doorstep of a poor (or nonexistent) needs assessment. The way to obtain management support is to make certain that the training directly affects what happen in that manager's department. Trainers should view themselves the same way that management does, making a direct contribution to the bottom line. Management will be committed to training when HR can show that it clearly improves performance on the job. As a result, training programs and budgets will not be the first things cut or trimmed.
3. To develop data for evaluation. Unless informational needs are developed prior to conducting training, the evaluations that take place after the program may not be valid. In conducting a needs analysis first, trainers can measure the effectiveness of a program.
4. To determine the costs and benefits of training. Training is usually looked upon as a nuisance rather than a contribution to the bottom line of the organization. This happen when trainers fail to develop a cost-benefit analysis for the training they conduct. However, a through needs assessment that identifies the problems and performance deficiencies, allows management to put a cost factor on the training needs.

The training needs assessment is a critical activity for the training and development function. Whether you are a human resource generalist or a specialist, you should be adept at performing a training needs assessment. Designing a training and development program involves a sequence of steps that can be grouped into five phases: needs assessment, instructional objectives, design, implementation and evaluation. To be effective and efficient, all training programs must start with a needs assessment. Long before any actual training occurs, the training manager must determine the who, what, when, where, why and how of training. To do this, the training manager must analyze as much information as possible about the following: organization and its goals and objectives, jobs and related tasks that need to be learned, competencies and skills that are need to perform the job, and individuals who are to be trained. There are three levels of needs assessment: organizational analysis, task analysis and individual analysis [11]. Individual analysis analyzes how well the individual employee is doing the job and determines which employees need training and what kind. Sources of information available for a individual analysis include: 1) Performance evaluation -- Identifies weaknesses and areas of improvement; 2) Performance problems -- Productivity, absenteeism or tardiness, accidents, grievances, waste, product quality, down time, repairs, equipment utilization, customer complaints; 3) Observation -- Observe both behavior and the results of the behavior; 4) Work samples -- Observe products generated; 5) Interviews -- Talk to manager, supervisor and employee. Ask employee about what he/she believes he/she needs to learn; 6) Questionnaires -- Written form

of the interview, tests, must measure job-related qualities such as job knowledge and skills; 7) Attitude surveys -- Measures morale, motivation, satisfaction; 8) Checklists or training progress charts -- Up-to-date listing of current skills.

4. Method

Mostafa [12] contends that training is generally concerned with novice teachers who have little or no previous teaching experience whereas development is applied to the experienced teachers in order to develop their inner self-awareness. According to the present research, teacher training may be concerned with conveying new skills or knowledge to teachers while teacher development is a kind of retraining teachers in further use or exploitation of already existing skills or knowledge in order to achieve further objectives. This research also assumes that both teacher training and teacher development rotates round the concept of teacher education. Wallace [12] sheds light on three basic models of teacher training. These are the craft model, the applied science model and the reflective model.

The Reflective model represents a combination of the teacher's classroom expertise and the recent scientific findings. In this model, the idea of professional knowledge is presented. This idea refers to two different kinds of knowledge which should be mastered by every teacher and should, therefore, be included in teacher education programs. The former refers to the day to day judgements, skills and interactions which the teacher carries out. The later is a natural activity that every teacher should reflect upon the quality of his professional performance. The following figure represents the reflective model as follows:

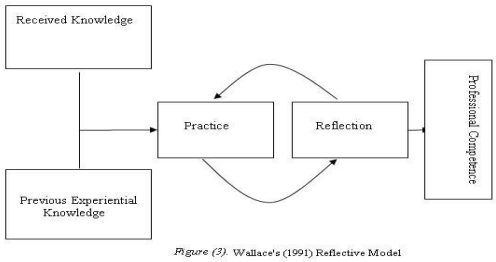

Figure (3). Wallace's (1991) Reflective Model

To the mind of the researcher, it would sound acceptable to think not only of the questions of how and when the training program should be carried out, but it is also of equal importance to take into consideration the question of what to train them in, that is, the actual needs of the trainees.

The reflective model used in trainings is developed by emphasizing systematic and comprehensive effort to design, conducting and evaluating a training program. It comprises of a series of steps in three distinct phases. The pre training phase focuses on designing of training program. During the training phase, focus is on group facilitation, debriefing and consolidation and creating conducive learning environment. The post training phase includes such steps as evaluation, follow up and report writing. The training for the Elementary School teachers was attended by 37 participants and was conducted in Semester 1, 2013/2014 at the Teachers Work Group Center in Wonosobo Regency.

5. Research finding

After the training, measurement of the teachers' professionalism and all research variables which are assumed to have given effects was conducted. The results are presented in the two descriptive tables below.

Tabel 1. Description of the development of profesional teachers

		Freq.	Percent	Valid Percent	Cumulative Percent
Valid	2,00	6	30,0	30,0	30,0
	3,00	9	45,0	45,0	75,0
	4,00	5	25,0	25,0	100,0
	Total	20	100,0	100,0	

Tabel 2. Description of the research variables

Variables	Mean	Me.	Sd.	Min	Max
Commitment	3,0833	3,1667	,56065	2,00	4,00
Teacher exemplary	2,8500	3,0000	,81273	2,00	4,00
Enthusiasm	3,2500	3,0000	,63867	2,00	4,00
The materials	2,8000	3,0000	1,00525	1,00	4,00
Dev. of curriculum	2,7000	3,0000	,80131	1,00	4,00
Teacher's prof.	2,9500	3,0000	,75915	2,00	4,00

The result of the measurement shows that this model was proven to be efficient and effective with data support (obtained mean of 2.95 is very close to the median 3.00). To know whether the following variables: commitment, compatibility between the materials learned and the need of the school where they work, curriculum development, enthusiasm, spirit, and model have any effect on the success of the training, a multi- regression analisis was

executed. The result of the analysis is shown in the following table.

Tabel 3. Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,711[a]	,506	,478	,54843
2	,822[b]	,676	,637	,45713
3	,891[c]	,793	,755	,37597

a. Predictors: (Constant), the commitment of teachers
b. Predictors: (Constant), the commitment of teachers, teacher's example
c. Predictors: (Constant), the commitment of teachers, teacher's example, the suitability of the materials

It is obvious that there are three determining factors for the success of the reflective training in the effort of increasing teachers' professionalism, i.e., teacher's commitment in participating in the training (model 1), teacher's model as a learning agent (model 2), and material compatibility with the need of the local elementary school (model 3). The size of the effect: model 1 = 47,80%, model 2 = 63,70%, and model 3 = 75,50%. All models were proved significant. See Table F below. However, the variables of learning spirit, practice, and participation in curriculum development were taken out of the models, because they did not have any effect.

Tabel 4. Anova[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5,536	1	5,536	18,406	,000[a]
	Residual	5,414	18	,301		
	Total	10,950	19			
2	Regression	7,398	2	3,699	17,700	,000[b]
	Residual	3,552	17	,209		
	Total	10,950	19			
3	Regression	8,688	3	2,896	20,489	,000[c]
	Residual	2,262	16	,141		
	Total	10,950	19			

a. Predictors: (Constant), the commitment of teachers
b. Predictors: (Constant), the commitment of teachers, teacher's example
c. Predictors: (Constant), the commitment of teachers, teacher's example, the suitability of the materials
d. Dependent Variable: Professional teachers

While the spirit of learning or practicing variable and involvement in curriculum development were excluded from the model because it has no effect.

6. Discussion

This research has produced a reflective model of training for professional teachers in which the measurement of training effectiveness is congruent with what Antoni and Mustika Lukman Arief [13] have stated that it can be conducted by using 4 indicators, such as 1) reaction: measured on the basis of impression, opinion and attitude, how many participants like the program (its content and trainer, method); 2) learning: how well the trainees learned particular skills (know-how); 3) behaviors: identification of the change of skills, work patterns, relationships, ability in evaluating transfer of training; and 4) results: the effect of training on the achievement of organizational objectives and the analysis of the training cost-benefit. Due to limitation of time, this research was only based on 2 indicators, namely reaction and method. In spite of this, it is obvious that the training was a success: 70% of the participants said the level of success was high and very high, while the rest, 25% had not been a success, the possibilities are their hindering limitations which the research was unfortunately unable to reveal. It is interesting to see that this research used computer and internet although it was not a training about the ICT. Perhaps these barriers include lack of teacher ICT skills, lack of teacher confidence, lack of pedagogical teacher training, lack of suitable educational software, limited access to ICT, rigid structure of traditional education systems, restrictive curricula, etc. [14].

The result of this research shows that there are 3 determinant models for the success of the reflective training in the effort of increasing teacher professionalism, namely teacher's commitment (model 1), teacher's model as a learning agent (model 2), and compatibility of the learned materials with their needs at the school where they work(model 3). The effects: model 1 = 47,80%, model 2 = 63,70%, and model 3 =75,50%. It means that the effectiveness of the training can only be achieved if the training model analyzes needs and plans appropriate training materials and method; is able to develop teacher's commitment during the training as well as able to apply the training results as a follow up. In addition, there should be a screening of candidates which gives priority to teachers who are considered ready to become learning agents in their job.

Acording Mary Burns [15] there are five models of teacher-centered professional development (PD) that were used well in (all but one) low-income countries: 1) observation/assessment, 2) open classrooms, 3) lesson study, 4) study groups and, 5) looking at student work. The success of this model has been interesting in that until recently the Teacher's Work Group (KKG, Indonesian) as a means to develop teacher's profession was not effective.

Model 4, namely Study Groups, the teachers have benefitted from formal discussions and interactions with peers around critical issues. In such a study group, teachers collaborate, as a single large group or in smaller teams, to study a particular issue with the goal of solving a common problem or creating and implementing a plan to attain a common goal. The study—the reading, discussion, writing and reflection, led by a skilled facilitator—is the key component of a study group. During the study process they may use print-based resources, classroom materials (such as work created by students) and their experiences as part of their approach to the problem. This kind of Model Study Groups will become very effective if they are followed by reflective model training.

7. End Note

The research conducted at the Teacher's Work Group has resulted in a reflective professional teacher training model which was proved effective and efficient in increasing professionalism of the Elementary School teachers. The results show that there are 3 determinant models for the success of the reflective training in its attempt to increase teacher's professionalism, that is, teacher's commitment in the training participation (model 1), teacher's model as a learning agent (model 2), and compatibility of learning materials with the needs of the school of work (model 3). The size of model 1 = 47.80%, model 2 = 63.70% and model 3 = 75.50%.

This model can hopefully be replicated in other similar teacher's work groups. The limitations of this model are related to such obstacles as lack of teacher ICT skills, lack of teacher confidence, lack of pedagogical teacher training, lack of suitable educational software, limited access to ICT, rigid structure of traditional education systems, and restrictive curricula. These cautions need to be anticipated in conducting further research.

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INTERNAL CONTROL SYSTEM OF SCHOOL (ICSS) BASED ON C2PF (CURRICULUM, CHARACTER, PERFORMANCE, AND FINANCIAL) TO IMPROVE QUALITY OF EDUCATIONAL INSTITUTIONS

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Abstract

Indonesia has guidelines and minimum standards in education that apply nationally. But in fact, there are some problems that occur in the world of education as BOS fund management problems, lack of character education in schools, and the rampant violence and immorality that appears in the community. Therefore, a study is needed to overcome these problems. This research is qualitative research with literature study approach. Literature study is conducted by considering and analyzing the possibilities of the source of the problems in education and to find ways to overcome the existing problems based on literature review of existing ones. The solution of the existing literature reviews are combined into a system that is useful in existing education problems. The result of this research was produced a system of internal control based on C2PF. The school system of internal control had focus on C2PF scope, which were the school curriculum was applied, the characters were internalized, the performance of teachers and staff, and school finance. The existence of an internal control system based on C2PF, is expected to address issues regarding the poor management of the education system level both primary and secondary education. If problems have been overcomed, the quality of educational institutions are expected to increase and able to produce quality graduates as well characterized.

Keywords: education problems, ICSS C2PF, quality improvement.

1. Introduction

Good management of the education system will produce good product of educated graduates. Education management should be aligned with national educational objectives that have been set. Education management in Indonesia adheres to the management of the school-based education or any level of the education system. Education management also be adjusted by the principle of providing education. The education system in Indonesia has three levels of education, namely primary education, secondary education, and higher education.

Education management needs to have guidelines and minimum standards in the implementation of the applicable provision of education nationally. Minimum standard of education provision is under the coordination of National Education Standards Agency (BSNP). Educational standards need to be implemented nationally. Therefore, between one region and another has similar minimum standard of education provision that is quite uniform. The existence of such standards also encourages equity and quality of education implementation. BSNP (2007) [1] has published guidelines for national education standards that includes eight components, namely content standards, competency standards, principals standard, school superintendent standard, standard academic qualifications and competence of teachers, education management standards by the basic education system and secondary education assessment standards, as well as standard facilities and infrastructure.

However, despite the issuance of such standards in the implementation on the ground indicate deviations that occur in the management of education. One example of it is related to the management of BOS (School Operational Assistance). According to the study from Muhammad Yunus (2013) [2] on a search result documents Activity Plan and Budget School (RKAS) and Budget Planning School (RAPBS) of 17 elementary schools in Bandar Lampung, which conducted between October to December 2011, it is showed that there is inefficiency problems from the presence of BOS funds management in school (Lampung). There are

schools do not have the Medium Term Plan, budgeting is not based on the needs of the school (no analysis of needs), less the establishment of communication and cooperation between the school (BOS manager) with stakeholders. Meanwhile, the research from Eka Anggraini and Mayarni (2013) [3] research, which concerned on evaluation in improving educational facilities in Pekanbaru, Riau is considered as dissatisfactory because there are many schools that do not have enough facility to support complete learning process public schools. Based on the ICW research over the last ten years, from 233 cases of corruption during 2002-2011, there were 87 cases of corruption DAK (Special Allocation Budget) the number of state losses of Rp 138.2 billion. While there are 44 cases on BOS corruption with total losses of Rp 10.5 billion. In addition to the corruption of the DAK and BOS, there are also corruption of the books that cost the state funds up to Rp 54.9 billion, corruption computer procurement up to (USD 33.3 billion), and the corruption of teachers (USD 31.9 billion) (Fernan Rahadi, 2012) [4].

In addition to the problems above, the provision of education in Indonesia is in the spotlight due to its lowermost position (40^{th} position) in the index of *The Learning Curve* issued by a firm of Pearson Education, while the first rank is South Korea. There are a few things that are highlighted by Pearson. Firstly, is about the aspect of educational inputs. Pearson, on data from the UNESCO in 2011, stated that the Indonesian government allocated 15.18 percent of the state budget for education funding. The allocation has now reached 20 percent of the total state budget. When compared with South Korea, this percentage is much greater. Secondly, is aspect on study period. When South Korea's peg is 16.97 years, Indonesia is only have 12.72 years (expectancy of the study period in accordance with the 12-year compulsory education program launched by the government). In other words, Indonesian students must pass high school education as minimum requirement. Thirdly, when compared to South Korea, the ratio of teachers and students in Indonesia is actually better, which is 1: 15.94 at the basic education level. However, the Indonesian teacher salary in primary and secondary education is still low, which is 0.79 percent below the national average salary. Fourth, education output indicators, Indonesia just scored 384.38 in the PISA rankings that measure the level of reading literacy, mathematics and science students the world. Indonesia on the rating TIMSS value that measures the ability of math and science, is 461.31. The level of high school graduates in Indonesia reached 45.47 percent. While the rate of college graduates in Indonesia, according to the Central Bureau of Statistics (BPS) in 2010 was 13.48 percent (Rifa Nadia Nurfuadah, 2014) [5], this figure is half of the rate of high school graduates in the South Korea.

According to Zubaidi (2011) (Muhammad Isnaini, 2013: 445-446) [6], another problem is comes from moral crisis of the students. It is indicated that the religious and moral education acquired in school had no impact on behavior change. What makes awful is that there are so many Indonesian people are not coherent between words and actions. Such conditions, is originated from what is produced by the world of education. The rise of media coverage of the case on key answer selling, cheating, plagiarism, even criminal cases and drugs do students show the value of the realization of the nation's character is not realized in practice. On the other side, bribery is committed by teachers. The pattern of education is currently only produce students who lost their sense of social crisis or cultivation social consciousness of men. Students only have the technical ability (skill) and became a "ready to use"-man like a robot (Abdul Ghopur, 2010: 3-4) [7]. In fact, when the school was founded, one of its primary missions is to teach moral virtue (Mondale & Patton, 2001 [8]; Mulkey, 1997) [9]. Moral irregularities among children and adolescents today make the task of the teacher and pioneer of moral education are more complicated. (Dimyati, 2010) [10]. This condition is asserted on good education management principals, school supervisors, school committees, teachers, employees, and all stakeholders related to the world of education should have a concern and stressed the importance of character education to the students.

Therefore, based on the various issues raised previously, we have an idea related to improve the quality of school education through the implementation of the internal control system of school (ICSS) based on C2PF (Curriculum, Character, Performance, Finance). The existence of an internal control system of school (ICSS) based on C2PF, is expected to address issues regarding the poor management of the education system level both primary and secondary education.

2. Methodology

This research is qualitative research with literature study approach. This literature study is conducted by considering and analyzing the possibilities of the source of the problems in

education and finding ways to overcome the existing problems based on literature review of related study. The solution of the existing literature reviews are combined into a system that is useful in existing education problems.

3. Discussion

Internal control system of school (ICSS) based on C2PF is an internal control system in school that has a focus on C2PF scope, which are the applied school curriculum, the internalized characters, the performance of teachers and staff, and school finance. The internal control is carried out by a specialized team of ICSS-C2PF which is a special team consisting of representatives of the school, the school committee representatives, community leaders, financial auditors and educational evaluators. This internal control is implemented by a special team ICSS-C2PF based on the opinion of some experts associated with the function of supervision in the areas of curriculum, character, performance, and financial. The following figure ICSS-C2PF models:

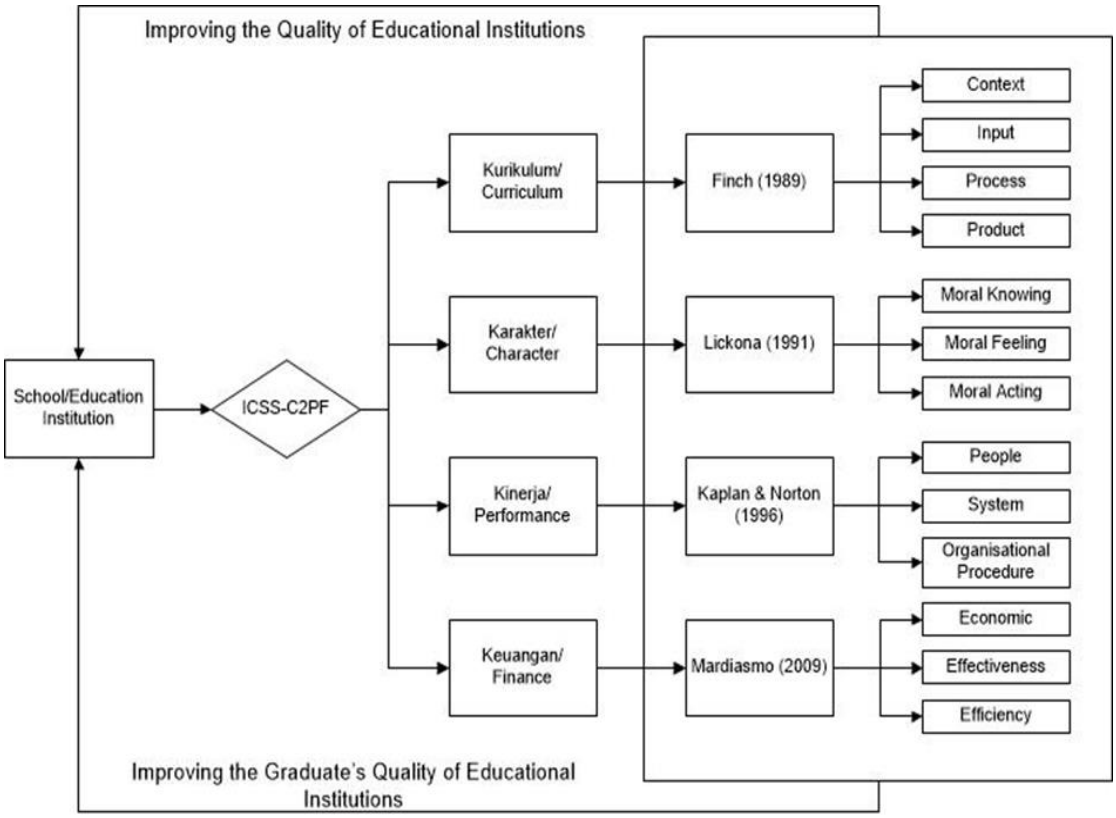

Figure 3. ICSS-C2PF Model

Explanation ICSS-C2PF models are as follows:

1. In the areas of curriculum, the curriculum is always associated with learning because planning and curriculum development always look at the process of planning, implementation, and evaluation of learning activities. Special teams SPIS-K4 use CIPP model (Context, Input, Process, Product) in evaluating the school curriculum applied, in accordance with the opinion of Finch (1989) [11] who describes the CIPP. Evaluation contextual (context) is an evaluation of the suitability of the planned curriculum with goals. Evaluation can be done by looking at the context of human resources in the school, students, management, leadership support, curriculum structure, competency standards, the burden of learning, curriculum content, and government support. Evaluation inputs (input), the evaluation of the decision related to the use of resources and strategies used to achieve the objectives of the curriculum. Component inputs consist of the target learning outcomes, the ability of educators, facilities and infrastructure, adequate learning time, resources for curriculum development and quality of prospective learners. Meanwhile, evaluation process (process),

the evaluation focused on the influence of the curriculum to the learning experience of students in the school. Component process consist of learning coherence, feasibility programs, formulation of curriculum, selection of instructional strategies, organizing the curriculum, evaluation procedures, and academic atmosphere. Evaluation results (product), which is evaluation of the effects is related to the graduate curriculum. Component product consist of quality of learners as well as the impact of changes in curriculum implementation.

2. In the field of character, a special team ICSS-C2PF uses indicators of internal controls by viewing the achievement of school character values are internalized by the school in the school environment, including teachers, staff, and students. Indicators of achievement character values assessment by schools is adapted into Lickona's three stages of character development (1991) [12], namely moral knowing (thinking/knowledge of the character), the moral feeling (causing intention/sense of doing good), and moral behavior (do/behave accordingly good character). Moral knowing has six essential elements, namely the moral consciousness (moral awareness), knowledge of moral values (knowing moral values), the determination of the angle of view (perspective thinking), the logic of moral (moral reasoning), the courage to make a decision (decision making), and the introduction of self (self-knowledge). At the stage of moral feeling is associated with other forms of attitude that should be felt by learners, namely confidence (self-esteem), sensitivity to the suffering of others (empathy), the love of truth (loving the good), self-control (self-control), and humility (humility). At the stage of moral behavior, the learning process should be directed to the process of formation of competence so that future students can benefit both to themselves and to others/have and are accustomed to behave with good character. Moral behavior is the outcome of moral knowing and moral feeling. The third stage is an integral part of learning process moral character. All three phases need to be presented to students in logical, rational, and democratic ways so that the behavior that appears as a real character instead of a mask (Abdul Majid and Dian Andayani, 2011: 31) [13].
3. In the field of performance, performance measurement is important for an institution or organization. According to Lohman (2003) (Moh. Mahsun, et al, 2013: 141) [14], he stated that performance measurement is an assessment of the achievement of specific targets derived from the strategic objectives of the organization. In the measurement of performance in the ICSS-C2PF focus on learning and growth perspective of the Balanced Scorecard Kaplan and Norton (1996: 40-41) [15] that includes the three main indicators, namely people (educators and staff), the system (functional and operational structure of the line organization and organizational communication system), and organizational procedures (rules of the school / institution). Specifically at people is subdivided into three main indicators, namely the level of user satisfaction educational institutions, employee retention ability institutions to retain employees (employee welfare, social security and health of employees, facilities and the development of self-actualization, allowances or bonuses, etc.), and employee productivity (output produced by the educators and staff).
4. In the financial sector, the public sector (including educational institutions) there is a valuation concept with Value For Money (VFM). According to Mardiasmo (2009) [16] concept of VFM measures of economy, effectiveness, and efficiency of financial performance. Mardiasmo (2009: 133) then added [16] an overview of the economic measurement is seen from the following indicators: (1) Costs used in larger institutions than the budgeted costs of the institution; (2) Costs used in a larger body than the costs used by other similar institutions; (3) the use of financial resources optimally institutions. Effectiveness in Value For Money (VFM) is a measure of success or failure of an organization/ institution in achieving its objectives (Abdul Halim and Muh. Sham Kusufi, 2014: 130) [17]. Efficiency is measured by the ratio of output to input (Abdul Halim and Muh. Sham Kusufi, 2014: 129) [17]. Size efficiency measures how well the organization is able to utilize its resources to produce output (Mahmudi, 2007) [18]. Measuring the

efficiency of the public sector can be done with the DEA (Data Envelopment Analysis). DEA is a technique that is based on linear programming that helps analysts to measure and improve the performance of an agency, program, service, or other units with a decision can determine the relative efficiencies (Gianakis, et. al, 1999) [19].

Based on the explanation of ICSS-C2PF model that is previously suggested, it is clear that specific curriculum / educational institutions are evaluated by using the evaluation model CIPP (Context, Input, Process, Product). CIPP curriculum evaluation is expected to provide a comprehensive evaluation results to support the quality of graduates from educational institutions/ schools and later indirectly will improve also the quality of educational institutions/ schools. Besides that, an evaluation of the character models, performance, and financial statement on the discussion of the previous model of ICSS-C2PF can be done with a combination of discrepant models based on the guidelines and rules pertaining to quality improvement/ quality of schools/ educational institutions so that the alignment between theory and the rules that apply are not far from its implementation.

ICSS-C2PF models are dynamic systems and comprehensive work that has a holistic approach in the evaluation process which aims to provide a detailed and broad overview of the program / project, which ranging from the context (needs analysis) to the process of implementation. ICSS-C2PF models accommodate the use of formative and summative evaluations that are just as good in helping to make improvements during the program, as well as provide information and recommendations of the final evaluation of the policies, programs, and projects. This model is also able to identify the weaknesses of the policy/ program/ project which is a material consideration to provide correction for decision makers.

In the process of using ICSS-C2PF models, it is not allowed to apply the model separately (partial) of each element in the ICSS-C2PF, which are curriculum, character, performance, and finance is an integral and interrelated. When the models used separately, it will give less comprehensive evaluation (overall). Therefore, the value of the usefulness of the evaluation is reduced for educational institutions/ schools that need improvement recommendations for the internal condition of the school. The use of ICSS-C2PF models focus on the evaluation of a gradual process, so that it needs the creativity of evaluators when facing a court case which allows the irregularity of a process. Therefore, the flexibility of the combination of each of the main elements ICSS-C2PF can be done by taking each core of each element to put together in the evaluation process to be able to produce a good evaluation with recommendations without losing the essence of each element in the model ICSS-C2PF. Furthermore, ICSS-C2PF model development si made to accommodate the needs and problems that occur in the institution / school is absolutely necessary. The development of technology based in realizing an integrated internal control systems need to be studied further. Essence of any internal control system development in educational institutions is an attempt to achieve improved quality of educational institutions / schools to make better and improving the quality of graduates produced in order to meet the needs of the employment and human resource needs of qualified state.

4. Conclusion

Problems of education in Indonesia related to the management of educational institutions/ schools, the phenomenon of moral decadence in the learners which impact on the emergence of various problems immorality in society and the performance of teachers and education employees and unfavorable stakeholders are the very important issues to look immediate completion solutions. Integrated and systematic solutions needed to improve the management system of the institution/ school. One alternative solution needed to evaluate the internal control system of the school is ICSS-C2PF models, which consists of components of the curriculum, character, performance, and financial. Each element has the evaluation indicators based on theories that are relevant in the present. ICSS-C2PF models provide a systematic evaluation measures the CIPP model adopted in evaluating the curriculum, as well as the application of the discrepancy model approach in evaluating the character, performance, and financial.

ICSS-C2PF application can only be implemented through commitment of all citizens educational institutions/ schools (principals, teachers, employees, students, school committees, community/ partner) in carrying out the evaluation of the management of the institution. Evaluation of any policy/ program/ project from planning, implementation, and evaluation at any school activity either in the classroom, school/ institution, and society needs to be improved and kept in mind. Hopefully, the

existence of ICSS-C2PF in schools / educational institutions will increasingly support the improvement of the institution/ school in producing graduates who are not only a master of science and technology but also have the values of good character in accordance with the expectations of the government and indirectly will improve the quality of institutions/ schools.

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I DIDN'T LIKE IT… BUT I HAD NO CHOICE.

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Abstract

Researching the psychology of teachers has rarely been considered important in the context of Indonesian teacher quality improvement. Research has mostly focused on teachers' classroom practices or students' achievement without looking at how teachers really aspire about their teaching or professional development. Using the theory of planned behaviour (TPB) this paper presents evidence in which specific characteristics of teachers and the existence of a certain psychological constraint among teachers have led to significant implications toward teacher development.

From data collected among 202 junior school English teachers in Yogyakarta province and analyzed using the structural equation modeling (SEM) using AMOS, findings of a three-factor model of intention have suggested that teachers' engagement, perceived subjective norms and perceived behavioural control significantly predicted teachers' intention to implement instructional innovation. Different from what have been widely suggested, however, teachers' motivation, attitudes, and self-efficacy beliefs did not.

In the context of teacher development in Indonesia, such findings implied the effects of volitional restriction among teachers. In addition, the low R^2 values of the predicting variables confirmed teachers' low sense of autonomy as indicated by Bjork[1], which resulted in the low levels of participation in the decision making among teachers. Findings also implied the needs for more comprehensive teacher professional development programs, which consider not only teachers' expected levels of practice, but also teachers' aspiration.

Keywords: behavioural intention, theory of planned behaviour, teacher professional development, teacher aspiration

1. Introduction

Researching teachers and teaching profession has received significant attention in the field of educational research. Areas like teachers' wellbeing, motivation, efficacy, job satisfaction, engagement and burnout are among those that frequently researched under various theoretical frameworks, such as the self-determination theory [2], the expectancy value theory [3], and the theory of planned behavior [15] [16].

Along with the increase in the perceived importance of teachers and the teaching profession, and the challenge due to societal development [4] [5], teacher professional development (PD) programs have become crucial not only as an effort to improve the quality of teachers but also education [6], and education reform in general [7]. More importantly teacher PD is considered an opportunity for teachers to help enhance their knowledge and instructional practices [8] and has the ability to facilitate improvement of teachers' quality. It is also considered one core effort to improve the quality of student learning and schools [8] [9]. In addition, it is believed to be able to change not only, their classroom practices but also students' learning outcomes and teachers' beliefs [6].

However, despite the importance of teacher PD programs and the emerging consensus that it is critically important to enhance teacher quality [8], teachers' classroom practices [6] [8], and student learning outcome [6] [7] [8], there is not sufficient literature that particularly demonstrates factors driving teachers' intention to implement results of a teacher PD program into their classroom.

In addition, although there seems to be an agreement on the characteristics of PD programs that lead to teacher learning and change [10], it is very difficult to see the mechanism of how this learning and change happen [9]. Again, this is perhaps because not much literature comprehensively looks at the post-PD

participants' psychological aspects and the practices after their attendance in the PD program. Most literature has focused on teacher PD programs as activities, processes, or programs in isolation from the complex context of teachers and teaching environments. Teacher PD programs have mostly been viewed as a process-product relation focusing more on recommending elements or components of 'effective' programs, rather than on the mechanism of how such programs develop or improve the quality of teachers, which in turn improve student learning and achievement [9].

Particularly in the Indonesian context, where most PD programs are initiated by the government or schools, the nature of teacher attendance to the PD programs is externally driven which means that teachers go to the PD program because of the invitation from either central or local government, or the schools. This top-down initiative is very often viewed as negative for example because externally driven attendance is generally considered not a good predictor for the success of a PD program [11]. It is intrinsic motivation, which is more desirable and is expected to result in better learning outcomes. Because attendance is externally driven, it is worth doing to look further at the levels of teachers' embrace of the content of a PD after completing the program.

Extrinsic motivation is also very dominant with regards of introducing innovation in the education system in Indonesia. For example, instructional innovation and curriculum change are still centralized. Teachers in a sense are ordered to accept whatever changes. They are left with no option. Rarely did the government ask how teachers aspire about the changes.

This paper investigates teachers' embrace of results of a PD program. The word embrace is widely used in the professional development literature particularly about the embrace of new practices [12], teaching methods and curriculum [13], and educational reform in general [14]. It is also used to refer to teachers from various levels of schools and subjects.

In trying to provide the required explanation this paper chose to use the theory of planned behavior (TPB) [15] [16]. TPB provides a way to investigate teachers' embrace of a PD program by predicting the intention based on its antecedents, such as attitudes toward the PD, subjective norms, and perceived behaviour control.

2. The context of this paper

This paper is a part of a bigger research project on teachers' motivation and intention with regards of their professional development. It in particular deals with a type of motivation after teachers completed a series of teacher professional program designed to introduced an innovation of instruction called the genre-based English teaching or also known among school English teachers in Indonesia as the text-based teaching, regardless of conceptual differences among the two. It seeks to investigate factors predicting teachers' intention to implement the approach in the classroom teaching practices.

Genre-based English teaching was first introduced among school English teachers in Indonesia as a response to the issue of 2006 Curriculum, which was an improved version of the 2004 Competency based curriculum. While in English speaking country it is widely used to teach literacy that is limited to the teaching of reading and writing, in the Indonesian context it is used in a wider teaching to include speaking and listening.

3. Predicting behavioural intention

One way to provide evidence whether teachers embrace a PD program is by looking at whether or not they performs based on what are recommended by the PD program; whether or not they take on their PD program. Such evidence, however, is not the concern of this paper due to the continuous processes the participants are still involved in. In addition teachers' classroom actual behaviour in implementing the results of their PD is beyond the objectives of the current study. Rather it investigates the behavioural intention among the participants. This intention is said to be useful to predict the actual behaviours [15] [16].

There are two major theories that are closely connected to the prediction of behavoral intention; 1) the theory of reasoned action [17] [18], and 2) the theory of planned behaviour [15] [16]. Both theories have been widely used to predict behaviours, especially those in a specific context. While TRA is used to understand and predict volitional behaviours and their determinants, TPB, is considered more accurate to predict behaviours when restrictions on volitional condition exist [15]. In complete volitional condition, a person performs an action when s/he is inclined to do the action. In a non-volitional condition s/he performs because of external contingencies.

This paper, however, focuses only on the second theory – the theory of planned behaviour. This theory is more relevant to be used in the

Indonesian context due to the restriction on, if not an absence of, volitional condition. Choices hardly exist among teachers.

4. The theory of planned behaviour (TPB)

TPB is developed based on the theory of reasoned action (TRA), with an addition of the measure of perceived behavioural control (PBC) as the antecedent of intention. Such an addition is because of the lack in empirical evidence of the predictive power of the theory of reasoned behaviour, particularly in a situation where complete volitional control is absence [16] [19]. Under circumstances where there is volitional control, the theory of reasoned action will be able to predict behaviours accurately.

Intention, that is an aggregate of attitude towards the behaviours and subjective norms, will provide sufficient predictors for behaviour. However, when there is perceived constraints on action, intention alone will fail to predict behaviours. It is the perceived behavioural control (PBC) that will help explain the prediction of behaviour [16].

The introduction of PBC confirms the fact that even when one really intends to perform a certain action and the pressure of significant others are favorable, actual behaviour might still fail due to causes related to factors beyond one's control. Measuring behaviour control, therefore, is useful.

To understand why PBC is brought into TPB, it is crucial to understand three terms related to behavioural control; 1) behavioural expectation, 2) attempted behaviour, and 3) actual behaviour. Behaviour expectation (BE) is individual's estimate of the likelihood that he actually will perform a certain behaviour. Behavioural expectation is a function of intention to try the behaviour and the beliefs that an individual can control the attainment of the behaviour. Attempted behaviour is the behaviour resulted from the individual's intention to try the behaviour. It is common that when an individual expects to perform a certain behaviour, s/he intends to try the behaviour. This attempted behaviour when supported by a maximum level of control over the behaviour will affect the actual behaviour. This is what TRA referred to as the complete volitional condition.

According to TPB, control over a behaviour influences whether or not a person performs the behaviour. However, as suggested by TRA, the actual attainment of the behaviour depends on the levels of actual control within the individual. A maximum level of control will create a complete volitional state where failure is not a probability. Where there is restriction regarding the degree of volitional status, where control is not at its maximum level, intending to perform a certain behaviour does not always result in performing the actual behaviour. The failure to perform the behaviour is due insufficient control over the behaviour. However, such subjective perception of control affects the attempts to perform – it predicts the individual behavioural intentions. This is supported by Ajzen's statement saying that:

> "Subjective perceptions of control may, of course, influence attempts to perform behaviour regardless of their accuracy … perceived control will usually correlate with behavioural performance. Again, however, this correlation will tend to be strong only when perceived control corresponds reasonably well to actual control" [15].

Adding the perceived behavioural control in the theory, TPB claims that intention to perform a behaviour is influenced by three factors covering 1) attitudes toward the behaviour, 2) subjective norms, and 3) perceived behavioural control [16]. Attitudes towards a particular behaviour derive from the aggregate of one's behavioural beliefs, which consists of the beliefs about the possible outcomes of the behaviour and the evaluation of these outcomes. Subjective norms are made up of the normative expectations of others with respect to the behaviour and one's motivation to comply with those expectations. Perceived behavioural control is an aggregate of one's beliefs about the presence of factors that might either facilitate or impede the performance of behaviour, and the perceived power of the these factors. Figure 3 provides schematic explanation about behavioural intention and its antecedents proposed by TPB. In general, the more favourable one's attitudes and the subjective norms toward performing the behaviour, and the greater control one perceives when performing the behaviour, the stronger the intention to perform the behaviour [16].

In the context of this study, TPB is expected to work better in predicting teachers' intention to implement the genre-based English teaching in their classroom practices. TPB is preferable than TRA because of the absence of volitional condition. There is no choice available among the participants except responding to the invitation or assignment and going to the PD program. Constraints are also presence due to problems among Indonesian teachers with regards to their levels of autonomy [1]. It is therefore complete volitional condition is

considered absence. Following the TPB, the predictors of intention, i.e. attitudes toward behaviour, subjective norms and perceived behavioural control are measured either directly or indirectly.

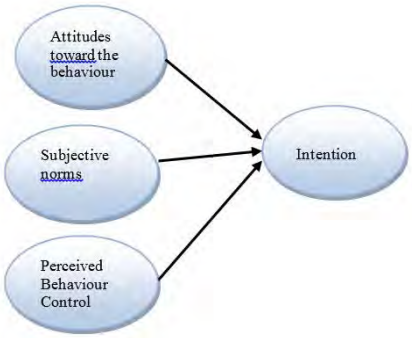

Figure 1. A direct model of the Theory of Planned-Behaviour (Ajzen, 1991)

5. Data collection and analyses

Data of teachers' intention to implement the genre-based English teaching were collected in 2012 from 210 junior secondary school English teachers in the province of Yogyakarta Special Territory, Indonesia. They were collected using the Intention to Implement the Genre-based English Teaching Scale (IIGETS) developed by the researcher based on the guidelines of TPB instruments [20]. TPB, as discussed previously, has suggested that there are three factors predicting behavioural intention. There were four subscales in the IIGETS – teacher attitudes towards the implementation of the GbET, perceived subjective norms, perceived behavioural control, and intention.

Data were analysed using the structural equation modelling using AMOS 20 with the maximum likelihood estimation. Data were analysed in to steps. Instrument validity, which the initial step of the data analyses, was established through construct validity assessed using the confirmatory factor analysis (CFA) using AMOS 20. At the next step, teachers' intention to implement the genre-based English teaching was analysed using the structural equation modelling (SEM).

Model development in the present study was done in four stages of 1) model specification, 2) model estimation, 3) model evaluation, and 4) model modification. There were four factors in the model; three factors as the independent variables – the predictors, and one factor as the dependent variables – predicted variable. Factors as the independent variables consisted of teachers' attitudes toward the implementation of the genre-based English teaching, subjective norms, and perceived behavioural control. Teachers' intention to implement the PD program was the dependent variable.

The main objective of model evaluation was to establish a model that fit the data. Model-fit was assessed using several model-fit indices. The model-fit indices used in the present paper include *CMIN/df*, *RMR*, *GFI*, *AGFI*, *CFI*, and *RMSEA*.

6. Findings

Findings is presented in this section and covers, 1) results from the confirmatory factor analyses, 2) teacher intention to implement the genre-based English teaching, and 3) discussion with some implication mainly drawn in the context teachers' motivation to attend the PD program and their intention to implement the PD in the classroom practices.

6.1 Results of the confirmatory factor analyses

Assessment of the model of teacher intention to implement the genre-based English teaching was informed by the theory of planned behaviour (TPB) that modelled behavioural intention as having three predictors, attitudes, subjective norms and perceived behaviour control [15] [16]. Model assessment was done using the one-step model building by simultaneously placing all three predictive variables into the model and estimate the model using maximum likelihood estimation procedure.

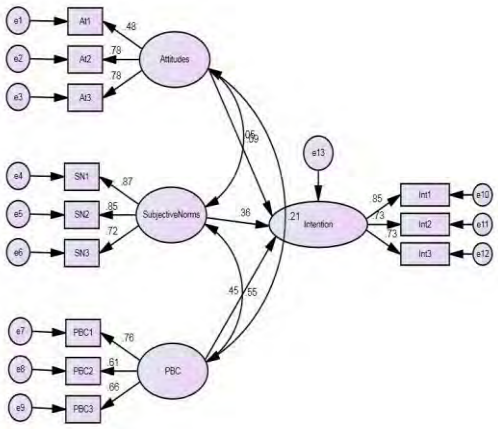

Figure 2. Three-factor model of teachers' intention, with *CMIN/df* = 1.301, *RMR* = .140, *GFI* = .954, *AGFI* = .925, *CFI* = .983, *RMSEA* = .039

Evaluation of the model of teachers' intention used in the present study revealed that the three-factor model of teachers' intention was well-supported by the data. It was well-fit, with model-fit indices were all good, with CMIN/df = 1.301, RMR = .140, GFI = .954, AGFI = .925, CFI = .983, RMSEA = .039. Because the original model fitted the data well, there was no modification applied to the model.

The factor loadings of each item were good, and in the measurement models, all indicators loaded onto their expected factors. No cross loading was identified, although some indicators loaded relatively low – for examples *PBC* 2 and *PBC* 3 loaded lower than .70. *At1*, the first item of attitudes, loaded quite low, although it was still significant (See Table 1).

6.2 Teacher intention to implement the genre-based teaching

Teachers' intention to implement the genre-based English teaching, that was measured using three items, was generally high with the overall mean of 6.84 and standard deviation of 1.27 on a 0 to 9 point scale. Among the three items, *I intend to use the genre-based teaching next semester* was rated the highest (M = 7.10, SD = 1.41). *Teaching using the genre-based approach will be my first priority* was trated the second (M = 6.69, SD = 1.59). *The lowest item rated by the participants was I promise myself to use the genre-based approach in my classes* (M = 6.60, SD = 1.81).

Table 1.Teachers' intention to implement the genre-based teaching

Items	*M*	*SD*
I intend to use the genre-based teaching next semester.	7.10	1.41
Teaching using the genre-based approach will be my first priority.	6.69	1.59
I promise myself to use the genre-based approach in my classes.	6.60	1.81

6.3 A model of teachers' intention to implement the genre-based teaching

A three-factor model of teacher intention to implement the genre-based English teaching was developed and tested using the structural equation modelling using IBM AMOS 20. The three predicting factors are 1) teachers attitudes towards the implementation of genre-based teaching, 2) teachers' perceived subjective norms, and 3) perceived behavior control. The development of the model was based on TPB [15] [16].

Findings, however, did not confirm the findings of the majority of research using TPB. Not like what was suggested by TPB, findings from this study revealed that only subjective norms and perceived behavioural control significantly predicted participants' intention with R^2 = .360; p < .001 and R^2 = .454; p < .001 respectively. Attitudes were not significant predictors of intention, with R^2 = .049; p < .508. See Table 4 for the complete reference.

Table 2. Regression weights and its significant values to predict intention

			R^2	*p*
Intention	<---	Attitudes	.049	.508
Intention	<---	Subjective Norms	.360	***
Intention	<---	PBC	.454	***
At3	<---	Attitudes	.778	
At2	<---	Attitudes	.779	***
At1	<---	Attitudes	.479	***
SN3	<---	Subjective Norms	.718	
SN2	<---	Subjective Norms	.845	***
SN1	<---	Subjective Norms	.874	***
PBC3	<---	PBC	.660	
PBC2	<---	PBC	.609	***
PBC1	<---	PBC	.760	***
Int1	<---	Intention	.846	
Int2	<---	Intention	.726	***
Int3	<---	Intention	.733	***

Among the three predictors, perceived behavioural control, that consisted of teachers' belief of control power and the beliefs about the presence of facilitating factors, was the strongest predictor, with R = .454, p < .001. It was interesting that while teachers' self-efficacy beliefs – teachers' judgement about their ability to control outcome – that shared some features with PBC was not significantly related to teachers' intention, PBC was. From the findings it can be concluded that it was not the belief of control beliefs that was important in the case of these group of participants; it was the beliefs about the presence of facilitating factors that mattered.

The second significant predictor in the model was the participants' perceived subjective norms. Consisting of perceived normative beliefs or the expectation of important others, and participants' motivation to comply with such expectation,

subjective norms contributed to teachers' intention with $R = .360$, $p < .001$. The predicting roles of subjective norms was to a certain extent within the researcher's expectation, given that teachers' in Indonesia was considered still lacking in their autonomy. What the people around them and important to their teaching said would be important. This again implies the significant of external factors for teachers in the sample.

The fact that teachers' attitudes towards the implementation of genre-based teaching in their classroom were not significant was interesting. Although it did not confirm the majority of research, it did make sense when concerned the specific context of Indonesian teachers and teaching profession.

First explanation is related to the nature of motivation for both attending the PD and implementing the results of the PD. As widely known, teachers' attendance in the PD program introducing the genre-based English teaching was external; it was due to assignment from either schools or the ministry of education. In addition, English teachers in particular seemed to perceive whatever new instructional approach introduced to them was compulsory. They felt like they had to bring it into the classroom. From this point, we can expect that attitudes will not matter. Whether or not teachers liked attending the PD was not an issue, they had no choice.

Secondly, References [1] and [20] have suggested that teachers in Indonesia was still low in their sense of autonomy. The low sense of autonomy and the excessive external drive put on teachers had made them left with no option but implementing the newly genre-based teaching approach. Again, they did not consider their own attitudes toward the approach.

The lack of autonomy among teachers had also led to the perceived subjective norms to be a significant predictor of intention. Subjective norms which were related to what significant others said about a particular matter functioned as a social pressure for teachers. When teachers were highly autonomous, social pressure would not overwhelmingly affect teachers. However, because teachers were low in autonomy, whatever their superiors said was what the thought they had to do.

Teachers' autonomy was also responsible to the low ratings of the significant predictors of teachers' intention to implement the genre-based English teaching – perceived behavioural control with $R = .454$, $p < .001$, and subjective norms with $R = .360$, $p < .001$. When combined, the predictive powers of both factors were still lower than 80%. There were still about 20% of unknown factors predicting teachers' intention. Based on the fact that teachers' autonomy played important roles in the making of decision among teachers, assuming that it was also responsible for the low predictive power of each factor seems to be well grounded.

7. Conclusion

Intending to implement results of a professional development seems to be important for a PD program to be successful. It is, therefore, necessary to make an effort to predict the levels of intention among participants. TPB has long tried to formulate the predictors of teachers' intention. A research study with school English teachers, however, has revealed that a specific context of teachers and teaching profession played important roles in determining predictors of intention.

There are three points to help the writer draw conclusion from findings in this paper. First, because volitional condition was restricted, teachers' attitudes towards the implementation of genre-base English teaching did not predict intention significantly. Second, the fact that PBC significantly predicted intention was interesting. With the same group of sample, it was found that self-efficacy that shared the feature of control belief with PBC did not predict intention. It is, therefore, quite convincing that it is the participants' belief about the presence of facilitating factors that has contributed to the predictive power of PBC. Third, subjective norms, which are the expectation of significant others, was a significant predictor of intention. Subjective norms in to a certain extent are manifestations of social pressure, which is external.

All the above three points lead to a strong belief that external contingencies, like facilitating factors, the expectation of significant others, and social pressure were still overwhelmingly, affect teachers' intention. In addition, the fact that teachers' attitudes did not count implied that teachers could not make decisions based on their own evaluation – they are exercising low levels ofautonomy.

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DEVELOPMENT OF RESEARCHER'S COMPETENCY IN HIGHER EDUCATION: A CASE STUDY IN BANDUNG STATE POLYTECHNIC IN INDONESIA

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Abstract

As Vocational Higher Education, research in polytechnic plays an important role to strengthen the quality of teaching and learning activities which in turn will lead to strengthen the graduates skills and knowledge to be in line with the industrial and societal demands.Therefore, managing researcher capability is no longer an individual's obligation, rather it has been shifting more of the Polytechnic institution's responsibility.Emphasis on improving quality and accountability of researcher's competency in Polytechnic is an imperative.

This paper describes a research for development of researcher's competency in Bandung State Polytechnic (POLBAN).The research used a qualitative approach to identify critical aspects of the researcher'smain ability to conduct a quality research.The purpose is to define the key barriers in order to achieve researcher excellent performance.To accomplish the researchers' competencies framework, we compare them with other research competency standards resources. Theidentifiedframeworkof researchers 'competencies then quantitativelyvalidated by lecturers who are researcher at the 10 faculties in Bandung State Polytechnic. At this stage, 16 researcher's competencies were found and used as the basis for assessing researchers' capability in conducting research activities and to develop researcher capacity development framework that may leads to excellent research performance.

Keywords:researcher's competency, researcher's capability, excellent performance, quality research.

1. Introduction

Research has a very important role in the implementation of quality higher education. Litan et al (2007) stated that higher education are an important source of research and development because:

- More than**50% of basic research**that generate breakthrough ideas which enable the emergence of new industries are held at the higher education.
- **15% of applied research**carried out through innovation that began in the campus is then absorbed into the business through patents, *start-ups,* and consulting arrangements between faculty and industry.In addition the higher education has a broader mission of translating the results of research and development into new products and new business.

Therefore, the ability of academics to carry out research is an aspect that needs to be developed in a sustainable manner.

Polytechnics as higher education that deliver vocational education has the same responsibility as the other universities that carry out three main aspects, which consists of education, research and community service activities. Research conducted at the Polytechnic is focusing onapplied research and stress to anticipate the dynamic developments or resolve problems that occur in the community/industry.Research occupies an important position to enrich and strengthen the education aspect and community service.

Basically the main problem faced by higher education in Indonesia in research development as stated by Koswara and Tadjudin (2002: 139) in the OECD member countries meeting are:

a. The low culture of research among academics, because the orientation of most higher education institution tend to focus to the teaching and learning activities.
b. The low quality of research due to the low capacity of researchers.
c. Most researchers conducted their study on an individual basis without based on the

Institutional Research Framework which is closely related to the funding of research and development at a higher level or a *road map of* the research main theme.

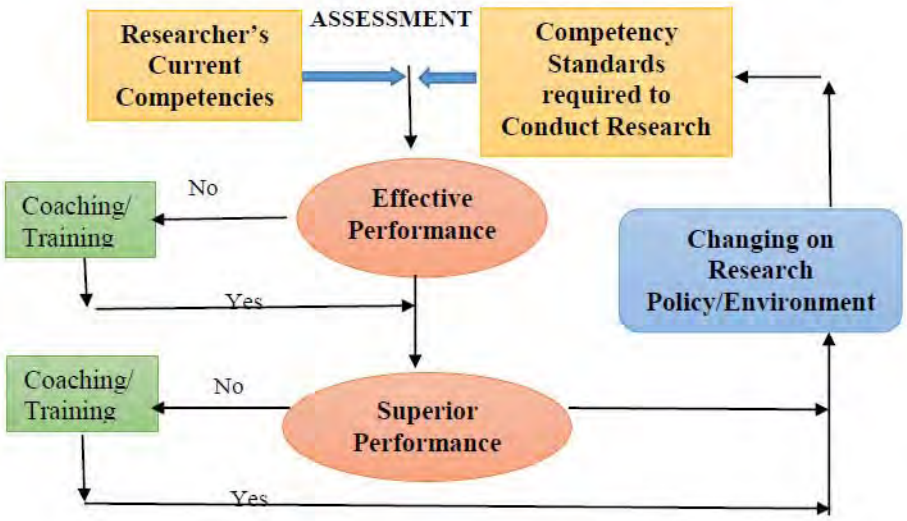
d. Total scientific publication of research results in national and international journals is very limited. It impacted on the lower rank of the Indonesian research publications, especially with the increasing number of countries that spur the number of publications in recent years.

Referring to the explanation above, a research has been carried outto develop competency standards of researchers as part of the Polytechnic faculty capacity building specifically in the field of research.This paper describes the process and founding of the research that conducted in Bandung State Polytechnic (POLBAN).

2. DEVELOPMENT OF RESEARCHER'S COMPETENCY

2.1 Linking Competence and Performance

Overview of researcher's competency standard linkage with capacity development can be seen in Figure 1 below.



Picture 1 Linking Researcher's Competency and Performance

Figure 1 shows that the**availability of the competency standards** in accordance with the workplace requirements is the first step in developing the individual's ability to produce optimal performance. Spencer (1993: 9) as the first researcher who elaborated on the human resource competence define competence as:*"the capability of applying or using knowledge, skills, abilities, behaviors, and personal characteristic to successfully perform critical work tasks, specific functions, or operate in a given role or position.Personal characteristic may be mental/intellectual/cognitive, social/emotional/attitudinal, and physical/psychomotor attributes necessary to perform the job ".*

The next step is the implementation of a standards-based**assessment**of competence that establish by the workplace. When assessing competency, it could be argued that if we want tok now how well somebody can p erform a certain tasks, the mostnatural thing would be to ask her/his to do the task, and then assess her/his performance. Such assessments,where workers are assessed during the actual performance, are called"Performance Assessments".Assessment then is the process of collecting evidence and making judgments appropriate to confirm the achievement of competency. In the Competency Based Assessment (CBA), the assessment is a purposeful process of systematically gathering, interpreting, recording and communicating to stakeholders, information on candidate performance against industry competency standards (Lawlor&Tovey, 2011). Assessment is important to workers themselves and employers who want to know if the workers have attained the knowledge, skills and attitudes required by the job.Assessment is necessary to certify that the worker have achieved the required standards. Also there may be a legal requirement for an individual to acquire certain certification before being given a license in a particular field.

The results of the implementation of the assessment is the identification and**achievement of the performance**gap between the capabilities required by the standards of competence and capabilities that are currently owned by the individual. These results are important information to be used as reference for the development of programs to increase the capacity of the individual according to their expertise.Outcome of the capacity building program are competent individuals.

2.2 Researcher Developing Competency Model

A work generally consists about seven (7) to nine (9) competencies that are take form as a competency models.However it depends on the form of work and organizational environment. Fogg (1999) describes*"A competency models is a descriptive tool that identifies the competencies needed to operate and in a specific role within a job, occupation, organization, or industry.Simply stated, a competency is a behavioral model of job description that must be defined by each occupational function and each job*".Competency model is useful to measure/assess the person's ability to carry out tasks in the scope of work.

A number of literature have reviewed the workplace competency (Vitae, 2011; Melin and Janson, 2006; OECD, 2002, Spencer and Spencer, 1993). However, so farnoliterature been found which specifically studyon the competence of lecturers as researchers, in particular lecturers in vocational education such as the Polytechnic.Existing studies about the competence of the profession in an educational environmentis the study of teacher competence as a teacher (World Bank, 2005; Day et al, 2006; Steiner, 2008; Willison, 2009).

2.3 Steps in Developing Researcher's Competency Model

Direction of the development of researchers competence described in this paper is the competence of the researchers as a Polytechnic lecturer. The method used in this study is a qualitative method, followed by a quantitative method.The collection of data and information starting from desk research on competency models that have been developed by earlier researchers.Further is exploration of the researchers' main tasks that must be performed by Polytechnic lecturer in conducting quality research.Exploration carried out through interviews andFocus Group Discussion(FGD) with 77 lecturers whomparticipate in Bandung State Polytechnic.Based on the information gathered through the exploration, aframeworkof "tasks variable" required by polytechnic lecturers for implementing research was developed.

Further, based on the tasks variable framework, aquestionnaire about the competence of the researchers for polytechnic lecturers is designed. Validation on the draft of the questionnaire contents wasconducted to 7 faculty researchers.Further steps is filling on the questionnaires by faculty researchers at POLBAN. Data obtain from the questionnaire then tested for validity and reliability. The result is use to confirm a *framework*on the researcher's tasks variable which then used as a preliminary draft competency models for faculty researchers in Polytechnic.Furthermore, the results of data collection through questionnaires was analyzed using t-test to see any differences between the researchers required competencies and researchers current capabilities.

The development of competency models for Polytechnic researchers conducted with respect to various research competencies that have been developed in many countries.The focus of the study, specifically emphasized to the preparation of the competency model forresearchers which in a certain cases known as the*Research Development Statement*(Vitae, 2007).The Structureof *Research Development Statement*(RDS) consists of four4) domain, which includes: 1) the knowledge that is needed to know researchers competency to carry out research;2) how to be effective in its approach to research;3) when cooperation with othersshall be conducted;and 4) when contributing to the wider environment should be plan.

Unlike the research competence of Vitae that implement competency model of researchers for the entire role of scientists, researchers competencies developed through this research is based disaggregatedtasks of a researcher.So every task will have a more detailed and specific description in the form of sub-tasks which called as elements. Each element is followed by performance indicators.Therefore, one competency standards will be available for each task, hereinafter called units of competency.Format of competency standard used in this study is based on the format of Regional Model of Competency Standards (RMCS)with reference to the Australian National Training Authority (ANTA, 2001)/ the National Training Information System (NTIS), Australia. *The American Society for Training*

and Development(ASTD) framework which was developed in 2004 is used as a comparison. Theform of ASTD model is a series of competencies in line with the roles, areas of expertise, as well as the basic competencies for professional learning and workplace environment.

Based on the results of the study, hypothetical Researchers' Competency Model was further developed for Polytechnic lecturers. The hypothetical model is expected to be used as a national standard reference in the field of research to support the Indonesian National Qualifications Framework (KKNI) at level 9 as the highest level (Indonesian Government Regulation No. 8 Year 2012).

3. Findings, Data Processing and Results

Findings from the exploratory study are as follows:

a. In the view of respondents the main problems faced by researchers is that not all lecturer have the same ability to carry out research. The difficulties faced by most researchers is to identify research topics in line with their scientific field, reference to the researcher's road map. Additionally, the respondents recognized lecturers' weaknesses on writing appropriate research proposals and further writing scientific articles based on their research findings.
b. Most to date research problems was not in the research contents, but rather related to the research tool to achieve the research purpose. For example the research methodology. One of the reason is that most lecturers do not receive further training on research methodology specifically on how to carry out research according to their field of expertise field.
c. The next obstacle is information literacy. Sometimes faculty researchers who discovered an innovation lack of attention toward what has been discovered or what has been published by other related studies on similar topic. It may lead to *redundancy*of research. The ability of lecturer on information literacy is very diverse. Currently, information literacy is not yet seen as urgently needed for lecturers to investigate, whereas when the lecturer know exactly on how to access the information *literacy*such as exploring information, how to access patent, how to access journal, the lecturer will feel confident and ascertain the position of their research topics. Whether the existing topic is really new or already discovered. This is known as the *state of the art.*
d. Current development on research administration that occurred in 2012 is the implementation of the Information Systems for Research and Community Development/SIM-Litabmas. Pattern research administration accountability using information technology raises issues among faculty researchers, especially on "technology literate". Many respondents confirm that they need to be given training or mentoring/assistance to access and uploadresearch documents.

Referring to the feedback from survey respondents, it is known that there are a number of tasks that must be done by lecturer as part of their quality research process. Each confirmed tasks and it sub-tasks is integrated as a model of competency which is called unit of competency.The title of each unit competency is mirror the task. Table 1 below shows the 16 competency units found through the research:

Table 1 Researcher's Tasks

No.	TASKS OF RESEARCHERS
1.	Selecting Research Topics and Setting Research Questions
2.	Develop Literature Review
3.	Determining Research Methodology
4.	Develop Research Budget
5.	DevelopingResearch Proposal
6.	Collecting Data and Information
7.	Managing and Processing Data and Information
8.	Validating Data and Information
9.	Analyzing Data and Information
10.	Conduct Research
11.	Managing Operational Research Fund
12.	Monitor The Use of Research Fund
13.	Make Presentation on Research Activities
14.	Evaluating Research Program
15.	Make Research Activity Report
16.	Make and Publish Scientific Articles

Based on the developed researchers' competency model, researchers conduct confirmation activities to the lecturers at the Jakarta State Polytechnic, Semarang State Polytechnic, Makassar State Polytechnic, the Health Polytechnic and Polytechnic Pos Indonesia in Bandung.Confirmation is done by filling the questionnaire which asking the respondents to recognize their research. Information from respondents were processed and analyzed statistically.The results is shown in Table 2 below.

Table 2 Research Capabilityof Polytechnic Lecturers

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
MEMBUAT PENDAHULUAN PROPOSAL	Equal variances assumed	3,230	,074	9,151	140	,000	,9648	,1054	,7563	1,1732
	Equal variances not assumed			9,151	129,819	,000	,9648	,1054	,7562	1,1734
MEMBUAT KAJIAN PUSTAKA	Equal variances assumed	4,939	,028	7,203	140	,000	,8310	,1154	,6029	1,0591
	Equal variances not assumed			7,203	125,111	,000	,8310	,1154	,6027	1,0593
MEMBUAT RANCANGAN PENELITIAN (BIDANG SOSIAL)	Equal variances assumed	5,926	,016	7,714	140	,000	,9577	,1242	,7123	1,2032
	Equal variances not assumed			7,714	133,545	,000	,9577	,1242	,7122	1,2033
MEMBUAT RANCANGAN PENELITIAN (BIDANG TEKNIK)	Equal variances assumed	4,105	,045	7,077	140	,000	,8592	,1214	,6192	1,0992
	Equal variances not assumed			7,077	138,087	,000	,8592	,1214	,6191	1,0992
MELAKSANAKAN PENELITIAN	Equal variances assumed	7,076	,009	8,327	140	,000	,9296	,1116	,7089	1,1503
	Equal variances not assumed			8,327	130,209	,000	,9296	,1116	,7087	1,1504
MELAKUKAN ANALISIS PENELITIAN	Equal variances assumed	5,237	,024	8,251	140	,000	,9155	,1110	,6961	1,1349
	Equal variances not assumed			8,251	129,136	,000	,9155	,1110	,6960	1,1350
MEMBUAT LAPORAN PENELITIAN	Equal variances assumed	3,154	,078	6,654	140	,000	,7746	,1164	,5445	1,0048
	Equal variances not assumed			6,654	132,144	,000	,7746	,1164	,5444	1,0049
MENYAJIKAN PRESENTASI	Equal variances assumed	,548	,460	6,125	140	,000	,7042	,1150	,4769	,9315
	Equal variances not assumed			6,125	136,153	,000	,7042	,1150	,4769	,9316
MENGGUNAKAN PERHITUNGAN STATISTIKA	Equal variances assumed	,289	,592	6,223	140	,000	,7324	,1177	,4997	,9651
	Equal variances not assumed			6,223	138,596	,000	,7324	,1177	,4997	,9651
MENGGUNAKAN ALAT BANTU PERHITUNGAN	Equal variances assumed	9,800	,002	4,531	140	,000	,6197	,1368	,3493	,8901
	Equal variances not assumed			4,531	130,333	,000	,6197	,1368	,3491	,8903
MEMBUAT PERKIRAAN JAWABAN	Equal variances assumed	6,332	,013	3,801	140	,000	,5352	,1408	,2568	,8136
	Equal variances not assumed			3,801	137,752	,000	,5352	,1408	,2568	,8137
MEMBUAT ARTIKEL ILMIAH UNTUK JURNAL NASIONAL	Equal variances assumed	1,557	,214	4,679	140	,000	,6479	,1385	,3741	,9217
	Equal variances not assumed			4,679	139,107	,000	,6479	,1385	,3741	,9217
MEMBUAT ARTIKEL ILMIAH UNTUK JURNAL iNTERNASIONAL	Equal variances assumed	6,816	,010	5,358	140	,000	,6620	,1235	,4177	,9062
	Equal variances not assumed			5,358	134,684	,000	,6620	,1235	,4176	,9063
MEMPUBLIKASI ARTIKEL ILMIAH NASIONAL	Equal variances assumed	1,136	,288	6,533	140	,000	,8239	,1261	,5746	1,0733
	Equal variances not assumed			6,533	138,628	,000	,8239	,1261	,5746	1,0733
MEMPUBLIKASI ARTIKEL ILMIAH INTERNASIONAL	Equal variances assumed	3,972	,048	6,355	140	,000	,7606	,1197	,5240	,9972
	Equal variances not assumed			6,355	138,118	,000	,7606	,1197	,5239	,9972

Table 2 shows the following findings:

- There are differences in the required competency and current research capabilities possessed by the lecturers on **Develop Preliminary Proposal** with significant at 0.000. Value 0.000 <0.05.
- There are differences in the required competency and current research capabilities possessed by the lecturers on **Develop Literature Review** with significant at 0.000. Value 0.000 <0.05.
- There are differences in the required competency and current research capabilities possessed by the lecturers on **Develop Research Framework (Social Field)** with significant at 0.000. Value 0.000 <0.05.
- There are differences in the required competency and current research capabilities possessed by the lecturers on **Develop Research Framework (Technology Field)**with significant at 0.000. Value 0.000 <0.05.
- There are differences in the required competency and current research capabilities possessed by the lecturers on **Conduct Research**with significant at 0.000. Value 0.000 <0.05.
- There are differences in the required competency and current research capabilities possessed by the lecturers on **Analyzing Research Data and Information** with significant at 0.000. Value 0.000 <0.05.

- There are differences in the required competency and current research capabilities possessed by the lecturers on **Make Research Activity Report**with significant at 0.000. Value 0.000 <0.05.
- There are differences in the required competency and current research capabilities possessed by the lecturers on **Make Presentation on Research Activities**with significant at 0.000. Value 0.000 <0.05.
- There are differences in the required competency and current research capabilities possessed by the lecturers on **Using Statistical Analysis** with significant at 0.000. Value 0.000 <0.05.
- There are differences in the required competency and current research capabilities possessed by the lecturers on **Using Calculation Tools** with significant at 0.000. Value 0.000 <0.05.
- There are differences in the required competency and current research capabilities possessed by the lecturers on **Make Scientific Articles for National Journal**with significant at 0.000. Value 0.000 <0.05.
- There are differences in the required competency and current research capabilities possessed by the lecturers on **Publish Scientific Articles in National Journal**with significant at 0.000. Value 0.000 <0.05.
- There are differences in the required competency and current research capabilities possessed by the lecturers on **Make Scientific Articles for International Journal**with significant at 0.000. Value 0.000 <0.05.
- There are differences in the required competency and current research capabilities possessed by the lecturers on **Publish Scientific Articles for International Journal**with significant at 0.000. Value 0.000 <0.05.

4. Conclusion:

Research plays an important role in Polytechnic, however Polytechnic lecturers faced obstacle in conducting research such as developing appropriate research proposal. There is a need to improve Polytechnic lecturers' competency in conducting quality research and writing quality scientific publication as the result of their research.

In order to strengthen lecturer research capability, 16 hypothetical competency standards on conducting research and four hypothetical competency standards on scientific publication writing have been developed. The hypothetical competency standards can be used for capacity building of Polytechnic researchers.

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THE DIFFICULTIES ENCOUNTERED BY NON-ENGLISH DEPARTMENT STUDENTS IN SPEAKING ENGLISH (A Case Study in a College of Nursing in Bandung)

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Abstract

This research, titled "The Difficulties Encountered by Non-English Department Students in Speaking English", is a case study at a college of nursing in Bandung. It is conducted to investigate difficulties encountered by non-English department students (NEDS) in speaking English, which is divided into two aspects: linguistic and psychological aspects. It also aims to find the strategies used to overcome the difficulties. This research employs a case study with qualitative approach, involving 25 students of a college of nursing in Bandung. Questionnaire and interview are employed to gain the data. From the study, it is found that the major difficulties encountered by NEDS are in vocabulary and nervousness. Moreover, to overcome the difficulties encountered, this study find some strategies used by the NEDS in speaking English and the most strategies used by the students are using Bahasa Indonesia, asking for help, being quiet, smiling or laughing and taking risk.

Keywords: difficulties, speaking, NEDS, college of Nurdin

1. Introduction

Speaking as a part of communication is difficult for some college students, particularly non-English department students (NEDS). Speaking is more than just pronouncing a word. The students have to speak fluently and accurately, and think at the same time [1]. Yet, it is not easy to do. Some students have been learning English for a long time, yet they cannot speak fluently. They understand the conversation but they cannot respond to the interlocutor immediately.

However, English has been playing an important role in facilitating students' preparation for professional requirements. English belongs to the requirements for those who are seeking jobs, as its use as the working language in 85% of international organizations [2]. Therefore, nowadays, NEDS are demanded to use English in terms of communication. Placement Deputy of BNP2TKI, Noch said that the demand of international labor market particularly for nurses is increasing [3]. For instance, until 2015, the demand of nurses to Japan is 600.000 people, yet so far nurse placement workers to Japan since 2008-2012 has reached as many as 892 people. It can be seen that the demand is high but unfortunately, Indonesia has not taken benefit from it. Most of Indonesian nurses are not qualified, for instance they cannot speak English fluently. Consequently, the students should learn English more comprehensively to meet the standards. In other words, regardless of the difficulties encountered while they are trying to speak in English, they have to find some ways or strategies to overcome those difficulties.

According to the explanation above, this study is designed to observe the difficulties encountered by non-English department students in speaking English particularly nursing students. Furthermore, students' strategies used to overcome the difficulties are also investigated.

2. Theoretical Foundation

2.1 Definition of Speaking

Speaking has an essential role in verbal communication; it is one of the abilities in carrying out a conversation and also the process of building and sharing meaning through the use of verbal and non-verbal symbol in a variety of contexts [4]. Concept of speaking consists of delivering, accepting, and processing information [5]. Speaking can be started and finished at any situation, since it is an unplanned process. However, in this study, speaking skill refers to student's ability in explaining some procedural steps related to their subject, which is nursing, using English in terms of communication with others. The skill will be observed from the students' spoken product improvement.

2.2 Difficulties in Speaking English

In mastering English speaking skill, students often find some difficulties; these problems can be caused by many factors, some of them are related to linguistic and psychological aspects. In this study, linguistic aspect refers to the grammatical rules governing vocabulary, grammar patterns, and pronunciation [6][7]. Moreover, related to difficulties in speaking English, some experts such as Thornburry, Nunan and Huyen propose some linguistic aspects, such as lack of vocabulary, lack of understanding of grammatical pattern, and incorrect pronunciation, become the source of students' difficulties and reluctance to speak in English [8][9][10].

Instead of linguistic aspect, some students also get difficulties in speaking English related to psychological aspect. In this study, the focus is only on affective domain. Martos adds that the affective domain is the means through which individuals become aware of their environment, respond to it with feelings, and act according to them, such as self-esteem, shyness, anxiety and fear [11]. There are some difficulties that should be taken into account with speaking activities in the classroom as suggested by Ur as cited in Nakagawa, and Hanani [12][13]:

- Inhibition: Students are often feel that their innate prevent them in trying to say things in a foreign language, such as worried about making mistakes, fearful of criticism or losing face, or simply shy of the attention that their speech attracts. It is supported by the statements from Middleton, Kurtus and Hieu and Zang (as cited in He and Chen) [14-17]. Aftat also mentions that this fear is linked to the issue of correction and negative evaluation from others [18]. As a result, students commonly stop participating in the speaking activity [16].
- Nothing to say: Even if they are not inhibited, but they cannot think of anything to say.

Moreover, Yastutik adds other difficulties appear in a conversational class, which are students nervous, worries about others' responses, and less confident of speaking English [19].

2.3 Strategies in Speaking English

In this study, speaking strategy is a method or plan used to overcome difficulties in speaking English [20]. There are several strategies used in speaking English highlighted by some experts. Related to linguistic aspect, Oxford and Sperling mention some strategies namely compensation strategy, some of them are [21][22]:

- Language Switch: the students use a word in their first language with its pronunciation, such as saying "I want a *pisau*" instead of "I want a knife".
- Paralinguistic: the students use gesture, facial expression or sound imitation to convey intended meaning.
- Appealing for help: the students ask for help from the interlocutor either directly by using "what do you call..?" or indirectly by using pauses or confused expression.
- Avoidance strategy: the students leave a message unfinished or keep silent.

While related to psychological aspect, one of strategies that can be used to overcome difficulties in speaking English is affective strategy which is suggested by Oxford [21]. The strategies enable learners to control emotions and attitudes related to language learning. For instance, students laugh, smile or take a deep breath in order to relax while they feel nervous.

3. Methodology

This study was designed as a case study research design. Case study was appropriate for this study because it allowed the researcher to focus on a unit to produce an in-depth description by looking at a process with a small amount of respondents [23][24]. The foci of this study are NEDS' difficulties and strategies in speaking English. Thus, the study employed a qualitative method. To collect the data, there were two instruments used in this research, those are questionnaire and interview. Questionnaire was used to get information about NEDS' difficulties and strategies in speaking English. An interview was used to gain deeper information from questionnaire

The questionnaire is divided into two parts which in total consists of twenty four statements with two optional answers: 'yes' or 'no' and two open questions. The first part is to find out NEDS' difficulties in speaking English, whereas the second part is to see the strategies used by NEDS to overcome the difficulties in speaking English. The items in the questionnaire are written in Bahasa Indonesia, for better understanding. The items on the questionnaire are adapted from Thornburry, Hanani, Brown, Yastutik, Sperling, Oxford, and Harmer [8][13][18-22][26]. The distribution of questions in the questionnaire can be seen in the table below (table 3.1).

Table 3.1 The Distribution of Questions in the Questionnaire

No	Category	Item number
1	Difficulties encountered by the students in speaking English related to linguistic aspect	8, 9, and 10
2	Difficulties encountered by the students in speaking English related to psychological aspect	1, 2, 3, 4, 5, 6, and 7
3	Strategies used by the students to overcome difficulties in speaking English related to linguistic aspect	4, 5, 6, 7, 8, 9, 10, 11, 12, 13, and 14
4	Strategies used by the students to overcome difficulties in speaking English related to psychological aspect	1,2,3,4,5

The site of this research is one of college of nursing in Bandung. One of the first year classes which involves twenty five students is selected as the respondents of this study. The selection of respondents is based on the accessibility of the researcher to the college, the willingness of the lecturer and students to be observed. In this college, what is taught to the students in this semester is intermediate level of English for nursing purposes (ENP). It is taught once in a week with the allocation time 2x50 minutes for each meeting or the same as two credit hours.

4. Findings

4.1 Difficulties in Speaking English Related to Linguistic Aspect

a. Lack of Vocabulary

Based on the questionnaire, it can be seen that 24 of 25 students having difficulty in vocabulary. They knew the word in Bahasa Indonesia but they did not know the equal word with the same meaning in English. Lack of vocabulary makes the students doubt to say what they want to convey. These findings are also supported by data gained through interview. Most of them stated that they got difficulty to find appropriate word when speaking English. On the interview, some students also said that less practice caused them having limited vocabulary. It is supported by Nation as cited in Huang who states that FL/L2 learners are sometimes unable to express their intended meaning because they do not have 'enough vocabulary' or they are not able to use their vocabulary knowledge productively [25].

b. Lack of Grammatical Knowledge

Besides vocabulary, grammar is also found as difficulty which mostly encountered by NEDS in speaking English. It is accordance with the result of the questionnaire. It showed that 23 of 25 students having difficulty in grammatical structure. Grammar as the second difficulty mostly encountered by NEDS in speaking English can also b e seen from the result of interview. On the interview, some of the students said that they encountered the problems in speaking with correct grammar, such as in using tenses, modifiers, and subject - verb agreement, and using active and passive voices. The results of the findings support the fact that there are hundreds or thousands of grammatical rules in English language and most non-native speakers are difficult to perceive and use the English grammar correctly [26].

c. Lack of Proper English Pronunciation

Besides vocabulary and grammar knowledge, pronunciation is also considered as a difficulty for the students. The questionnaire result showed that 19 of 25 students having difficulty in pronunciation. When a speaker produces incorrect pronunciation, then the meaning of the sentence changes too. The data from questionnaire are also supported by the result of interview. On the interview, one of the students said that she got difficulty in pronouncing the word in English. In addition, Gilbert says that in many cases, especially in EFL class, most students do not have self-confidence to speak because they do not know how to pronounce a certain word well [27].

4.2 Difficulties in Speaking English Related to Psychological Aspect

a. Nervousness

The finding of this study on NEDS' difficulties in speaking English related to psychological aspect showed that nervousness was a difficulty which mostly encountered by the NEDS when speaking English. It can be seen from the result of questionnaire. 24 of 25 students felt nervous when they have to speak in English. Students' psychological condition influences students' performance while speaking English, such as fluency. Since fluency refers to natural and flowing spoken, nervousness can cause hesitation that makes the students not to seem fluent in speaking English [20]. Focusing on difficulties in speaking English related to psychological aspect, the result of interview also showed that nervousness was difficulty that mostly encountered by the students. Some of the students said that they were nervous when they

had to speak in English in front of other people, such as lecturer, native speaker or even their friends.

b. Lack of Confidence

Based on the result of observation, 22 of 25 students do not feel confidence when they have to speak in English. It is also accordance with the result of interview and observation and C). On the interview, some of the students also said that they did not feel confidence when they realize that the interlocutor does not understand them or when they do not understand the interlocutor. In this study, many students thought that their English was bad and felt that they could not speak English well.

c. Fear of Making Mistakes

Based on the result of questionnaire, interview and observation, fear of making mistakes also appeared as a difficulty which encountered by the students in speaking English. Based on the questionnaire, 19 of 25 students revealed that they were afraid of making mistakes while speaking in English. Meanwhile, on the interview, some students said that they were afraid of making mistake. Moreover, with respect to the fear of making mistake issue, Aftat also mentions that this fear is linked to the issue of correction and negative evaluation [18]. In addition, this is also much influenced by the students' fear of being laughed at by other students or being criticized by the teacher.

4.3 Strategies Used by the NEDS to Overcome Difficulties in Speaking Related to Linguistic Aspect

a. Language Switch

The first that will be discussed is strategies used by NEDS to overcome difficulties in speaking English related to linguistic aspect. According to the result of questionnaire), it showed that when NEDS encountered difficulties in speaking English, 24 of 25 students switched the language into Bahasa Indonesia. The data from questionnaire is also supported by the data from interview. On the interview, some students said that they used language switch, which is the easiest way to keep communication flowing, but the less convenient way for language learning. Moreover, many times in English there is more than one way of pronouncing words. Some people whose first language is English decide easily how they are going to speak by the context within which they are speaking but neither do the NEDSs whose first language is not English.

b. Appealing for Help

In this study, appealing for help also appeared as another strategy mostly used by the students to overcome difficulties in speaking English. The result of questionnaire showed that 24 of 25 students appealed for help when they encountered difficulties in speaking English. The finding was quite similar as the result of interview, which also found that appealing for help was strategy that is used by most of the students. The students asked for help from their friends or lecturer either directly by asking or indirectly by using pauses or confused expression [21].The students did not need to think too hard to get solution for their difficulties. They just asked questions in Bahasa Indonesia to their friends and they got the answer directly [28].

c. Paralinguistic

Another strategy used by the students is paralinguistic; include using gesture, facial expression or sound imitation to convey intended meaning [21]. It can be seen from observation result which showed that 21 of 25 students answered using mime or gesture in order to overcome difficulties in speaking English related to linguistic aspect. For example, the students put their hand palms on the left cheek and closed their eyes to mean sleep. It was supported by the data gained from Interview. On the interview, several students said that they used mime and gesture to overcome difficulties in speaking English related to linguistic aspect.

4.4 Strategies Used by the NEDS to Overcome Difficulties in Speaking Related to Psychological Aspect

a. Smiling or Laughing

The findings about strategies used by NEDS to overcome difficulties in speaking English related to psychological aspect showed that when they encountered psychological difficulty, 20 of 25 students smiled or laughed. It can be seen from the result of questionnaire. In line with the result of questionnaire, the result of interview showed that smiling or laughing was the most strategy used by the students to overcome difficulties related to psychological aspect. Since the main difficulty related to psychological aspect was nervousness, smiling or laughing probably appeared as one strategy in order to relax them while they felt nervous. Oxford suggests smiling and laughing as affective

strategies, which are used to solve psychological difficulties [21]. It enables the students to control emotions and attitudes related to language learning.

b. Taking a risk

Beside smiling or laughing, taking risk is the second strategy which is frequently used by the students. On the questionnaire, 18 of 25 students answered that they took a risk when they encounter difficulty in speaking English. Brown suggests that learning is the reward of taking risk [20]. By taking a risk, the students try out their acquired language, use it for meaningful purposes, ask questions and assert themselves. The students are trying to speak in English without putting the primary focus on success or failure and not considering embarrassment. On the interview, a student said that when she was not sure about what to say, sometimes she took a risk.

c. Keeping Silent

Based on the data gained, it can be seen that there is another strategy such as being silent which is used by the students to overcome difficulties in speaking English related to psychological aspect. On the questionnaire, 14 of 25 the students answered that when encounter difficulties in speaking English, they used avoidance strategy. It was supported by the data gained from interview which showed that some of the students were keeping silent to calm down and reduce their nervousness while speaking English. Leaving a message unfinished or keeping silent showed that the students are lack of confidence to communicate [21]. By being quite, the students wish that they could take turn their positions with their friends as soon as possible or even skip the moment to speak in English.

5. Conclusion

This study discovers that there are some difficulties faced by NEDS in speaking English. The major difficulties encountered by NEDS are vocabulary and nervousness. To overcome the difficulties encountered, this study finds some strategies that are used by the NEDS in speaking English and the most strategies used by the students are using Bahasa Indonesia, asking for help, being quiet, smiling or laughing and taking risk. By using Bahasa Indonesia, they can easily speak or answer the lecturer's questions because it is their first language, while by asking for help, the students will get information about what to say without thinking too hard. Moreover, by being quiet, laughing and taking risk, they are just thinking to finish the moment soon because they do not know what to say or how to say it in English. The students do not know other strategies, and they think those are the simplest way to overcome the difficulties, so then they use the strategies which are mentioned before frequently. However, those strategies do not allow the students to practice a lot in speaking English; they just pass the chance to speak without trying too hard to overcome the difficulties.

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AN INVESTIGATION OF LISTENING DIFFICULTIES ENCOUNTERED BY STUDENTS IN LISTENING FOR GENERAL COMMUNICATION COURSE

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Abstract

There is an abundance of problems related to listening mastery as one of basic skills in English language learning. This study focused on the investigation of listening difficulties encountered by freshman of undergraduate students in one of state universities in Bandung. It is aimed to find out listening difficulties encountered by the students. Some strategies to overcome the difficulties also revealed. This research employs a case study with qualitative approach, involving 17 students of students taking listening for general communication course. A questionnaire was employed to gain the data. From the study, it is found that the major difficulties encountered by students categorized into several section related to the content of listening, linguistic features, students' concentration, psychological aspects, learner and speaker and physical setting. Moreover, it also found that maximizing exposure to English listening become strategies used by students. To sum up, this study found that students faced varying difficulties in listening mastery and it is recommended to implement appropriate teaching techniques and approaches to help students improving their listening ability.

Keywords:*difficulties, listening*

1. Introduction

An abundance of problems related to listening skill tend to be neglected. Teaching method emphasized more on productive skill without understanding the tight relationship between receptive and productive skill (Richard and Renandya, 2002)[14]. Nunan (2001: 238) [12]states that listening is the Cinderella skill in second language learning whichdoes not get much attention compared to other English skills.There is a belief that student will grasp their listening ability by time, therefor, the development of teaching listening are running slow.

The term of listening refers to a complex process that allows hearer to understand spoken language (Rost, 2001)[16]. It has a tight relationship with speaking skill since it provides language input for learner.By listening, listener will be able to grasp English spoken structure, learn how to pronounce, and know how to use English (Rost, 2001)[16].However, teaching listening in the classroom is very simple. Students is only given exposuresin the classroom to listen to a certain material and then asked answer the question (Brown, 1977)[2]. This condition caused bad effect for the students. Most of them failed to cope with their listening problems. Therefore, it is important for teachers to know what difficulties are faced by learner to help student gain their listening ability.

Numerous related previous studies had been conducted.Hamouda (2012)[9]who investigated problems encountered by Saudi Students in the EFL listening classroom. The resultshowed that accent, pronunciation, speed of speech, insufficient vocabulary, and different accent of speakers, the lack of concentration, anxiety, and bad quality of recording. Another study comes wasa Study of Factors Affecting EFL Learners' English Listening Comprehension (Gilakjani and Ahmadi, 2011)[7]. It shows that students do not have an innate understanding of what effective listeners do.According to the explanation above, this study is designed to investigatedifficulties encountered by students taking listening for general communication course in one of public university in Bandung.

In addition, students' strategies used to overcome the difficulties are also investigated.The present study addressed the following questions: (1) what are difficulties encountered by students in listening for general communication class? (2) What are strategies employed by the students to handle the difficulties?

The focus on this study limited on investigating students' listening difficulties encountered by students whom taking listening for general communication course and some strategies occupied by students to overcome the difficulties.Thefindings of this study brings good in both in theoretical level and in practical level.

2. Discussion

Listening is viewed as a primary skill for language learning (Richard 1985; Richard and Rogers 1986; Rost 1990 in Rost2001)[16].The development of teaching listening could be seen from many reputable listening; Vandergrift (1999), Goh (1999), Field(2001) and Brown (1977). Brown (1977)[2] in her book states that in teaching listening, teachers should know the goals of teaching listening. To reach those goals, it is important for a teacher to define what her students' characteristics and difficulties in listening, then later develop them in teaching strategies as a way to cover them.

One of the difficulties in listeningis learnerswere not accustomed to the authentic spoken language. Another difficulty is disassociating knowledge how the word is spelt from how it is pronounced. Moreover,Rost (2001: 48) [16]states that the difficulty of listening input deal with linguistic and informational complexity of the listening text.Underwood (1989 in Chen, 2005) [4]organizes the major listening problems as follows:lack of control over the speed at which speakers speak,not being able to get things repeated,the listener's limited vocabulary,failure to recognize the "signals", problems of interpretation,inability to concentrate, andestablished learning habits. She further claims that problems are related to the learners' different backgrounds; students whose culture and education contained in storytelling and oral communication tradition are generally "better" at listening comprehension than those from reading and book-based cultural background.

In addition, Brown (2001)[3]adaptssome listening difficulties from several sources (Dunkei 1991; Richards 1983; Ur 1984) they are: Clustering, Redundancy, Reduced forms, Performance variables, Colloquial language, Rate of delivery, Stress, rhythm an intonation and Interaction.

In order to gain better comprehension, it is important for students to understand how meaning being transferred in spoken language; top- down and bottom- up processing.

Top down processing

The first characteristic is top-down processing, which suggest the listeners to actively construct the original meaning of the speaker using coming sounds as a clues (Nunan, 2001)[12]. In this technique, listeners use their background, pragmatic, cultural and discourse knowledge as a way to understand the meaning of a message (Carter and Nunan, 2001; Richard, 2008; Goh and Vandergrift, 2012)[13, 15, 19].

Bottom up processing

Second characteristic is bottom-up processing, which refers to the segment of the sound stream into meaningful units to interpret the message (Richard, 2008; Goh and Vandergrift, 2012[19]). Richard further explains that comprehension begins with receiving the data,then analyzed them as successive levels of organization, until the meaning is derived. He further claims that in bottom-up need rich vocabularies and knowledge of sentence structure to process texts in bottom-up (Richards, 2008)[15].

Some studies have been conducted on students' listening difficulties; Chen's (2005)[4]whoindicated the obstacles confronted by the students in listening are multifaceted.It carries a probable risk of failure with students' internal factors, listening material and strategies used. Moreover, Goh (1999)[8] tried to take a look on language learner listening difficulties from cognitive perspective. It was found that the problem related to perception, parsing and utilization.

This study is characterized as qualitative study since it is used tocomprehend social phenomenon from participants' point of view (Alwasillah, 2011)[1]. In association with qualitative method, a case study was used to discover meaning, investigate the process, and to gain in- depth understanding of an individual, group or situation (Lodico, Spaulding and Voegtle, 2006)[11]which is perfectly match with the purpose of the study.

The subject of this study was seventeen students who taking listening for General Communication course in one of public university in Bandung. The instrument used in this study was a questionnairerelated to students' difficulties which adapted from Hamouda (2013)[9] with conducted based on listening difficulties proposed by Rost (2001)[16], Underwood (1989), Dunkei (1991), Richards (1983), and Ur (1984) which have been summarizedby Brown (2001)[3]. Those difficulties then were categorized into seven aspects;content of listening, linguistic features, students' focus and concentration, psychological aspect, learner problem, speaker and physical setting.

The data obtained through the questionnaire, which were organized and analyzed quantitatively and qualitatively. In quantitatively, students' was given questionnaire related to their listening's difficulties, calculated them in percentagethen describedthem qualitatively.The data analysis was aimed to find students' difficulties in listening comprehension particularly in listening for general communication class. Seventeen questionnaire items were analyzed based on categorization ofthe content of listening, linguistic features, students' focus and concentration, psychological aspect, learner problem, speaker and physical setting.

Based on data collection analysis, it was found that students still face difficulties that have been proposed by Rost (2001)[16]. Underwood (1989), Dunkei (1991), Richards (1983), and Ur (1984) as cited in Brown (2001)[3]that related to the content of listening, linguistic features, students' focus and concentration, psychological aspect, learner problem, speaker and physical setting. The first aspect of listening difficulties were described inTable 1 below.

Table 1. Problem related to the content of listening

Statements	Never	Sometimes	Often	Always
It is difficult for me to understand long spoken text or conversation.		52.9 %	41.2 %	5.8 %
I use my experience and background knowledge of the topic to understand the spoken text.		17.6 %	70.6 %	11.8 %
I find it difficult to understand the speaker because of my limited vocabulary.		52.9 %	41.2 %	5.8 %

From the table 1, it can be inferred that spoken test commonly comes from conversation, monologue, and TV news. It is generallyknown that sometimes students found the unfamiliar spoken text containedin uncommon words and the length of the spoken text. It is in line with Nunan (2001)[12] and Field (2008)[10] who argues that top down processing which can help students in understanding the listening material.

The data supportedthe theory stated by Underwood (1989as cited in Chen, 2005)[4]about that lack of vocabulary as a big obstacle to most students in listening comprehension. Moreover, it also found that students still faced difficulties related to the linguistic features proposed by Rost (2001)[16]. Table 2 below present the percentage of students' answer on their perception toward listening difficulties on linguistic feature.

Table 2. Problem related to the linguistic features

Statements	Never	Sometimes	Often	Always
When encountering an unknown word, I stop listening and think about the meaning of the word.	17.6 %	64.7 %	17.6 %	
I find it difficult to infer the meaning of an unknown word while listening.	5.8 %	41.2 %	47.1 %	5.8 %
I find it difficult to follow the sequence of the spoken text when the sentences are too long and complex.		47.1 %	41.2 %	11.8 %

From Table 2, it could be seen that most of students had difficulties in inferring meaning of the spoken text. It also showed that the great majority of students was distracted by unknown wordsin listening.They also felt difficult to follow the sequence of the spoken text when the text is too long. It was in line with Brown's (1977)[2]who states several linguistic sources make listening difficult: 1) the use of colloquial language and slang; 2) the use of reduced forms; 3) the "prosodic

features" of the English language; and 4) to strange accents and pronunciation.Table 3 below present students' distribution on how they focus and concentrate might interfere their listening.

Table 3. Problem related to students' focus and concentration

Statements	Never	Sometimes	Often	Always
I am unable to concentrate because I search for the answers, and I listen to the dialogue at the same time.	11.8 %	64.7 %	17.6 %	5.8 %
I lose my concentration when the text is too long.		41.2 %	47.1 %	11.8 %
I lose my concentration when I think about the meaning of new words.	11.8 %	71.2 %	35.3 %	11.8 %

From table 3, it could be seen thatmost of students were unable to concentrate during the listening task. Besides that many students (64.7% sometimes, 17.6% often, and 5.8 % always) also stated it was difficult to listen to the spoken text at the time they answer the questions. Listen to a long text was another reason for losing concentration. There's a probability that all students feel tired to concentrate in understanding long spoken text. Most of students also claimed that they (41.2% sometimes, 47.1% often, and 11.8 % always) were not able to concentrate because the words were unfamiliar for them. It was in line with the statement point out by Rost (2001)[16]about the difficulties of listening which dealtwith informational and complexity of the spoken text which affect inability to concentrate affect students' listening mastery (Underwood, 1989, as cited in Chen, 2005)[4].Another factor that affect students' listening mastery was their psychological aspect which dealt with their anxiety and interest. Table 4 below shows that students' answer were varied.

Table 4. Problem related to the Psychological aspect

Statements	**Never**	**Sometimes**	**Often**	**Always**
I feel nervous and worried when I don't understand the spoken text.		71.2 %	35.3 %	23.5 %
I find it difficult to understand the spoken text which is not of interest to me.	35.3 %	53 %	11.8 %	
Before doing listening comprehension tasks, I fear that I cannot understand what I will hear.	29.4 %	23.5 %	35.3 %	11.8 %

In psychology, it was known that when a person felt nervous or anxious caused his or her inability in listening(Hamouda, 2012:132)[9]. He further states that boredom and frustration were other barriers to listening comprehension. Table 4 showed that all students shared the same perception of being nervous and worried when faced spoken text. Students' interest of the spoken text also affect students' understanding of the spoken text.It was also showed that the most of the students (64.8 %) feltdifficultin understanding uninterested spoken text. Students' anxiety was another difficulty in listening comprehension. Most of students (23.5 % sometimes, 35.3 % often and 11.8 % always) afraid that they could not understand the text, while 29.4 % of students do not feel afraid of do not understanding the spoken text.Another problems might be come from their lack of listening practice and exposure. Table 5 below showed the distribution of listening difficulties that related to the learner.

Table 5. Problem related to thelearner

Statements	Never	Sometimes	Often	Always
I find it difficult to get a general understanding of the spoken text from the first listening.	5.8 %	76. 5 %	17.6 %	
At the time of listening I found it difficult to predict what would come next.	5.8 %	65 %	29.4 &	
I find it difficult to quickly remember words or phrases I have just heard.		53 %	35.3 %	11.8 %
I found it difficult to recognize the words I know because I don't know how to pronounce it.	11.8 %	65 %	23.5 %	

Table 5 showed that most of the students (76.5 % and 17.6 %) responded that they felt difficult to understand the unfamiliar spoken text.It was in line with Underwood (1989 as cited in Chen, 2005) [4]who states it is hard for students to understand the spoken text without repetition. Furthermore, more than a half of the students have also responded that they often found it difficult to predict what would come next in listening section.

Another difficulties stated by all of the students was their short term memory which caused hard to remember word or phrase that just heard. Moreover, majority of students (65 % sometimes and 23.5 % often) also found difficulty in recognizing a word because the way they pronounce is different with their written. Only 2 students (11.8%) did not found any difficulty in recognizing a word.

The last problem that affected listening difficulty was problem related to the speaker. As Brown (2001)[3] summarized from Dunkei (1991), Richards (1983), and Ur (1984) that listening difficulty affected by rate of delivery and intonation and interaction. Table 6 below showed the distribution of students' answer related to the speaker.

Table 6. Problem related to the speaker

Statements	**Never**	**sometimes**	**Often**	**Always**
I find it difficult to understand well when speakers speak too fast.			82.4 %	17.6 %
I find it difficult to understand the recorded material if I am unable to get things repeated.		47 %	53 %	

Hamouda (2013) [9]pointed out that problems of listening comprehension related to speaking can be seen in the relation of natural speech and a voice heard on an audio-tape cassette recorder. According to the students' responses, the problem that the students viewed as obstruction to their comprehension was the speed of speech. Faster speech rates tend to have a negative impact on the listening comprehension. Moreover, it was also foundthatstudents' difficulties wasalso in understanding the recorded material. It was in line with Ur (1984) [17] exposed to the recording more than a discourse.

Another variable of difficulty come from the students' environment; poor audio and environment which could cause listening difficulty. Table 7 below presented students' answer related to their physical setting that interfere their listening.

Table 7. Problem related to thePhysical setting

Statements	**Never**	**Sometimes**	**Often**	**Always**
It is difficult for me to concentrate with noises around.		35. 3 %	11.8 %	53 %
Unclear sounds resulting from poor equipment interfere with my listening comprehension.	5.8 %	29.4 %	53 %	11.8 %

Most of the students claimed that they could not concentratewell during listening to the recording material when the noise was around. Moreover, a great number of students 94.6 % responded that poor listening equipment interfere their listening. Only small number of students (5.8 %) did not interfere with poor listening acoustic. In open answer box, some students stated that theywere often distracted by their friend who is asking for the answer which disturb their concentration.

Indeed, it was difficult to expect the students to listen better when they were exposed to many problems. The role of teachers was needed to help studentsto cope withtheir listening difficulties and encouragedthem to tackle the listening tasks with positive attitude. Particularly, students at the early levels, teachers should present some key words and structures before allowing the students to do their listening (Field, 2008)[10].

In terms of strategies, some strategies were applied by students to overcomewith the difficulties. From the questionnaire, it was found that almost all of the students listened to various English song (100 % always, often sometimes) and watch new in English (82.4 % sometimes and always) to improve their vocabulary in order to cope with their content of listening problem. Moreover, to tackle with listening linguistic features, most of the studentsused their previous knowledge of grammar and 72.4 % students translated what they hear to their mother tongue. A great number of students (94.2 %)tried to pay full attention on the listening material and concentrated especially to the difficult part.To handle the problem related to psychological aspects, most of the studentstried to relax and encouragedthemselves before listening. Furthermore, they also tried to use their background knowledge and grasping the main idea while listening. In addition, most of the studentswho practiced to pronounce a word along with the intonation and a great number of students (70.6%) fromwatching movies. However, in terms of psychical setting, there was nothing to do by the students.It was teachers'role and the institution that need to provide students bestfacilitiesto help them have better listening environment.The findings above has shown data describing students' listening difficulties proposedby Rost (2001)[16], Underwood (1989), Dunkei (1991), Richards (1983) in Brown (2001) [3], and Ur (1984)[17]. Indeed, students' strategies to cope with the problem also revealed. In order to respond to this particular issue, there is a need for teacher to develop teaching listening strategies to minimize unsupported factors that affect students' developmentof listening mastery.

3. Conclusion

Concerning to the investigation of students difficulties in listening for general communication course, this study have found out that students faced difficulty related tothe content of listening, linguistic features, students' focus and concentration, psychological aspect, learner problem, speaker and physical setting that proposed by Rost (2001)[16], Underwood (1989), Dunkei (1991), Richards (1983) as cited in Brown (2001) [3], and Ur (1984)[17]. Moreover, some strategies used by the students to overcome the problems also revealed. Students tried to expose themselves to English listening through songs and movies.

By increasing English listening exposure, it is expected to increase students' self-confidence and handle their listening problems. However, in order to cope listening problem related to the physical setting, it is recommended for the institution to improve their listening utilities. Indeed, the result of this study confirms findings from the previous studies done by Hamouda (2013)[9]that the students still face a lot of difficulties in listening comprehension.

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"AHA" TEACHING : PATTERN RECOGNITION AND OBSERVATION TRAINING THROUGH KIDS PLAYING IN THE RISK DETECTION " SPEECH DELAY " FOR EARLY CHILDHOOD TEACHERS

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Abstract

Play has many functions, one of which is a diagnostic function which play can be a strategy to detect the capability and barriers facing the development of the child, including an indication of the existence of barriers to the development of speech (speech delay). This study is an experimental study which aims to improve understanding of early childhood teachers on diagnostic functions of play. Through this training, early childhood teachers, as research subjects will be given an understanding of early detection of speech delay through the introduction and observation of children's play patterns. Experimental design used was one group pretest-posttest (repeated measure) with pattern recognition and observation training to play as the treatment given. Subjects in this study were 16 early childhood teachers of Aisiyah's Kindergarten 42, 48, dan 53 Pedurungan, Semarang. The results of data analysis using different test paired samples t values obtained (-5.000) with sig. (0.000) which means that there is a significant difference between pretest and posttest or in other words, there is the effect of increasing the understanding of teacher training in early childhood of playing as a pattern recognition strategies for early detection of risks speech delay.

Keywords : training of playing as a pattern recognition and strategy observation, detection of risks speech delay

1. Introduction

Each stage of age has the characteristics of growth and development, as we know that growth and development are the attributes that accompany every living creature. Grow and flower literally implies increasing the quantity and quality of moving towards maturity both physically and psychologically on individuals (1). Physical maturity can be easily observed or measured such as height and weight. But the psychological maturity requires a certain technique in observing and measuring such levels of intelligence, emotional maturity, language skills, social competence, and so forth. Psychological maturity level to be achieved is clearly different at each stage of age but still showed an average progression to late adulthood (45-50 years) in the individual's life span. This is a common pattern and principle in the development of the individual.

In fact, do not always show the progression of individual development or achievement of success. There are times when delayed, delayed, or even missing/ not able at all, it is the individual experiencing barriers / developmental disorder. Barriers or developmental disorders can be experienced by an individual of one or even several aspects of development as well, for example: the obstacles in the development of motor-physical, emotional, cognitive, social, and language. Barriers / interference on one aspect of development directly or indirectly affect the development of other aspects that needed early treatment. Early treatment can be carried out if the identification and introduction of barriers / developmental disorder in children can also be done as early as possible. The role of parents and educators (teachers) that preschool teacher for children under 6 years become a key role in the identification / recognition of the existence of barriers to the development of the child.

Language as one of the aspects of the development of the individual is very important to note. Language is a form of communication-whether spoken, written, or implied, based on a symbol (2). Language skills may be an indicator of the overall development of the child because

of the development involves cognitive ability, sensory motor, the emotions, and the environment around the child [3]. Developments in language skills may have problems such delays in speech or speech delay. Speech delay is a delay in speech and language appropriate stages of the child's age[4]. Children with speech delay/ language has a limited ability to communicate that is characterized by the use of language that is "not ripe" and a very limited vocabulary.

Some data indicate that the incidence of speech delay in children is quite high. According to the NCHS, based on the reports of parents (not accompanied by hearing loss and cleft on the palate) incidence rates of 0.9% in children under the age of 5 years and 1.94% in children aged 5 to 14 years[5]. Hartanto[6] states during 2007 in child development clinic Kariadi Hospital obtained 22.9% of the 436 new visits dating with complaints of late to talk, and 2.98% were obtained developmental language disorders. Yulie[7] to submit data that speech disorders in children is one of the disorders that are often experienced by children and occurs in 1 out of 12 children or 5% -8% of preschoolers.

Prevalence of speech delay developmental delays in children based on the data above should be enough to make us aware and pay more attention to the development of the child. In Indonesia, the problem is still very much a developmental delay while the program to improve the quality and protection of children became one of the priorities of the government. Until now there has been no definitive data on the number of Indonesian children experiencing developmental delays. A total of 6.5% of Indonesian children aged less than 2 years experience delays in language development. If the barrier is not immediately addressed the development of the course will affect subsequent child development and certainly experience an interruption in communication with the family and the environment. Children who have communication disorders will be at risk of getting frustrated and offensive treatment of the environment [8]. The immediate environment of early childhood have a key role in this regard. Parents, caregivers, and early childhood teachers can work together to detect and intervent developmental delays, including delays in speech and language in infancy and early childhood. The handling must be preceded by identification/ recognition of the type of obstacles that arise. The earlier this obstacle is detected along the faster cause stimulation and interventions that can be performed on the child. Early identification should be done by all parties involved in the growing development of the child from the parents, caregivers, families, teachers, and professionals. Speech delay can be identified early by comparing the child's ability to speak with an average speech at his age, for example, be wary when at the age of 2-3 years old children are not able to arrange two words into a sentence or designate parts of the body / object around which meant adults, said almost all of the words that are not clearly articulated [9].

Speech delay with prevalence in preschool children suggests that early childhood educators have a role that is no less important than the parents in helping to identify the presence of speech delay. However, the identification of the course teachers should have a stock of knowledge, understanding, and technical about speech delay. Existing assessment instruments such as Denver and the Bayley test procedures that are not easy to be implemented by non-medical professionals debate even psychometric also coloring the use of this test [10]. In addition, the instrument was not specifically designed to detect speech delay. Instrument identification (screening) can be established by considering the context of the individual who will be identified. Early childhood as target identification very closely with the world play therefore, through understanding and observation of children's play activities we can do the detection of developmental delays.

Some experts say that the play is needed by children, among others, to reflect on the experiences they went through, as a means to educate children, even play associated with the development of such emotional development, motivation, cognition, social, cultural, and learning [11]. Playing even be a scientific way for a child to disclose conflicts that exist in itself where initially the child was not aware that he is experiencing conflict [12]. Children's play activities undertaken have and show a certain pattern according to the pattern of development of both cognitive, motor, and social at the average age of them. For example, at the age of 4-6 months, the average baby show excitement when playing boo when viewed from the stage of cognitive development that cognitive abilities at the age of 0-2 years are in the sensorymotor stage where young infants learn from what is seen, heard, and felt. Boo make baby happy and surprised because the object of vision can suddenly and disappear along with the sound of surprise. From the play-boo baby also shows social skills with a laugh that he showed and called the smile/ laugh social.

Based on the above explanation, playing children who do can indicate the level/ ability of cognitive, motor, and social development. Therefore, playing not only serves the recreational but also stimulation, identification, and even therapy. Play such identification function in some children who demonstrate an inability to communicate and interact with friends while playing that should be done is the kind of play that social play, then adults should begin to develop alertness. Children with developmental speech and language barriers can be observed from 2 areas/ types of play in children is symbolic play and social play [13]. Interest in symbolic play shows the relationship between the development of speech and the development of symbolic function. Many studies claim that children with speech barriers still do play pretend, but less frequently and showed immaturity than children who do not have problems talking [14]. Furthermore, children with a great expressive language problem more helpless in symbolic play verbally [15].

Early identification of the presence of obstacles, including delays in speech development through play children's activities more profitable. In addition to its natural, identification through the play does not make children feel threatened, even observer or an adult who may be involved in the identification, stimulating children through play. Early identification or screening process would require knowledge, therefore it is necessary to transfer knowledge and skills on how to conduct screening for the presence of speech delay in children through play. Transfer of knowledge is one of them through training/ training of the individuals concerned and has a role in the growth and development of children include early childhood teachers.

2. Literature review

A. Barriers to Progress " Speech Delay " or Delay Talk

The ability to speak is the ability to pronounce the sounds of articulation or say the words to express thoughts, ideas, feelings to the listener. Listeners receive information through a series of tones, pressure, and placement of joints (juncture). If the communication takes place face to face, coupled with hand gestures and expressions of speech [16]. Speak impact on social and personal adjustment of children is much greater than the impact of motor development, because it involve others, affecting the personal adjustment, resulting in a greater influence on a child's social adjustment [17].

Speech delay is the term used to describe the barriers to speech and language development in children, without delay in other aspects of developments. In general, they have a developmental and social-emotional intelligence are normal. According to the study, this problem occurs or experienced 5 to 10% of children of preschool age and are more likely to be experienced by boys than girls [18]. Individuals with speech disorders usually know what they want to say and what the appropriate situation but they have problems in producing sound to communicate effectively. Speech disorders include a variety of conditions ranging causes of problems in the pronunciation of the letter / sound specific to the inability to produce almost stout words. Some of them were the result of physical abnormalities or it could be as a result of organ damage speak, but often the cause is not known with certainty [19]. Speech delay occurs when a child's speech development level is below the level of the quality of the child's speech development, the same age that can be seen from the accuracy of the use of the word [20]. These barriers experienced by children aged 3-6 years with incidence rates of 7.9% per year [21]. The quality of speech development the average age of the child based on the same termed language development tasks. The few figures convey that each stage of the child's age showed differences in language development tasks. Wendy [22] stated that the stages through which the child's language development in general is:

a. Born-5 months of age:

- Babies react to sound, trying to find the source / voice directions
- Can be enjoyed or did not enjoy the sound

b. 6 -11 months:

- Babling, understand the "no-no"
- Using the gesture / movement to communicate
- Trying to-repeat sounds

c. 12 -17 months:

- Speaking points / core course
- Focus on the book / toy for two minutes
- Following simple command
- Answering simple questions in nonverball
- Can say 2-3 words clearly though sometimes as a symbol .

d . 18-23 months :

- Enjoying be read
- Following simple commands
- Identifying parts of the body
- Understand simple words
- Voicing letters such as : n , m , p , and h
- Use 8-10 words

- Make animal noises

e . 2 -3 years :

- Using at least 40 words
- Understand the concept of space
- Can recognize the word has
- Using 2-3 word
- Using phrases and combinations of words although sometimes not understood by other people .

f . 3-4 years :

- Recognize and can say set of objects
- Can identify colors
- Using a lot of tone
- Describe objects used
- Expressing feelings and ideas

g . 4-5 years :

- Can understand the errors in speech
- Saying 2000 - 3000 different words
- Tells how to do something
- Answering the questions "why"
- Understand the rhythm / beat sound

The task of child language development by Suryanah [23], divided into 4 age:

1. The first period (age 1-1.6 years)

The words spoken by children is a continuation of the feeling, it is seen from the similarity of words formed in pronunciation by children of any language in the world, for example: the word "ma" for the mother and the word "pa" to the father. When approaching mentioned a word with him, the child understands that the words addressed to him and the child will imitate the word though not with the correct pronunciation. Children express the words to convey his wishes known by one word sentences. At this age, children are expected to have been able to mention 1-3 words and be able to point 2 images.

2. The second period (1.6-2 years)

At this time the vocabulary of children increases the more things she wanted to know so-called period of "what it is". At this time the child has difficulty saying is caused by the development of a willingness and desire faster than riches vocabulary. Actually, the child wants to tell but because its vocabulary is still a bit then he completes the movement of the hands and feet. At this age children are expected to be able to combine words, unable to name one picture, able to mention 6 parts of the body, is able to show 4 images, can speak partially understood.

4. The fourth period (2.6 years-onwards)

At this time the child's desire to know everything started to grow because it is not sufficiently prolonged child questions were answered with a short answer. Positive response will help the development of the mind and vocabulary of children. At this age children are expected to understand the two adjectives and mention one color, one is able to calculate the objects, capable to mention the usefulness of 2-3 objects, able to know the 4 activities and talk all understandable.

Thing to note is that although the quality of a child's speech development in accordance with the stages of age, but the presence of obstacles speech and language development in children systematically related to cognitive development and emotional aspects [24]. It is then also underlies the stimulation and detection of speech-language development of children, including obstacles in its development also should pay attention to aspects of cognitive and emotional development of children. What and how proper stimulation and detection must be in accordance with the characteristics and needs of children one through the play as play activity is a fun activity and not make them feel threatened.

Types of barriers to speak:

a. Barriers in fluency: relating to the smooth/ rhythm of speech; children with these obstacles usually doubt, repeat, or long enough to utter the letters / phrase for example: stuttering; usually occurs in children early; if continued until school age children in school will affect adaptation and environment outside the home

b. Barriers in the articulation of speech: include difficulty in formation or articulation of words (articulation generated through the use of the lips, tongue, teeth, and throat). In some cases of birth defects that cause physical (speech organs ex: cleft) result in barriers articulation; children whose teeth have not fully grown will also experience this obstacle, but the temporal nature. As a child, children typically experienced obscurity articulation (lisp), this may be funny but in the opinion of experts should not be allowed to talk patologist / soluble in this habit. Adults should provide examples of correct articulation

c. The sound barrier: includes voice control, quality (vibration), and loudness; child with a sound barrier will produce a monotonous voice is too high or too low for the age / gender of his; The sound barrier caused by damage, disease, or disorder of the larynx / vocal

B. Playing

1. Play

Parten [25] highlights the play activities as a means of socialization and he observed there are six forms of interaction among children occur when they play. Stages that reflect the level of social development of children is as follows:

a. Unoccupied play

In actual play unoccupied child beanr not really involved in the play, but just observe the events surrounding the child's attention. If there is no interest, the child will concern themselves with doing some things like play limbs, follow others, around or up and down a chair without a clear purpose.

b. Social Play

Adults, especially fathers and mothers became friends playing first for infants and young children in almost all cultures. Social play begins at 1 month of age when adults take the initiative to play with varying vocal. In social play, early childhood will respond created an atmosphere of playing parents with positive expression includes vocals funny / laugh. Social play then also done early childhood involving / using objects or play thing.

c. Symbolic play

Symbolic play is shown first child at the age of 1 year. One example of symbolic play is when children act/ act by himself. Children pretend to drink from the bottle, pretend to eat, and so forth. At first, symbolic play is done by himself / solitary child, which then involves eye contact with peers and their caregiver symbolic play together and play them all laughing and talking to each other. Furthermore, the language will contribute and thrive in symbolic play is a solitary activity nor shared.

Parents from different cultural backgrounds showed activity symbolic play (pretend) with their children differently.

3. Benefits of Playing

Tedjasaputra [26] suggested that the play has a variety of benefits, namely for the development of the physical aspects, gross and fine motor, social, emotional or personality aspects, aspects of cognition, sharpening sharpness sensing, develop sports skills and dancing, as a therapeutic medium, and media intervention.

4. Playing in children with speech and language delays

All children are bound to play. Children with disabilities were also tied to the activity of play differently than normal children. Many developments Psychologists have expressed a pattern of how children master the developmental aspects of how they looked in the use of social interaction, especially in social play. Language development showed that early age children understand and use emotions to describe feelings (affective language) are typical in every stage of development age for example, they speak reflect feelings honestly though extreme in other family members [27] as well as the activities that they are doing a good play solitaire (the object) and socially.

However the condition of children, play remains a crucial element in the development and their learning process. Forms of play in children with limitations of course depend on the type of limitation experienced, the opportunity to play, accessibility and the environment play, as well as the presence of peers and adults who facilitate and encourage play. Playing on children with disabilities (special needs) is an important factor in the assessment and diagnosis of the condition of the limitations of the child [28]. Characteristics of play in children with obstacles and delays in speech and language or communication failure can be seen from two main areas, namely symbolic play and social play (through social interaction with peers). Children with speech delay and language barriers demonstrate a lack in the symbolic and social play in terms of frequency and maturacy. This is particularly evident in children aged mainly over 3 years. Symbolic and social play is a developmental stage play that requires the ability to speak and communicate in conveying the imagination and foster interaction with playmates[29]. Barriers understanding / mastery of language and how children express their thoughts in speaking an issue that can be easily identified by family members in the interaction within the family of course, but often also members of the family is the most permissive to be unaware that the child how to speak the language and was not according to the development tasks. Therefore, the broader context can be selected to detect the risk of barriers speech delay, for example, when children play mainly symbolic and social play. In addition, the identification is done by teachers for example would be to make parents aware of the barriers to development and that the child's developmental barrier soon to be assisted [30].

3. Research methods

This study is an experimental research whitin-subject design or known as a repeated-measures design (repeated measurements). Design repeated measurements with one dependent variable is applied in the form of measurements before and after treatment or pre-posttest [31]. Pretest will be given to the subjects before treatment or treatment rendered. Next,

treatment is given and after that the final measurement (post-test) will be conducted. Pretest and posttest was given as a measuring instrument to see any changes (understanding) of early childhood teachers about the function of play in detecting the risk of delays in speaking to students.

Treatment in the study was training speech delay detection risk through a child's play pattern recognition and observation. Subjects were 12 early childhood teacher (which teaches children aged 2.5 to 6 years) in Aisiyah 42, 48, and 53 kindergarten, Pedurungan, Semarang. Some of the material presented in the training include: developmental and speech delay, play, observation through playing characteristics that indicate risks speech delay in children (attached material). Controls carried out with single-blind technique is to evaluate the subjects one by one and selected in accordance with the relevant factors to be included in the group [32].

4. Result

T-Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pretes	1.50	12	.798	.230
	postes	2.75	12	.452	.131

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	pretes & postes	12	.126	.696

	Paired differnces					t	df	Sig. (2-tailed)
	M	Std. Dev.	Std. Error M	95% confidence interval of difference				
				low	up			
Pair 1 pre Post	-1.250	.866	.250	-1.800	-.700	-5.000	11	.000

The analysis showed t value of -5,000 with significance 0,000 which means there are differences in the results of the pretest and posttest. In another word it can be said that the treatment was effective to increase teacher's knowledge and skill to detect speech delay through observation of children's play activities. It is very important to note that the speech delay is immediately intervened with the child's ability to read-write (delayed speech would very likely bring on dyslexia) [32], affecting ability and academic achievement of children, the potential gain bullying, social-emotional problems in children with delayed speech, is not environmentally acceptable.

Observations with knowledge of playing in infants and children in general will give birth normally understanding that the play is done babies and normal children actually showed a quality development. Play performed by children under the age of two years is associated with the capacity of their physical development in which children that age will increase the body's ability to control and coordinate the development of the hand and the eye [34]. Along with increasing age and physical-motor abilities, children also demonstrated the ability of exploring objects in play activities. When children begin to understand and use the language, desire to play and the type of play that made even begin to differentiate. They started to like playing social well with parents and peers. The ability of social play is also evolving as a child growing new environment include schools, public places, and friends playmates around the house. In doing for social play children will learn about the rules, sharing or share the experience even share such roles in symbolic play or drama.

When the process of the development of the individual (child) did not show progression as expected developmental tasks and obstacles that may occur in the area of sensory, motor, perceptual, cognitive, and emotional. One of the barriers to the development of children's label on cognitive areas, especially language is speech delay. Barriers to development can be identified early. Many parents who say "my child can not play" where the parent statement that indicates the existence of barriers to the development of anxiety experienced by children. Supposedly, the inability of the child to the activity played since the age of the baby can make parents aware of the barriers experienced by child development. Children who are experiencing developmental delays will show the limitations in the use of physical-motor, explore object/ objects in play and shows, as well as language skills and social interaction [35]. Children who experience barriers to the development of speech indicate impairment or inability that does not comply with children in general when social play. Usually they will demonstrate the inability to use language which then affects the interaction-communication with friends to play [36].

Children with obstacles and delays in speech and language or communication disorder

showed a different play activities that can be viewed from two main areas, namely symbolic play and social play (through social interaction with peers). Children with speech delay and language barriers demonstrate a lack in the symbolic and social play in terms of frequency and maturation. This is particularly evident in children aged mainly over 3 years. Symbolic and social play is a developmental stage play that requires the ability to speak and communicate in conveying the imagination and foster interaction with playmates. (37)

In addition to the physical - motor play, objects, and social, play activities which also became characteristic of play in children's development and become an important characteristic is pretend play. Some of the barriers to growth experienced by children such as autism, mental retardation, and language disorders including speech delay can be identified from pretend play activities conducted child. Children with speech and language disorders have difficulty in pretend play even showed a decrease in the ability to do this game (38) . O'Conner and Stagnitti also conducts research on interventions to play in assisting the development of children with developmental delays one speech disorders. Here the play shows not only have a diagnostic function such as screening/ identification but also therapeutic functions (39) .

5. Conclusion

Function of play is so important in this regard diagnostic functions need to be known by the parties concerned, among others, parents and teachers. Knowing the function of play will help the environment to develop the capability and optimization of child development. Similarly, when obstacles such developmental speech delay found in children through observation of children's play activitie , will be able to help with immediately provide appropriate interventions to optimize the child's development. Of course, the help of the professionals in the diagnostic process speech delay in children is still required to ascertain the cause and determine appropriate treatment measures .

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THE USE OF VIDEO IN TEACHING SPEAKING

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Abstract

The research entitled "*The Use of Video in Teaching Speaking"* is aimed to answer the question whether or not the use of video significantly improves the students' speaking ability. Furthermore the students' responses to the use of video as a media in learning speaking were also investigated. This research involved two classes consisted of experimental group which was taught by using video and control group which was taught by using audio tape. The data were analyzed by using quantitative method by comparing the mean scores of both group in pretest and posttest. Moreover, this research involved questionnaires to find out the students' responses in learning speaking through video. The result showed that the use of video improved students' speaking ability. It was evidenced by the result of statistical computation (independent t-test) which revealed that the value of t_{obt}(13.377) was greater than t_{crit}(2.064, α=0.05, df= 24). In conclusion, the null hypothesis was rejected. Meanwhile, the result of the questionnaire showed that most of students agreed that learning speaking through video can encourage their motivation and improve their speaking ability.

Keywords: Video, Speaking ability, Independent, Paired Sample t-test.

1. Introduction

In Indonesia, improving speaking skill is not an easy matter, because English for Indonesians is foreign language. As a result, it is hard to have opportunities to speak English. In fact, some teachers still have problems with their speaking ability and still use bahasaIndonesa in the classroom. It is not an ideal situation for the learners in acquiring speaking, because Harmer (2002: 269) states that the ability to speak fluently presupposes not only knowledge of language features, but also the ability to process information and language at the same time.In other words, when students want to acquire speaking ability, should try to practice and practice, because it is hard to acquire speaking ability if student only learn about the theories only without practice. In the process to be a good speaker, the students who practice this skill need some motivation and strategies. As an important skill, teaching speaking should be managed as effectively as possible by the teacher to keep the students motivated to practice speaking. In the process to be a good speaker, the students who practice this skill need some motivation and strategies. Murcia (1979:11) says that no matter what they are forced to do, they do not learn at all unless they want to do so. To solve this problem, using media in teaching speaking can be appropriate.Gerlach& Ely (1980) state that media generally, is person, material or event that make the circumstances that influence the student to obtain knowledge, skill and attitudes. Video is one of media that can be used in teaching speaking. The use of interesting video can attract the students' attention and motivation, therefore the students can get relaxed while learning and imitating how people speak in English. In line with that, Brown, Lewis &Harcleroad (1977:233) support that video can create a link between mind, sight and hearing. If this condition happens, students will be likely to focus on the material and will learn it in an optimum way.

This research is proposed to analyze the use of video to students' speaking ability andto find out the students' responses to the use of video. Hopefully, based on this research, videocan be an alternative media in teaching speaking. Video also use to cover Indonesia teachers weaknesses in teaching speaking in terms of pronunciation, culture and language in use.

2. Research Method

The population in this research was one of senior high school in Bandung. The total population of first grade students in that school was 168 students which were divided into six classes.The sample used two classes; each class consisted of 25 students. The first was class X-C that was taken as the experimental group and the second was class X-A that was taken as the

control group. So the fix number of the sample was 50 students.

Oral performance test was used to collect the data of students' speaking scores. The most important thing in speaking class is that students are able to communicate with other in oral form (Jespersen cited in Murcia, 1979: 83). . To get students' speaking scores, a scoring paper was developed based on the scoring guides proposed by Georgiou &Pavlou (2003). To find out the students' responses of using video in teaching speaking, the questionnaire was used. The questionnaire consisted of several questions related to the students' feeling about learning speaking, their responses of using video in learning speaking, and students' view about the use of video.

The design of this research was quasi-experimental research design. Two classes were selected as experimental and control groups. There is experimental group which was given video as treatment and control group which was given audio tape as treatment. Pretest was conducted before the use of video as teaching strategy given to the experimental class as the treatment, and then at the end of the treatment, posttest was held to assess students' listening score.

Paired sample t-test formula was conducted to know the effect of the use of songs in teaching student's listening ability. Before doing so, it is necessary to compute the pre-test score of each group (control and experimental group) which is consisted of normality distribution test, variance homogeneity test and t-test computation. If those requirements have been fulfilled then research may proceed to the next process; comparing the value of pre-test post-test of control and experimental group.

Table 1. Paired Samples Test on Control Group

	Paired Differences					t	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 PRETEST_CONTROL - POSTTEST_C0NTROL	-12.80000	12.83550	2.56710	-18.09823	-7.50177	-4.986	24	.000

3. Finding and Discussion

Based on Table 1, the computation of control group scores was administered to compare the score of pre-test and post-test scores. The calculation reveals that t_{obt}gained is 4.986 with sig. 0.000 and the degree of freedom (df) is in 24. It implies that $t_{crit}$is 2.064. Considering the obtained scores, it is concluded that the $t_{obt}$is bigger than t_{crit}(4.986 > 2.064). Thus, the null hypothesis is not accepted; there is significant difference between pre-test and post-test of the control group. After having completed several treatments except the use of video, the control group's speaking ability was improved.

Table 2. Paired Samples Test on Experiment group

	Paired Differences					T	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 PRETST_EKSPERIMENT - POSTTEST_EKSPERIMENT	-31.20000	11.66190	2.33238	-36.01380	-26.38620	-13.377	24	.000

While in the Table 2, the experiment group reveals that t_{obt}gained is 13.377 with sig. 0.000 and the degree of freedom (df) is in 24. It implies that $t_{crit}$is 2.064. Considering the obtained scores, it is concluded that the $t_{obt}$is bigger than t_{crit}(13.377 > 2.064). Thus, the null hypothesis is not accepted; there is a significant difference between pre-test and post-test of the experiment group.

From those explanations, it was presented that there were improvements of students' speaking ability in the experiment which was taught by using video and control class which was taught by using audio tape. However, the scores in the experiment class showed greater

improvement than the scores in the control class. It can be seen that the mean in the experiment class (86,20) was greater than the mean in the control class (67,40). It was proved by the result of statistical computation (independent t-test) which revealed that the value of t_{obt}(13.377) was greater than t_{crit}(2.064, α=0.05, df= 24). Meanwhile, based on the questionnaire, it was found that most of the students gave positive answers to the use of video as a media in learning speaking.

In the end, this research is proposed to find out the effectiveness of using video as a media in teaching speaking and to find out the students' responses toward the use of video as a media in learning speaking. In this research, independent t-test was used to analyze the students speaking scores. It was used to compare the means between the experiment and the control class. The result found that the scores in post-test of the experimental and the control class in speaking of retelling story significantly improved. Nevertheless, the experimental class' speaking score is higher than control class (13.377 > 4.896). As a result, there is a significant effect in using video as a media in teaching speaking. Furthermore, the result of questionnaires revealed that most of the students gave positive response to the use of using video as a media in teaching speaking. The use of video improved their language skills and encouraged their confidence in retelling story. They also confirmed that there were some advantages of using video as media in learning speaking such as: finding new ideas, inspiring, and easily to remember the story.

4. Conclusion

In this research, independent t-test was used to analyze the students speaking scores. It was used to compare the means between the experiment and the control class. The result found that the scores in post-test of the experimental and the control class in speaking of retelling story significantly improved. Nevertheless, the experimental class' speaking score is higher than control class (13.377 > 4.896). As a result, there is a significant effect in using video as a media in teaching speaking. Furthermore, the result of questionnaires revealed that most of the students gave positive response to the use of using video as a media in teaching speaking. The use of video improved their language skills and encouraged their confidence in retelling story. They also confirmed that there were some advantages of using video as media in learning speaking such as: finding new ideas, inspiring, and easily to remember the story. However,not all of the students gave positive responses toward the questionnaires there were few students who gave negative responses to the use of video as a media in learning speaking. It is very important that the students will not be motivated in learning if the activities are not interesting. For this reason, it is highly suggested that the teacher should encourage the students with the appropriate way in order to increase students' speaking ability.

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IMPROVING ACHIEVEMENT AND LEARNING MOTIVATION IN SUBJECT PPKN (CIVICS) THROUGH GROUP INVESTIGATION TEACHING MODEL

Ismiyati

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Abstract

This study departs from the existence of problems in the learning process and the achievement that occur in class VIII A, SMP Negeri 2 Gedangsari on subject PPKn. The implementation process indicated that the learning process is not conducive (students do not focus, talking with friends during the learning, not paying attention to the teacher's explanation), While the results indicated a problem with lower educational achievement. In this case, the grades obtained by the students appeared to be low (The average was 71.94 out of 75 of the KKM). Furthermore, from 34 students, only 10 students who were completed the KKM (passing grade). Contrary to this problem, the goal of this research is to improve students' motivation that will improve their educational achievement. This effort will be done by replacing the conventional learning model with innovative learning namely Cooperative Learning Group Investigation. This research is a classroom action research that uses models Kemmis and Taggart. The data collection will be using a test (for student achievement), and the observation (for motivation to learn). The collected data will be analyzed by using descriptive analysis method. The results showed an increase in motivation to learn from pre-cycle to cycle I and cycle II. The number of students who are motivated in the learning is increased to 32 in the first cycle, and increased again to 41 in the second cycle. Moreover, the learning achievement is also constantly increasing. In the first cycle, the average grades increased to 79.91 with 26 students completed the KKM. While in the second cycle, the average grades increased to 89.59 with 32 students completed the KKM. Therefore, it can be concluded that the use of Learning Group Investigation can improve the learning motivation and the student's achievement in subject PPKn.

Keywords: Group Investigation, Learning motivation, Learning Achievement

1. Introduction

The Undang-Undang No. 20, 2003 about National Education System has been formulated explicitly on the basis, function, and purpose of National Education, which is based on Pancasila and the Constitution of the Republic of Indonesia, Year 1945, being its function in developing skills and characters of the civilization with dignity in the context of Building the intellectual life of the nation.

National education goal is to develop students' potentials to become a man of faith and devoted to God Almighty, noble, knowledgeable, skillful, creative, and become democratic and accountable citizens. Based on the basic, function, and national education has become clear that the Indonesian people are formed through a process of education, not just a mere human being with knowledge but once formed Indonesian human with personality as democratic and accountable Indonesian citizen.

PPKn (Pancasila and Citizenship Education) subject is a lesson that focuses on the building the character and personal awareness on every citizen to be able to exercise the rights and obligations as the citizens. The aim of civic education is to educate students to be good citizens, intelligent, skilled and characterized as mandated in Pancasila and the Constitution of the Repulic of Indonesia year 1945.

Pancasila and Citizenship Education has an important role to develop and preserve the noble values and morals that have been rooted in the culture of Indonesia which is expected to be applied in the behavior of students' daily lives, both as individuals and as members of society. Therefore, in order to apply the objectives PPKn, students need to learn this lesson as well as possible. For the learning process be successfully

applied, it is necessary to learn the concept of good learning.

Learning is a process attempts to obtain a transformation in someone new behavior as a whole, as a result of his own experience in the interaction with the environment. [1]. On the other hand, learning is a change that occurs in organisms (humans and animals) caused by the experience can influence the behavior of organisms [2]. The changes brought by the new experience that can be said to learn when it influences the organism. The changes of ability are relatively permanent react as a result of exercise that's strengthened. In this definition, there are four kinds of terms that are essential and need to be highlighted to understand the process of learning that are: Relatively permanent (which is generally settled), Response Potentiality (reaction ability), Reinforce (strengthened), and Practice (practice or exercise).

Learning is a process of change in the human personality, and the changes are displayed in the increasing of the quality and quantity of behavior such as Improvement of skills, knowledge, attitudes, habits, understanding, skills, power of thought, and etc. [3]. The forms of behavioral changes as a result of learning are called the behavior of thinking, being, and doing [4]. Thus, it can be concluded that the success of the learning process can be seen from the changes in the forms of these behaviors.

Notions of learning appear to the impact of the learning process. To optimize the impact, it is necessary to learn the principles that allow the learning process can be applied effectively. Learning principles are: (1) Learning is part of the development; (2) Learning to last a lifetime; (3) The success of learning is affected by congenital factors, environmental factors, as well as the maturity of the individual's own efforts; (4) Learning covers all aspects of life; (5) learning activities take place at any place and time; (6) Learning takes place with or without the teachers; (7) Planned and deliberate learning requires high motivation; (8) The act of learning varies from the most simple to the complex; (9) In the learning can occur barriers; (10) For certain learning activities required the assistance and guidance of others [5]. Furthermore, the impact of activities is learning achievements.

Learning achievement is often equated with learning outcomes. This is because the two concepts is the ultimate goal of learning activities. The Experts have their perspective views in defining both concepts. Etymologically, achievement derived from the Dutch language that is ''*prestase*'', the meaning is results of effort.. Thus the learning achievement is the result of the effort of learning. This section will present some definitions of learning outcomes and learning achievement based on a variety of literature that has been studied.

Learning achievement is the final result that is expected and achieved after one learns [6]. Achievement or the changes behavior that is expected as a target or goal of learning which includes three aspects, namely: (1) Know, knowing (knowing), (2) Skillful to perform or do what he knows (doing) and, (3) Implementing what the learner knows regularly and consistently (being).

According to Purwanto, achievement are a result of changes in the behavior of learners cause by learning [7]. Technically, changes in behavior that is caused by a mastery of the materials provided during the learning process.

Furthermore, according to Sudjana, achievement as changes in behavior is covers the areas of cognitive, affective, and psychomotor owned by the students after receiving a learning experience [8]. The definition according to Sudjana seems completing the definition according to Purwanto, where behavioral changes include cognitive, affective, and psychomotor.

While Hamalik stated that the results of learning as a change in a person's behavior can be observed and measured in the learner's knowledge, attitudes and skills. [9]. Those Understanding shows empirical indicators of achievement, which are knowledge, attitudes, and skills. If studied further, knowledge expressed by Hamalik is another term for cognitive concepts according to Sudjana.. While the attitude is terms of the affective and psychomotor skills is as the aspects.

In order for indicator of achievement can be described in more operational, it is necessary to have a dimension of achievement. One-dimensional concept of achievement expressed by Grondlund where the dimension of achievement consist of: (1) Knowledge of terminology, specific facts, concepts and principles, methods and procedures; (2) Definition: concepts and principles, methods and procedures, written material, graphics, pictures, maps, and the number of data; (3) Application of actual information, concepts and principles, methods and procedures, skills in problem solving; (4) thinking skills: critical, scientific; (5) general skills: laboratory, action, communicate, conceptual, social; (6) Attitude: social, scientific; (7) Interests: personal, educational and vocational; (8) Appreciation: literature, art,

music, social achievement, and scientific; (9) Adjustment: social and emotional [10].

Factors that affect the process and learning achievement are: (1) Environmental factors. These factors consist of the natural environment or the environmental and socio-cultural environments; (2) Instrumental factors. These factors Consists of curriculum, programs, facilities and amenities, as well as the teachers; (3) Physiological factors consisting of physiological condition, and the condition of the senses; (4) Psychological factors consisting of interest, intelligence, talent, motivation, and cognitive abilities [11].

These four factors can actually be regrouped into two groups, namely internal factors (physiological and psychological), and external factors (environmental and instrumental). This conclusion is similar to the construction of models IEO by Astin (Inputs, Environment, and Outcomes) [12]

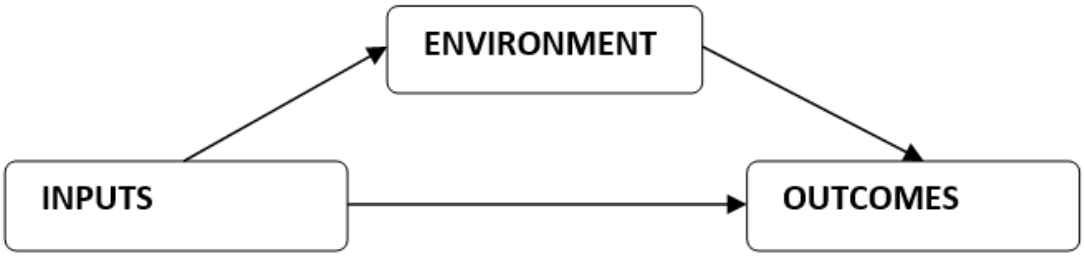

Figure 1
Astin's Input-Environment-Outcomes (IEO) Model

Inputs are an existing component in students or internal factors that are carried into educational programs. Inputs may include: demographic information, educational background, political orientation, patterns of behavior, level of aspiration, a reason to go to school, financial status, and status of skills, career options, majors or students selected subjects, the purpose of life, and others.

Environment can be translated as neighborhood. Thus environment contains external factors that are beyond the student. These factors may include: program, curriculum, faculty, facilities, climate institutes, teaching, teaching style, friends, study groups, extracurricular activities, and school affiliation.

An outcome refers to the achievement of students or student achievement. It can be seen from the post-test as a result or a final result, in which this value has indicators such as GPA, test scores, achievement, level of completion or graduation, and educational satisfaction.

Based on these studies, it appears that learning achievement is determined by many factors. Some of them are the students' motivation factors, and factors of teachers in implementing the learning process. The student motivation is an internal factor that directly also influenced by the teacher as an external factor.

Motivation as one part of the internal factors that affect achievement has various definitions. For example, the notion proposed by McDonald, stating that motivation is the energy change in a person who is characterized by the emergence of *feeling* and preceded with the response to their destination [13]. The emergence of motivation in a person is based on their needs to be achieved.

Meanwhile, in Maslow's theory hierarchy of needs states that the new man will be motivated to meet a particular requirement when the basic needs and the needs of the lower hierarchy have been met. Hierarchy of needs expressed by Maslow ranging from the most basic to the most advanced are as follows: (1) Physiological needs; (2) The need for security; (3) The need for affection; (4) The need for an award; (5) The need for self-actualization; (6) The need to know and understand; (7) The need for aesthetic [14].

Meanwhile, Lionel Robbins characterize four basic in human life, departed from the definition of economics that has put forward, namely: (1) Humans have a desire to be fulfilled; (2) Tools (money) to fulfill the will of the finite;

(3) Source of limited use for some choices usability; (4) People need to make a choice [15]. The concept proposed by Robbins led to the concept of Problem of Choice. The concept explains that humans are faced with a variety of choices, and the need to choose activities within the framework of the needs and satisfying needs.

Teachers can directly influence, develop and improve the motivation of students who are expected to have an impact on their achievement. In order to achieve the maximum education, teachers need to choose a good teaching model, appropriate and in accordance with the concepts of the subjects that will be delivered. Some of the considerations that must be seen by the teachers in determining the learning model that will be used among others, are: purpose, learners, learning materials, facilities, situation, participation, teachers, kindness and weaknesses of a particular method [16].

From the observation of teaching over the years, especially the students of class VIII A SMP Negeri 2 Gedangsari, Gunungkidul, the learning process results indicated that most of the students did not pay attention, crowded themselves when students received PPKn lessons. So that the average value of subjects PPKn was low at only 71.94 (under KKM out of 75.00). From 34 students there, there were 24 students (70.5%) could not be reached the KKM, and only 10 students (29.5%) were able to achieve the KKM. The fact states that teaching with lectures and debriefing models considered boring besides the lack of motivation to learn which caused the students less aware of the importance of education and geographical circumstances that less probable in the mountains area.

From the above-mentioned circumstances, the authors feel the need to try a different way that is taught by using Group Investigation model that is applied to class VIII A. By using a model of Group Investigation the students are expected to be improved in their achievement and motivation to learn in Civics (PPKn) subject. Group Investigation Model is one of the types of cooperative learning.

Cooperative learning comes from the concept that students can easily find and understand difficult concepts if they were in discussions with his colleagues [17]. Students regularly work in groups to help each other to solve complex problems. Thus, the social nature and the use of peer group becomes a major aspect of cooperative learning.

In the cooperative classroom students learn together in small groups of 4-6 students are equal but heterogeneous, ability, gender, ethnicity or race, and helping each other. Slavin argues that cooperative learning is one of the variations of the method of teaching in which students work in small groups so that they are mutually helping one another in learning a subject.

Group Investigation is one form of cooperative learning model that emphasizes the participation and activities of the students to find their own materials (information)that will be studied through the learning materials available, for example from a textbook or students can search through the internet. Students are involved in the planning, both in determining the topic as well as a way to learn through investigation. This type requires the students to have a good ability to communicate well in group process skills. Group Investigation model can train students to cultivate the ability to think independently. Active student involvement can be seen from the first stage to the final stage of learning.

The teachers are acted more as a counselor, consultant, and constructive criticism source. The role is shown in the troubleshooting process, classroom management, and individual comprehension. The teacher's role related to the problem-solving process with respect to the ability of researching what is the nature and focus of the problem. The management is shown with respect to the issue is determining the necessary information and organizing groups to obtain such information. The comprehension of individuals is related to the inference that is organized by the group and how to distinguish individual ability.

The steps in this Group Investigation model, are as follows: 1) The teacher divides the class into groups heterogeneous, 2) The teacher explains the purpose of learning and task groups, 3) Teacher chose chairpersons for the material assignment so that one group was given the job one material or different tasks of another group. 4) Each group discusses existing matter cooperatively contains inventions, 5) After completion of discussions through a spokesman, the chairman present the results of the discussion group, 6) The teacher gives a brief explanation and providing conclusions, 7) Evaluation, and 8) Closing.

The Benefit of learning using Group Investigation model according to Slavin [18] is as follows: 1) the cooperative learning model of Group Investigation has a positive impact in improving students' motivation. 2) The application of cooperative learning model of Group Investigation has a positive effect, which can increase students' motivation. 3) The Learning is making the atmosphere of mutual cooperation and interaction among students in

the group regardless of the background. 4) Learning Group Investigation model trains the students to have a good ability to communicate and express their opinions. 5) Motivating and encouraging the students to be active in the learning process from the first stage to the final stage of learning.

The weakness of Group Investigation model according to the same source stated that the learning model of Group Investigation is complex and difficult to implement in a cooperative learning. Then learning by using Group Investigation also takes a long time.

Formulation of the problem in this study is as follows: 1) does the application of Group Investigation model can improve learning achievement on PPKn subject in class VIII A SMP Negeri 2 Gedangsari, Gunungkidul? 2) Does the application of Group Investigation model can improve learning motivation on PPKn subject in class VIII A SMP Negeri 2 Gedangsari, Gunungkidul?

Based on the formulation of the problem that has been presented, the objectives to be achieved in this study were: 1). To improve learning achievement through the use of Group Investigation learning model on PPKn subject in class VIII A SMP 2 Gedangsari, Gunungkidul, and 2).To increase the motivation to learn PPKn through the use Group Investigation learning model in class VIII A SMP Negeri 2 Gedangsari, Gunungkidul.

This research is expected to be useful for students, teachers, and educational institutions.1) the benefits for the students; the Implementation Group Investigation model is expected to be useful for improving the achievements and the student's motivation. 2) The benefits for teachers are developing their creativity in order to obtain a model of teaching and learning to be more effective. 3) Benefits for schools / educational institutions is that providing information on schools / educational institutions about the importance of using appropriate learning models in order to improve the learning achievement and student's motivation.

2. Research Methods

The research was conducted in SMP Negeri 2 Gedangsari, Gunungkidul in the particular class VIII A. SMP Negeri 2 Gedangsari is the most northerly of the district school Gunungkidul which is approximately 50 km from the district capital and Klaten Regency. This school is located in the Tegalrejo village, Gedangsari, Gunungkidul. The southern of this school are mountains and in the north area of this plain area is subdistrict of Bayat, Klaten district. SMP Negeri 2 Gedangsari has 18 classrooms with their respective grade at levels 6 and the average of 34 students. The research was conducted in the first semester of the school year 2014/2015, on October 21, 2014 until 25 November 2014 (6 meetings).

The subjects were the students of class VIII A SMP Negeri 2 Gedangsari, Gunungkidul, while the offender of the research is PPKn teacher assisted by other teachers who is the observer as well. The research is carried out by researchers and other teachers. Researchers are carrying out the teaching learning process by using a model of Group Investigation from one cycle to the next cycle. Each cycle includes planning, implementation, and observation and reflection PTK modeled by Kemmis and Taggart [19]. This research was conducted by using the method of classroom action research consisting of 2 cycles.

The first cycle planning consists of: (1) Creating Learning Implementation Plan (RPP) in accordance with the material that will be delivered. RPP is compiled with an input from principals and teachers in accordance with the field (MGMPs school level). RPP is used as a reference or guidance in implementing the teaching and learning activities in the classroom; (2) Compiling and preparing an observation sheet that includes learning about student Participation; (3) Preparing instructional media and Student Worksheet (4) Preparing the test item.

In the iimplementation, this study was conducted based on the planning guidelines that have been prepared and its implementation is flexible if there are changes. During the learning process takes place the teacher will present the material base on the lesson plan that has been prepared and the observer will observe student participation. Observations carried out during the learning process takes place by observing and recording the results of the observations in observation sheet that had been prepared in advance.

In the reflection, several students discussed together between researcher and observer to evaluate the results of the investigation and the problems that arise to be held improvements in cycle II, and so on.

In the data collection, the researcher used the test method to obtain the data and the value of class VIII A. In carrying out the evaluation of the data to obtain the data, the author is cooperated with observer teachers. Its activities include: (1) Constructing the test questions; (2)

Delivering the test questions to students to work; (3) Assess the results of the work of students; (4) Obtain the data of student achievement results; (5) Observation of student learning.

From the observation and the study of the test results in getting the data and then do the steps of analysis. Analysis of observational data. The data obtained in this study in the form of observation sheets are then calculated and the learning process in percentage. Thus it can be seen the extent of the improvement achieved in the study. The result of the analysis of observational data is then presented descriptively based on the observation and reflection. Analyzing the test results. This activity can be done by: (1) Test scores obtained at the end of the meeting with the average score of the group, so that is the value of each student; (2) The average value of the first cycle, and II are compared. If the first cycle, and second, are always increased, it can be said that learning Group Investigation model can improve student achievement.

Indicators of success in this research are: (1) An increase in the effectiveness of the learning process that is characterized by the increasing of the student motivation to learn; (2) Student achievement increased by up to 90% and they completed the KKM.

3. Research Result

Pre-cycle results were obtained from the value of daily tests that have been carried out previously. This test is given in the form of a matter of description consists of 5 questions. The average grade obtained on a daily test is 71.94. The number of students who pass the test KKM was only 10 students or 29.5% of the 34 students and the students who have not completed the KKM was 24 or 70.5%. Pre-cycle results showed the highest value that was 92 and lowest value was 55, with minimum completeness criteria (KKM) 75. Completed Pre-cycle results are shown in table 1 below.

Table 1
Achievement completeness Pre cycles

No	Grade	Number of students	percentage	Result
1	< 75	24	70,5%	Incomplete
2	≥ 75	10	29,5%	Completed
	Total	34	100%	

In addition to poor achievement, the learning process is also tough. Students are seen not enthusiastic in participating in the learning, and not much involved in the learning process that was organized. Besides, students only rely on the teacher as the only source of learning.

Seeing the learning problems experienced by class VIII A SMP Negeri 2 Gedangsari, the research using cooperative learning Group Investigation model is aimed that students must conduct discussions, mutual help among friends and all the group members have roles and the same responsibilities, so that the motivation and student achievement in material can be further increased.

The Implementation of the first cycle on Tuesday, October 21, 2014 and Tuesday, October 28, 2014 using a model of type Cooperative Learning Group Investigation. The material taught in this cycle was Discipline is Beautiful. Each meeting consists of 3 hours of lessons (each meeting about 40 minutes).

Having taught for 2 meetings, conducted tests in the form of descriptions that are 5 questions that was held on November 4, 2014. The average value of the class in the test cycle I was 79.91. Based on the results obtained by students' grades in the first cycle can be seen that the lower was 70 and the highest grade was 93. The students who achieved minimum completeness criteria were 26 students or 76.5%. While students who have not reached the minimum completeness criteria were 8 students or 23.5%. Thoroughness of the cycle I test results shown in Table 2 below.

In addition to learning achievement, student motivation also seems to be increased. Whereas, based on data obtained from the observation instrument was found that the average student motivation was 32. This indicates fairly good student motivation.

Although it is good enough, it appears that there were students who still did not complete. This was because when learning process was running, the students were less participated in the class. Most of them just stay quiet and too shy to ask the teacher when they were experiencing difficulties. Besides, the student group is not actively discussing, it was still dominated by smart students, and because of lack of cooperation and responsibility among students.

The lack of student motivation, based on observations of the observer, the low motivation of the student is affected by the lack of cooperation between them with one another. The smart students were tending not to care about the students, who were not, do not want to teach the less, so those students were only cheating. The final stage in the first cycle of this meeting, the teacher gave 5 tests item description for cycle I. Many students were dared to cheat and involved in discussion, they even dare walking around to discuss, and most of them are boys. There were also students who just quietly did their best and only one question that the students were working but the answer was still not right either.

Table 2
Achievement completeness cycles I

No	Grade	Number of students	Percentage	Result
1	< 75	8	23,5%	incomplete
2	≥ 75	26	76,5%	completed
	Total	34	100%	

Table 3
Comparison of Pre cycles and Cycle I

No	**Result**	**Pre cycle**	**Cycle 1**
1	Completed	29,5%	76,5%
2	Incomplete	70,5%	23,5%
	Total	100%	100%

Based on the result of the pre cycle test and the result of cycle I with 5 descriptions that was done individually, known that too many students who have not reached KKM (minimum completeness criteria). The test results obtained on pre cycle and the cycle I is low or has not reached the performance indicators in this study that is 90% with KKM 75 (minimum completeness criteria) for the first cycle of students still do not understand the associated model used. When working in groups, there are still many students who are not discussed in solving problems. They still hold of one, two other students, but when it gets lottery to come forward to explain the results of the discussions, there are still many who do not understand the answers written on the answer sheet.

Precycle test and the cycle 1 that has been carried out, there are many students who have not reached the KKM 75. The average grade obtained from the individual test scores is the result of the test pre cycle that was 71.94 and 79.91 the first cycle test results. Looking at the average indicates that research conducted in the cycle 1 has been able to increase the value although not on target achievement expected. The comparison the results of the cycle 1 and pre cycle values can be seen in Table 3 above.

Based on the above table, it can be seen that the number of completeness of students and the number of students who have not completed the first cycle has increased when compared with pre cycle. However, the completeness is obtained not meet the expectations of the target. This suggests that researchers should continue the second cycle with the hope that mastery achievement can be improved as expected.

Cycle II is held for 2 meetings (6 sessions), on Tuesday 11th and November 18 2014, using cooperative learning model Group Investigation. The material presented in this second cycle is Exploring Society of Indonesia. Second cycle test was given on Tuesday, November 25, 2014 consists of 5 questions about the description shaped with an average grade obtained by students is 89.59. Second cycle test results can be seen the highest value of 100 and a low of 67. Total value of students who have reached the minimum completeness criteria are 32 students or 94.1% of the 34 students. While students who have not reached the minimum completeness criteria amounted to 2 students or 5.9% of the 28 students with grades (KKM) of at least 75. The completeness criteria of the second cycle test results can be seen from Table 4 below.

Table 4.
Achievement completeness of Cycle II

No	**Grade**	**Number of students**	**Percentage**	**Result**
1	< 75	2	5,9%	incomplete
2	≥ 75	32	94,1%	completed
	Total	34	100%	

Based on further observations, it is known that the average student motivation in learning that was 41. This indicates that there has been an increase in motivation when compared with the previous cycle that was 32.

Students have a lot to be completed in this cycle due to the cooperation of students in the group has been seen that students are lacking motivation has been formed. They learn with students who are smart, responsibility group has been formed to compete with other groups. Students were also in delivering the work of the group has been looking good and proper. Student activity began to appear visible to the questions currently experiencing difficulties, good communication in the classroom. Final meeting of the second cycle was given test item description with the total of 5, many students are confident doing the work and only a few students are found discussing with friends.

Based on the first cycle, it is necessary to continue the second cycle for the first cycle of the test results do not meet the performance indicators of research that is 90% or increase that occurred not as expected. Implementation of the second cycle using cooperative learning Group Investigation model with the aim that students are more motivated to learn to work together among friends and they can exchange information, who can be able to teach her that cannot be so when the draw is been done.

Working group is expected to improve achievement and student motivation in Indonesian Society Exploring matter.

Implementation of the test cycle I and cycle II was still found that students who have not reached the minimum completeness criteria of 75. First cycle that has not reached KKM were 8 students, while in the second cycle has begun to decline; it can be seen from the number of students who have not reached the KKM by 2 students. Comparison of completeness in the first cycle and the second cycle can be seen in Table 5 below.

Based on the above table it can be seen that the number of students in the second cycle completeness increased. Total mastery of students in the second cycle is (as much as 94.1%) more than the first cycle (as much as 76.5%). While the number of students who do not achieve mastery decreased (from 23.5% in cycle 1 to 5.9% in cycle 2). This indicates that the second cycle has been successful; researchers have exceeded the performance indicators of this study that is 90% of the students completed KKM of 75.

This action research consists of pre cycle and 2 cycles. The second cycle is a continuous activity, which means the implementation of the first cycle based on the reflection of pre cycle, and cycle II is a continuation based on the reflection of cycle I. Based on the results of student learning during tests conducted that the completeness only 10 students or 29.4% of the 34 students and the number of students who do not achieve mastery of 24 students or 70.6%.

After the first cycle of learning, achievement and learning motivation has increased significantly. Of the 34 students there, 26 students (76.5%) had experienced completeness, and the remaining 8 students or 23.5% of students have not experienced completeness. Motivation of students also increased. While the motivation instrument that has been filled showed motivational value of 32. However, this condition has not been as what the researchers hope, that the completeness which would reach 90%.

Seeing the condition of completeness in the first cycle is done to repair the second cycle. In the second cycle of completeness increased to 32 students or 94.1%, while students who have not completed were 2 students, or 5.9%. Motivation of students also increased to 41 on average. The results of the second cycle can be concluded that a class action research conducted by researchers succeed, the student achievement that can be seen in the table 6 below.

Table 5
Comparison of Learning Achievement Cycle I and Cycle II

No	Result	Cycle I	Cycle II
1	Complete	76,5%	94,1%
2	incomplete	23,5%	5,9%
	Total	100%	100%

Table 6
Comparison of Learning Achievement Pre cycle, Cycle I and Cycle II

No	Result	Pre Cycle	Cycle I	Cycle II
1	Completed	29,4%	76,5%	94,1%
2	Incomplete	70,6%	23,5%	5,9%
	Total	100%	100%	100%

4. Conclussions and Suggestions

After Class Action Research has been done to Increase Learning Achievement and Motivation PPKn Students through Learning Model Group Investigation in Class VIII A SMP Negeri 2 Gedangsari, Gunungkidul 2014, it is concluded several things. This is the answer of the formulation of the problem that has been presented in the first chapter as follows: (1) Using Group Investigation model can improve learning achievement on subject PPKn class VIII A SMP Negeri 2 Gedangsari, Gunungkidul; (2) Using Group Investigation model can improve learning motivation on subject PPKn class VIII A SMP Negeri 2 Gedangsari, Gunungkidul.

With an increasing of learning achievement and motivation of students in subjects PPKn, it may be advisable several aspects related to the benefits of research as follows: (1) For students, it is advisable to learn in groups according to the principles of cooperative learning, where the ideas of two brains would be better than one, especially a lot of brains. Technically, how to learn in a group can follow the syntax of cooperative learning Group Investigation who has studied this. This can be done either in the classroom (when learning free or empty hours), and outside the classroom (when it will carry out independent learning); (2) For teachers, it is recommended to use this model of learning Group Investigation when teaching subject of PPKn, especially in the topic of ''discipline was beautiful'' and surf the Indonesian society; (3) For schools/educational institutions are advised to direct the teachers that use cooperative learning Group Investigation model if the goal is to improve the learning achievement and motivation to learn.

In addition, it is advisable to hold further research on the application of learning Group Investigation model for other subjects, other classes, other schools, as well as for other purposes besides improving learning achievement and motivation to learn (e.g. for the purpose of increasing student activity, student discipline, cooperation, variables and other effects).

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DELIVERING SCIENCE-ENGINEERING VIRTUAL LABS USING THE NEW WEB TECHNOLOGIES (HTML5)

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Abstract

This study was a literature review on delevering laboratory experiments through website using HTML5. The website is new web technologies and standards, called HTML5. HTML5 is the newest version of Hyper Text Markup Language (HTML), requiring few requirements for visualization technologies.The technology can enhance effective e-learning media. By using HTML5, internet developes gadually a text-based technology to an object-oriented user interface with dynamic dimension graphics, and all the chances of user interaction. Web visualization can give the significant improvement for virtual laboratories, especially for science and engineering classroom. Visualizations of virtual labs are displayed on the web in the form of plot using HTML5 canvas tag. The plot can be refreshed dynamically. The point of this study is to develop a graphically-interactive simulation application to calculate any issues of natural phenomenon in science-engineering classroom. Therefore, the numerical simulation, user interaction and visualization is consistently executed on the basis of latest web technologies. Finally, the closures of this study are recommendations for the next model of vitual labs and dissemination of the great attributes of HTML5 to build real interactive and dynamic e-learning web application.

Keywords: e-learning, visualization, simulation, HTML5, virtual lab.

1. Introduction

Information and communication technology (ICT) has supported education over the past few years. The term ICT [1]embraces many technologies that enable us to receive information, and to communicate or to exchange information with others. These many technologies (both devices and functions) are capturing, interpreting, storing, and transmitting information.On the other hand, according to Clark and Mayer [2], current learning and training which use the technology continues to increase, while those using conventional or traditional way (face-to-face class) decreases. Still in Clark and Mayer [2], Bernard et al. [3]also compared learning results of electronic open/distance learning and face-to-face learningshowed has no significant difference. Electronic learningor e-learning [1] is appropriate for education because it combines as its name between e- (electronic) and learning, and thus puts an emphasis on learning in a way that the term ICT by itself does not. Where ICT provide the vehicle, e-learning can be described as the journey, with increased knowledge, understanding and skills as the destination. In other words, we use ICT to participate in various electronic learning activities.

E-learning delivered using synchronous or asynchronous ways in several categories. E-learning is using internet for communicating and locating content, within the context of sound pedagogy [1], toaccess e-resources for classroom instruction; to participate in online courses; to provide blended learning by combining online content with other teaching methods; and to offer support for communities of practice to share ideas and experiences. E-resources serve collections of learning resources or materials for the members both using Internet or local networks, like Khan Academy [4], DVB-S based delivery system, the comprehensive encyclopedia Wikipedia [5], dictionaries [6] and thesauri [7], e-books collection of Project Gutenberg [8], and many e-libraries. Online course delivered class through the web using many systems like learning management system (LMS), learning content management system (LCMS), and social learning network (SLN). There are many examples of LMS like Moodle

[9], Dokeos [10], or A-Tutor [11]. The examples of LCMS are Claroline[12] or e-doceo solutions [13]. The examples of SLN are Edmodo [14] and Quipper School [15].

In the blended learning teacher may use the power of web technologies in the course. The tools were provided by web technologiessince the wave of Web 1.0 until Web 2.0. Web 1.0 only serve one-way communication in the static web page. Web 2.0 allow users to create and share information on the web and to collaborate with others interactively using many applications include blogs, wikis, video-sharing, podcasting and social networking [1]. A framework of instructional design proposed by Zheng[16] in designing and developing the Web 2 0-based learning by (a) learner-centered approach, (b) interactive social communication, and (c) dynamic learning in the Web 2.0 applications. In the wave of Web 3 0 [17], applications use semantic technologies augment the underlying Web system's functionalities.

With the support of new web technologies, in addition to presenting the online repositories and/or classes, technology also makes it possible to present a virtual lab class. Virtual lab (or called as Virtulab) is a type of blended learning implementation. Virtulab can be interesting and attractive for students. Virtulab expected to reduce cost of infrastructure, lab. glasswares, lab. tools, and materials in the real laboratory class.As an e-learning application, Virtulab is a form of utilization of specific tools used in practice class or laboratory class such as visualization or simulations. Specialized software including drawing and designing, modelling and simulation, adventure games, expert systems, semantic networking and other interactive learning tools, as well as learning management systems, are often employed to support pedagogical innovation [1]. Virtulab also expected to be complementary other media e-learning and provide multi-modal instruction.Virtulab is very effective media for learning of science-technology, not only because of economic benefit but also of pedagogical benefit, such as providing scientific learning approaches, improving student's learning independence, flexibility, and motivation.

2. Discussion

2.1 Visualization and Simulation in E-Learning

Virtulab presented in visualization and/or simulation forms. Visualization is any technique for creating images, diagrams, or animations to communicate a message; visualization through visual imagery has been an effective way to communicate both abstract and concrete ideas [18].Lateef [19]defined that simulationis a technique for practice and learning that can be applied to many different disciplines and types of trainees; is a technique (not a technology) to replace and amplify real experiences with guided ones, often "immersive" in nature, that evoke or replicate substantial aspects of the real world in a fully interactive fashion; andthe "immersive" here implies that participants are immersed in a task or setting as if it were the real world.

Visualization and simulation (visim) is considered to have a good role in learning. Visimis generally completed with a game.The game, other than as an effective tool for teaching because it contains the principles of learning[20]. The game can also motivate learning and involves students to make learning process more enjoyable [21].Strangman& Hall [22]stated the gamecouldbe an effective approach to improve students learning.Therefore, Randel[23] reported that the gamewas alsovery beneficial for the development of media oflearning materials related to science and language skills.Pivec[24] found that the visim with the game was successfully applied to formal education, especially in the military, medicine, science, and training.

Visimthat was built as asoftwareapplication can be run in the form of both, desktop-based or web-based visualization and simulation applications. Many kinds of visimhas been used by students or classes, for examples, in assessment of human patient [25],nurse education [26], physics learning games [27], or for computational problem solving [28].

2.2 The Power of HTML5

Web is currently in transition phase to adopt the upcoming HTML5 standard. The web applications are currently supported by the latest technology from the World Wide Web Consortium (W3C), namely HTML5. W3C [29]is an international community that develops open standards to ensure long-term growth of the Web. HTML5 is the new version of HTML (Hyper-Text Markup Language). This standard will replace many of technologies and methods of current web by offering functionality that is currently applied by many ad-hoc solutions.

HTML has been in continuous evolution since it was introduced to Internet in the early 1990s, then HTML4 became a W3C recommendation in 1997. The HTML specification reflects an effort, started in 2004, to

study contemporary HTML implementations and web content. The specification (1) defines a single language called HTML which can be written in HTML syntax and in XML syntax; (2) defines detailed processing models to foster interoperable implementations; (3) improves markup for documents; and (4) introduces markup and APIs for emerging idioms, such as web applications [30].

The HTML5 standard adds many new application program interfaces (APIs), such as location-based services, cross-document messaging and local storage; and features allowing developers to create web applications responding to today's needs [31].HTML has introduced many new APIs and have extended and changed some existing APIs.HTML introduces a number of APIs that help in creating web applications. These can be used together with new elements introduced for applications. For instance, (1) media elements (video and audio*)* have APIs for controlling playback, synchronizing multiple media elements, and timed text tracks; (2) an API for forming constraint validation; (3) an API for commands that user can invoke; (4) an API that enables offline web applications, with an application cache. (4) an API that allows a web application to register itself for certain protocols or media types; (5) editing API in combination with a new global content-editable attribute; (6) drag & drop API in combination with a draggable attribute; (7) an API that exposes the components of the document's URL and allows scripts to navigate, redirect and reload (the Location interface); (8) an API that exposes the session history and allows scripts to update the document's URL without actually navigating; (9) an API for "base64" [32] conversion; (10) an API to schedule timer-based callbacks; (11) an API to prompt the user; (12) an API for printing the document; (13) an API for handling search providers; and (14) the Window object has been defined [33].

2.3 Application Development Sections on Preparing Virtual Lab with HTML5

Basically, the application was made by following three standard stages of software development life cycle (SDLC), such as development, testing, and production [34].Instructors or lecturers or teachers and anyone have possibility to buildsimulation application in web pages with graphics using web programming. Creating a web-based simulation requires basic knowledge of (1) HTMLto provide the structure of the page [35]; (2) CSS or cascading style sheet [36],a visual and aural layouts, for a variety of devices. Along with graphics and scripting, HTML and CSS are the basis of building web pages and web applications; (3) JavaScript [37],a most popular programming language of HTML and the web that can change content, attributes, styles (CSS) of HTML, and can validate data; (4) the HTML5 canvas element [38], which is used to draw graphics on a web page; and (5) HTML controls and link elements [39], to provide keyboard operation and assistive technology interoperability of interactive user interface elements.

Preliminary Section

The first section in creating HTML5-based simulation arefinding requirements or problems to be solved and choosingthe topic of the problems to be presented in simulation. Steps of this section are creating working folder; getting text editor; testingby typing some text contents; addingmarkup; changing the styles; adding a link; and adding the images.

The first step on application development is a space on hard drive, which is required to put working files and folders to be saved. Then, the necessary text-editing application in which the script or code can be written. Text (source) editors [40] intended for use with HTML usually provide syntax highlighting. Templates, toolbars and keyboard shortcuts may quickly insert common HTML elements and structures. Wizards, tooltip prompts and autocompletion may help with common tasks. There are some favorite text editors for programmer. Notepad++ [41] for Windows operating system (OS)or TextWrangler [42]for the Mac OS or Komodo Edit [43] for Linux-based OS is a good choice. Both are free and easy to use by downloading and install it on the computer.This section has created a web page with headings, paragraphs, links, and images, and apply some styling to change the default font, color, and layout.

Second Section

This section includes the following steps on building simulation pages with animated graphics.The steps are (1) adding a place to draw using the HTML5 canvas element; (2) drawing objects in place using JavaScript that can manipulate all objects; (3) Putting the objects in motion by using methods such as: erasing and redrawing the object, changing the values of X and Y position, and approaching a higher-level called retained-mode graphics; (4) puttingthe object and its movement in a mathematical equation; and (5) debugging JavaScript from

errors, such as typographical or other errors. In computing, retained-mode (graphics) rendering is a style for application programming interfaces of graphics libraries, in which the libraries retain a complete model of the objects to be rendered [44].By using competency in JavaScript programming language, HTML5 canvas element, and algorithms to integrate mathematical equation can predict the movement of objects in the simulation.

Third Section

The third section is to provide the user interface. The interface provides the user to control simulation page. Developeror programmer can make a start button, add a slider, and add a numerical readout for the slider. The interface contains Syntaxs [45] not only for buttons and sliders, but also for checkboxes, drop-down menus, and mouse directly (or touch) on canvas.

Finishing Section

The finishing touch section is all about improvement and enrichment. Each of the following improvements can be made independently. Adding a "trails" for this simulation is one of improvement. Canvas can accumulate the amount of unlimited trails, with thousands of single-dots. It is one of the advantages of immediate-mode graphics [46]than retained-mode graphics.Other ways to enrich the simulation that can be delivered through: three-dimensions (3-D) shading by filling the object with a radial gradient; drawing bigger button by choosing the optimum size; styling the slider; fixed-width speed readout; special characters by inserting extra spaces to separate different elements logically; and more tweaks for mobile devices.

2.4 Succesful Project

There are some examples of visualization and simulation development project which was successful enough. In addition to education, visualization projects were also implemented, among others, in the fields of construction; health, geography, biology. In construction, exploring new web technologies (HTML5) was used for engineering applications using the example of an interactive sheet piling wall simulation [47]. In health, the HTML5 was developed for sensor based real-time remote patient monitoring system [48], and a HTML5 powered web electrocardiogram (ECG) management system for telecardiology applications [49]. In geography,HTML5 was used for web geographical information system (GIS) in practice Cartagen[50]. It is an open-source, vector-based, client-side framework for rendering plug-in-free, offline-capable, interactive maps in native HTML5 on a wide range of web browsers and mobile phones, which was developed at MIT Media Lab's Design Ecology group. In biology, the HTML5 was used for an HTML5 Canvas-based graphics library for visualizing genomic data [51], and web-based interactive visualization in a Grid-enabled neuroimaging application[52].

2.5 The Use of HTML5 for Virtual Labs in Science-Technology Learning

The Archimedes law is an the example of the simulation which was developed by HTML5 in this paper. The law stated that any object or body that wee completely or partially submerged into a fluid(liquid), the object would get the force which is equal to the weight of the fluid displaced by the object.

The formula of the Archimedes law is given by $Fa = V \times g \times \rho$, where:

Fa : buoyant force

V : the volum of water displaced by object

ρ : spesific mass of water

Authors developed a simulation of an egg as the object which is submerged into the fluid. The egg on the Fig. 1 floats because the spesific mass of the egg was smaller than that of fluid.

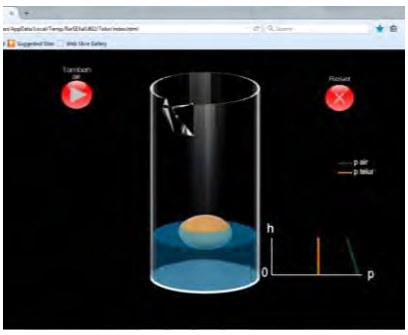

Fig. 1. Floating egg when ρ egg $< \rho$ fluid

Addition of liquid little by little by pressing "play button" results in the increase of volume or mass of the egg submerged in the fluid. However, the addition of the liquid brings about the decrease of spesific mass of the fluid. At the time at which the mass of the egg is equal to the spesific mass of the fluid, the egg float in the fluid (Fig. 2).

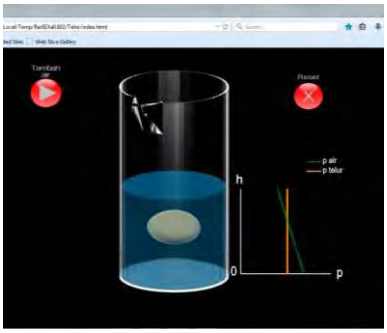

Fig. 2. Floatimg egg in when ρ egg = ρfluid

If the addition of the liquid is continued, then the egg sinks becausemass of the egg is greater than the spesific mass of the fluid (Fig. 3).

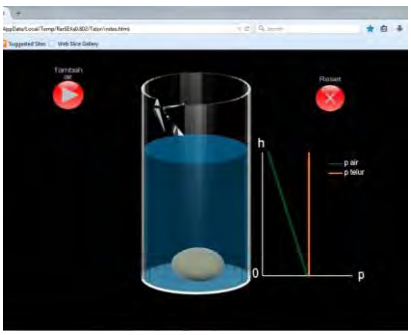

Fig. 3. Sinking egg whenρ egg >ρ fluid

The Archimedes law screen-captured above is an example of simulation that was developed using HTML5. The product waswas interactive and interesting to be good media in learning science and technology. In wider use, HTML5 products of interactive web-based media can be potential for the materials of virtual labs.

3. Conclusionand Suggestion

HTML5 is the newest version of Hyper Text Markup Language (HTML) completed by new application program interfaces (APIs) for visualization and simulation which allow developing interactive web-based games. The properties would be useful for the development of interactive audio-visual web-based games for the simulation of laboratory works. This feature would bring students to have laboratory works through websites that can be accessed anywhere at anytime. The challenges of online courses for science and technology have been faced for many years due to the problems at providing virtual lab can be solved by HTML5.

The use of HTML5 as the virtual lab ofscience and technology is mainly to visualize and stimulate lab works through websites as enrichment lab activities that has yet to be facilitated. It does not mean to replace lab activities because learning Science and Technology is integration of lab works and theory in a classroom. The virtual labs should be useful because it is repeatable, flexible in use and widely accessed.

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QUESTIONING THE POSITIVISTIC HEGEMONY IN SOCIAL AND HUMANITY SCIENCES

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Abstract

This particular study is intended to discuss the question of positivistic hegemony in the practice of social and humanities sciences in Indonesia. It is widely believed that the positivistic approach in its early history was an approach particularly used in conducting researces of natural sciences. However, in later development, this approach has been used and even became the most important approach in conducting any kinds of studies not only those of natural sciences but also the ones of social and humanities sciences. In fact, the two disciplines have philosophical differences. One of the fundamental differences is the fact that natural sciences believe in the idea of *correctness* while social and humanities sciences believe in the idea of *appropriateness*. Consquently these two areas of studies need to be treated differently unless various achievement and development of sciences will not play their significant roles as the catharsis and enligtment for various problems of culture and humanity. In turn, sciences will not be a blessing but rather a curse. In relation to this phenomenon, this particular study tries to discuss the notion of approaches in sciences, their fundamental differences, not to mention the implications that need to be specifically treated in relation to the social and humanity disciplines.

Key words: *hegemony, positivistic approach, social and humanity sciences*.

'...Kita ini dididik untuk memihak yang mana?
Ilmu-ilmu yang diajarkan di sini
akan menjadi alat pembebasan,
ataukah alat penindasan?'

(W.S. Rendra, "Sajak Pertemuan Mahasiswa",
dalam Potret pembangunan dalam Puisi, 1996)

1. Introduction

One of the biggest criticisms to the educational field particularly addressed to science institutions is their failure in becoming one of the best elements of the enlightenment processes of various cultural and humanities matters. The development of modern or even post modern sciences that tends to be really revolutionary is not equal to the complexity of various cultural and humanity problems.

It is commonly believed that the complexity of the contemporary civilization problems is the result of the science development. The advancement of science and technology that initially aimed at simplifying humans' work has resulted in anxiety and fear to humans' life. Various achievements in the advancement of science that are supposed to bring more enlightenment and happiness to humans' life, on the contrary, in many cases tend to put and trap human beings in a deep immeasurable hole.

It is undeniable that modern world that is easily identified by the advancements of sciences with their spectacular discoveries, has brought many blessings in the form of simplicities for human beings to run their lives. On the other hand, it is also undeniable that the advancement of sciences also has the negative impacts on humans' life. One of them that can be said to be the most crucial is the appearance of what so called the crisis of consciousness and the existence of values (Komarudin Hidayat & Wahyu Nafis, 2003). In line with this, Simmel (1980:41) states that "*The crisis of culture is a crisis of the spirit of modern man, a crisis of conscience. ...an interpretation of the sociopsychological correlates or manifestations*

of this crisis in the mentality of the native of the modern culture".

Various crises of existence and values that typically happen in modern culture as mentioned earlier, at a particular point, are the results of the fallacy in the practical awareness of science tradition, particularly, in relation to the current practices of socio-humanistic sciences. The fallacy is initiated by the use of positivistic paradigm that seems to be a strong hegemony. This paradigm is commonly believed to be the one typically used in the practice of natural sciences. However, this paradigm in turn has become a strong hegemony for every kind of sciences, not only those belong to natural sciences but also those of social and humanities sciences. One thing to be noted is the fact that philosophically each group of sciences has each own paradigm. One of the most fundamental difference between the two is the fact that natural sciences put their focus on the idea of *correctness,* whereas social and humanities put emphasize on the idea of *appropriateness*. This phenomenon very often results in the failure of the various advancement of sciences to play their best roles as the catharsis and enlightenment agents of various problems related to culture and humanity. Sciences, then can be a good blessings but rather curses to humans' life.

This crucial problem has become a deep concern for many years. The great philosopher of the 21st century, Albert Einstein in one part of his speech in front of the students of California University in 1938, as adapted by Suriasumantri (2006:248-249) has mentioned the following.

It is not enough for you to understand sciences to facilitate your works to be humans' blessing. It is the attention to human beings and their destiny that always need to be the main concern of all technical efforts, of all attentions to the big problems that remain unsolvable of working arrangement and the equalization of things- to make the results of our thinking become blessing rather than curses to humanity. Don't forget this in the middle of various diagrams and equations.

2. Method

It is necessary to state that this piece of writing is merely the result of a study of the phenomenon or the development of ideas rather than the result of a particular research. The ideas mentioned in this paticular writing can be said to be the results of critical refplections of various phenomena closely realted to the practice of positivistic hegemony of science tradition commonly found in our society. In pratical, these critical reflections are discussed dialectically with various related concepts or theories that can be used to make analysis and synthesis and in turn result in a narrative writing.

3. Discussion

The Paradigm in Science Construction and The Nature of Difference of Science Groups

In sciene perspective, the term 'paradigm' has a significant role, as the result os its function and fundamental existence, that is as the basic framework directing to which direction a particular science needs to be used. Even when its discursive discussion is more widely stretched, the position and important role of each science paradigm can be practically used in daily life contexts of culture and humans' life. With absence of a guiding paradigm, it will be impossible to discuss and develop cultural phenomena.

The term 'paradigm' was firstly used by Thomas Khun (1962) in his monumental boook entitled *The Structure of Scientific Revolution* then followed by Robert Winslow Friedrichs (1970) in his book *A Sociology of Sociology*. Thomas Kuhn (1962) in his book—that has been newly publised in 2012- defines the term paradigm as a set of fundamental beliefs guiding our actions, either those of daily actions or scientific ones. In line with Khun, Friedrichs (in Lundberg & Young, 2005:47) defines paradigm as *"A fundamental image a dicipline has of its subject matter"*. Meanhile, Denzin & Lincoln (1994:105) define paradigm as: *"Basic belief system or worldview that guides the investigator, not only in choices of method but in ontologically and epistomologically fundamental ways"*. From those definitions, it can be said that paradigm is a system of fundamental beliefs or ways of looking at the world that provide guidances for researchers not only in choosing the methods but also in using the fundamental ways of conducting their researches.

Discussing the nature of sciences, it can simply said that there are two big groups of sciences, namely, *natural sciences* and the other one is the one related to socio cultural life, which is commonly called *social and humanities sciences*. The first groups of science, that is *natural sciences* is the term used to refer to sciences whose objects are natural things having the exact and general rules/laws that can be used in limited time, in any places and it can be said that they tend to be 'objective' (Buckley, 1992:10). It is based on its objectivity that natural

sciences are also called exact sciences. Other objects beyond human observation can be included in the study of natural sciences (Surisumantri, 2006). Therefore, natural sciences tend to focus on the verification model in its work (Dodd, 2006:98). It is based on this main characteristic that the paradigm of natural sciences is then well known as the positivistic paradigm with its basic perspective of quantitative analysis (Charmaz, 2014; 6). Natural sciences covers a number of sciences, namely, math, phisics, biology, chemistry, and also those belong to the groups of engineering.

Meanwhile, the second group, the social and humanities sciences are the branches of sciences that try to understand the meaning of humans' life and existence. In *Oxford English Dictionary* (2003), it is stated that, "*The humanities are academic disciplines that study human culture. The humanities use methods that are primarily critical, or speculative, and have a significant historical element—as distinguished from the mainly empirical approaches of the natural sciences*". In line with this definition, Belfiore & Upchurch (2013:8) claim that, "*The humanity as "the branch of learning concerned with human culture; the academic subject collectively comprising this branch of learning, as history, literature, ancient and modern languages, law, philosophy, art, and music*".

Unlike natural sciences, this type of sciences tend to have focus on 'subjective' facts rather on 'objective' facts (Buckley, 1992:10); with its emphasize on the qualitative analysis rather than quantitative and tend to be naturalistic (Hammersley, 1993:16). Therefore, the approach underlying social and humanities sciences puts in main focus on naturalistic meaning understanding to find what so called 'truth' rather than explaining the causality of an event as commonly happens in natural sciences' positivistic tradition in finding 'truth'. In other words, the paradigm used in social and humanities sciences is called *verstehen*-ideografic, while the natural sciences are *erklaren-nomotetik*. *Verstehen* is a modification way of interpreting texts, while *erklaren* is an explanation of social symptom by looking at its causality. *Nomotectic* refers to knowledge to find regularity while *ideografic* is a knowledge that focuses on individual and historical symptom. In relation to that, Knierimen & Roege (2010) mention the following.

> *What distinguishes the humanities from the natural sciences is not a certain subject matter, but instead the method of approach to any question. The humanities probe intangibles such as purpose, meaning, and judgment – all adding up to the capacity for self-reflection, abstract thought, and creativity. The humanities focuses on understanding meaning, purpose, and goals and furthers the appreciation of singular historical or social events – an interpretive method of finding "truth" – rather than explaining the causality of events or uncovering the truth of the natural world*.

Consequently, when we explore what it means to be human, we need more than neat categories and a perfect definition. There is something about us that we cannot mention, that deny clear labels, yet challenges us to try to figure it out. Underlying our thought is the assumption of a human nature, a sense of what identifies us as a species. If the humanities explore the intangibles, then arts, for example and its relevance for students today need to be put within the domain of humanities.

The existence of the fundamental difference between *natural sciences* and *social and humanities sciences*, leads to the differences in the paradigmatic level. The most prominent paradigmatic focus of *natural sciences* is its main approach that relies on the objective facts based on empirical experiences with its main way of external distant observation. The main thesis of positivistic approach is that the valid knowledge is merely the one based on facts. In this sense, positivism denies the existence of every power or subject behind the fact. It also denies the use of various methods unless those commonly used to analyze facts (Muhadjir, 1998). In this context, asset of results of scientific processes then need to be made in a correct and incorrect format that has nearly absolute meaning and even tend to be universal.

On the other hand, the basic spirit of social and humanities sciences is not put upon the obsession of getting objective facts, not even universal facts taken from external observation but rather on the subjective facts that closely related to humans' nature and humanity not to mention its contextual cultural settings as the main concern. Gilje & Skirbekk (2013:197) states that:

> *The difference between the humanities and the natural science, concern not only two different methods, but also different relationships between the subject of cognition and the object of cognition in the two types of disciplines. Society, culture, and history are*

> *produces of the human spirit. Therefore, in the 'new science', the researcher seeks to understand society and culture as expressions of human intentions, desires, and motives. In the humanities we are not concerned with the Cartesian distinction between subject and object. Here the object of cognition is itself a subject (human beings and the societies they create). In te humanities the reseacher is, in a certain sense, personally a participant in the lives and activities of other human beings*.

In this sense, the paradigmatic and methodolic consequence of social and humanities sciences then is based merely on 'understanding'/ *verstehen* (Flyvbjerg, Landman, & Schram, 2012:22). It is for this reason that in the paradigm of this group of sciences, there is no principle of universality but on the contary, it believes in the idea of particularity (Stierstorfer, 2003:37).

When Positivistic Paradigm Takes The Most Important Role in Social and Humanities Sciencies

As mentioned earlier, each of the group of sciences needs to use different paradigm. The problem is they don't do that. A series of historical notes show that for a long time up to the current time, both groups of sciences tend to use one paradigm, that is the paradigm of natural sciences as their means of analysis (Sriraman & Goodchild, 2009:85). It can be said that postivistic paradigm has been becoming a strong hegemony over both groups of sciences. This hegemony has resulted in the facts that a series of scientific processes, either those belong to natural sciences or social and humanities sciences cannot be easily differentiated. As the main observable principles are empirical, objective and universal.

Talking about the use of positivistic paradigm of natural sciences in social and humanities sciences, it cannot be separated to the person who initiated this phenomenon. It was August Comte (1789-1857), a french man who is considered as the one who put the foundation of modern sociology. He introduced 'three steps-law" in humans intelectual development, namely, teological, metaphisics and positivistic step. These three steps can be easily recognized in the way humans explain a variety of social-economical phenomenon. In the first step, humans tend to refer to any supernatural things; in the second step humans tend to refer to any kinds of metaphysical powers, and in the third step, humans tend to refer to the scientific description and rules. Positivism doesnot have much concern or even ignores anything outside humans' empirical-sensation knowledge. This idea is in line with the term 'positivism' inherited from the word 'positive' (the opponet of negative), having the meaning of strict, definite/fixed, and convincing (Echols, 1982:439). In philosophy, the term positivism refers to an idea based on something which is fixed/ precise/exact, factual, and real of a certain phenomenon that is known and based on empirical data.

In line with this principle, then, positivism put its emphasize on the idea that the observed object must be in the form facts, and the study must lead to something fixed and carefully observed. According to Comte, the means that can be used to conduct scientific studies are: observation, comparison, experiments, and historical method (Splichal, 1999:229). The passion of the objectivity, in turn, makes a scientist tend to separate between 'a subject who conduct the research' and 'an object being studied' in order to get neutral and avoid judgement as well as mere opinion. This may result in the scientist gets detached or having a particular distance from the real social life.

As the one who initiated the positivism paradigm, Comte has got much influence from Descartes, who said that sciences underlying any kinds of sciences are mathematics-astronomy-chemistry-physics-and biology and the top of them is sociology physics. Comte states that it is not until humans do scientific investigations, that they will get useful findings. The non-natural sciences will find difficulties to get legitimatization as they need to deal with some difficulties. The difficulties are closely related to non-exact assumptions that they cannot provide advantages/benefits to modern human beings (Listiyono, 2006:150).

Positivistic Paradigm Hegemony in Humanities Sciences and Its Various Impacts

As Comte's philosophical positivism became the foundation of education, it can be said that education as one kind of humanities sciences is merely conducted on the basis of empiricism, materialism, and rationalism. According to the positivism philosophy, an educational institution having this philosophy as the main basis claims that humans' knowledge development need to follow the three steps of developments. First, the theological steps, in which humans believe that there is always a

supernatural power underlying every single natural symptom. It is that supernatural power managing the function and movement of that symptom. The theological step can be divided into three periods, namely, animism, polytheism, and monotheism. The second step is the metaphysics step, in which, the supernatural powers are replaced by some abstract concepts and principles, such as God's will, destiny, etc. In short, it can be said that metaphysics is highlighted in this step. The third step is the positive step in which humans no longer look for something behind facts. Based on observation and ratio, human beings try to identify the similar relationship of facts.

Thus, it can be considered that positivism is a stream in scientific tradition aims at separating knowledge from the initial goal of achieving it, that is to get knowledge for the sake of knowledge that theories need to be separated from humans' life. This paradigm considers the knowledge of objective facts as the right knowledge. Knowledge, according positivism, must be neutral, free from any kinds of interest.

The practice of Comte's opinion of the importance of positivistic paradigm applied in social and humanistic sciences can be easily identified in Indonesian context not to mention in educational setting. In this particular setting, the hegemony of positivistic awareness phenomenon is clearly seen for instance, in the form of the application of statistics with its various sophisticated quantitative analysis that tend to be considered as the source of every truth. Moreover, statistics has become a prerequisite to enter some post graduate programs. Anyone who will enter the program needs to take it before learning various subjects. In more operational practice, the scientific paradigm has been used as the main approach in the new curriculum, 2013 Curriculum. It is widely believed that this curriculum offers a new idea in the form of the changing of the paradigm claimed to be a very basic philosophy of learning steps, what so called the *scientific approach* that is considered to be a better approach compared to other approaches (*Permendikbud No. 65 Tahun 2013*). In this scientific paradigm, the learning materials are merely based on facts or phenomena that can be explained logically or by using a certain reason. Through this scientific based approach, it is believed that students/ learners will be more active in constructing their knowledge and skills. The use of this approach to learning is also believed to be able to facilitate learners to conduct investigations to find facts of a particular phenomenon or event. It implies that during the process of learning, learners learn and become familiar of how to find scientific truths. They are trained to use the logical, well-organized, and systematic ways of thinking by means of what so called as *High Order Thinking*. The scientific approach in the practice of teaching and learning cover some main components: observing, questioning, experimenting, associating, and communicating. The underlying principle of this approach is believed to be an idea proposed by Roger Crombie White in his book entitled *Curriculum Innovation: A Celebration of Classroom Practice (1997). The main thesis proposed in this approach is mainly on the importance of facilitating students with facts. Cromie White claims that 'nothing is more important than facts.'*

Another crucial problem in the educational field related to the strong hegemony of positivistic paradigm is closely related to the idea of universality. This hegemony appears in the form of the strong tendency of considering theories coming from Western countries as the main source of truth in getting any kinds of knowledge. In discussing particular topics related to the spirit of locality, such as the study of character education, we are supposed to use theories coming from Western countries. This phenomenon can be found in many books discussing character education, not to mention the one of Zuchdi (2011) and other books written by Indonesian scholars having this topic. Most of those books adopt the theories of character education proposed by Thomas Lickona, in his popular book entitled *Educating for Character: How Our Schools Can Teach Respect and Responsibility* (1992). Meanwhile, other resources related to character education based on the Indonesian locality, for example, the ones written by Ki Hadjar Dewantara, Ki Ageng Suryomentaram, Sosrokartono, and many others are rarely considered as being significant resources and tend to be ignored and perceived as being non-universal.

Finally, it can be said that positivism has been becoming a very effectual poison for experts and individuals working with social and humanities sciences. They always consider the positivistic thinking, which put its main concern on objectivity in every scientific activity. In research practices, the practice of positivistic paradigm can be easily recognized by the use of survey and quantitative methods that always result in objective scientific truth. Subjectivity has been familiar among individuals that believe and tend to use the positivistic approach, not to mention those dealing with social and humanities sciences. These people tend to consider subjectivity as something unscientific and could

lead to the failure of developing sciences. The objective attitude of social scholars who believe in positivistic paradigm may reduce their being critical towards cultural social phenomena in the society.

This natural sciences hegemony has led to the so called modernism civilization that tend to have various problems as the result of the reduction of the nature and existence of culture and humanity, merely for the sake of fulfilling the positivistic paradigm of natural sciences that has no capability in reaching the source of understanding (Rosenberg, 2013:165). It is from fact that various de-humanistic problems as the negative impacts of modernization and universality could be clearly and significantly defined (Cho, 2013:123).

Starting from this limited definition of factual knowledge that typically used positivistic paradigm as mentioned by Comte, it is necessary to make *Sistem Pendidikan Nasional* as a starting point to enhance not only students' knowledge and skills but also as a means of transforming and internalizing various humanistic values, such as faith and belief, and good attitudes.

4. Conclusion

The hegemony of positivistic paradigm in social and humanities sciences needs to be considered. Unfortunately, until now, it seems that this hegemony remains exist. One of the negative impacts of this phenomenon is many often various advancements of sciences cannot play their best roles as the catharsis and enlightenment of various problems of culture and humanity. Sciences, in turn cannot blessings but rather it they tend to be curses for civilization and humanity. Therefore, various alternative steps are necessary to state the importance of choosing the right paradigm for each group of sciences not to mention the social and humanities sciences that need to have naturalistic paradigm rather than positivistic one.

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MULTICULTURAL EDUCATION IN A PLURALISTIC SOCIETY IN INDONESIA

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Abstract

The Indonesian society is marked by many ethnic groups, many diverse cultures and a variety of religions and beliefs. Therefore, in our pluralistic society, intercultural and interreligious dialog is a necessity for building together the society of peace and fraternity desired by all Indonesian people. However, conflict between ethnics and religious sometimes happens in some places in Indonesia. Meanwhile, the fundamentalism and radicalism have arisen, adding the complexity of the problems. The minority groups, like Ahmadis, Shiites, Protestant, Catholic and Chinese, have become the target of the extremists or the fundamentalists. In these situations, we need to develop multicultural education to educate young people to have an openness and inclusive attitude towards diversity and pluralism. Therefore we need to have a new paradigm in developing national education based on multicultural education. This kind of education will help each Indonesian citizen to develop an openness and inclusive attitude so that we can live together in harmony and peace and work together in building the Indonesian nation towards Indonesian civil society.

Keywords: *Pancasila, Bhinneka Tunggal Ika*, pluralistic society, religious conflict, radicalism, multicultural education, national education, civil society

1. Introduction

Indonesia has about 300 ethnic groups, each with cultural identities developed over centuries, and influenced by Indian, Arabic, Chinese, and European cultures. Along together with cultural influences, big religions have influenced the Indonesian people. Thus, the Indonesian society is marked by many diverse cultures and a variety of religions and beliefs.

There are six religions acknowledged by the government: Islam, Protestant, Catholic, Hindu, Buddha, and Confucianism. Beside these official religions, there are many other religions and beliefs. Based on data collected by the Indonesian Conference on Religion and Peace (ICRP), there are about 245 non-official religions in Indonesia [1].

According to the 2010 national census, 87.18% of the total population (in 2015 approximately 255 million people) are Muslims (with Sunnis more than 99%, Shiites 0.5%, Ahmadis 0.2%), 6.96% Protestants, 2.91% Catholics, 1.69% Hindus, 0.72% Buddhists, and 0.05% Confucians.

The Indonesian leaders have played an important role in the relations between groups, promoting mutual respect by affirming *Pancasila* as the state ideology. *Pancasila* includes five inseparable and mutually qualifying fundamental principles: (1) belief in one supreme God, (2) a just and civilized humanity, (3) the unity of Indonesia, (4) democracy through deliberation and consensus among representatives, and (5) social justice for all people of Indonesia. *Pancasila*, thus, is the foundation for the social life

Meanwhile, Indonesia thrives on its cultural diversity, which is systematically preserved through a policy of multiculturalism. This commitment to multiculturalism is expressed in Indonesia's national motto *Bhineka Tunggal Ika* – Unity in Diversity.

Pancasila and *Bhineka Tunggal Ika* have become the spirit for the Indonesian people to keep harmony and peace in living together. Together with 1945 Constitution, Pancasila guarantees religious freedom in Indonesia.

2. Contemporary Challenges

The greatest challenge for the country is communal conflicts which happen every where – clashes between rival villages, clashes between ethnic groups, and clashes between religious groups (especially between Christians and Muslims, known as SARA (*Suku, Agama, Ras,*

dan Antar-golongan – ethnic groups, religions, race, and classes).

The most tragic one was the clash between Christians and Muslims which occurred in Ambon and other parts of the Maluku archipelago, where previously the people had lived together peacefully for a long time, making it a symbol of peace and harmony between the two religious groups. More than 700 people were reported killed during the clashes at holy season both for Christians (Christmas) and Muslims (Ramadhan) from the end of December 1999 until January 2000. It was the latest communal bloodshed that had rocked the Maluku for more than a year, killing more than 2,000 people [2].

During religious conflicts, many houses, churches, mosques, and Christian and Muslim schools were burned or closed. According to the Indonesian Christian Communication Forum (FKKI), under Soekarno's government there were only two churches destroyed, during Soeharto's regime there were 456 churches destroyed or burned, while during the one year of Habibie's government there were 153 churches destroyed or burned [3]. These tragedies has continued under President Abdurrahman Wahid, Megawati and Susilo Bambang Yudhoyono, even until now, under Jokowi's presidency. During the era of President Abdurrahman Wahid, 232 churches have been closed or damaged; in the era of president Megawati Soekarnoputri, 92; in the era of president Susilo Bambang Yudhoyono, 108 [4].

Related to this challenge is another most fundamental challenge to restore the rule of law. The police and legal institutions have been corrupted. Almost the entire legal system is in need of rebuilding. Corruption, military excesses, mob violence, vigilante law, communal conflict, insecurity of person and property will not be alleviated without thorough-going reforms to restore the rule of law. However, the barriers in the way of such change are great, including tainted judges and police, and large amounts of money in the hands of corruptors [5].

Islamic radicalism has emerged, due to the government's failure to enforce the law and to resolve social ills such as ethno-religious conflicts, increase crime, rampant corruption, widespread drug abuse and the corruption of the police [6].

Many are new groups. Some observers assert that these groups have been sponsored, or at least helped by certain circles of the Indonesian military. They are led by people of Arab, particularly Yemeni origin, like Habib Rizq Shihab, leader of the FPI (Islam Defenders Front), Jafar Umar Thalib, a former leader of the now defunct *Laskar Jihad*, Abu Bakar Baasir of the MMI (Indonesian Council of Jihad Fighters) and Habib Husen al-Habsyi, leader of the JAMI (Jamaah al-Ikhwan al-Muslimin Indonesia). These groups share a literal interpretation of Islam and claim that Muslims should practice only *pure* Islam as practiced by the Prophet Muhammad and his companions, or Salaf. Thus, they can be included among Salafi activist movements that attack discotheques and brothels. They also take a militant view of jihad as *holy war* against perceived enemies of Islam rather the mainstream view of jihad as meaning 'exerting oneself to the utmost' in Muslim activities, with war as a last resort.

Since last year, the Islamic State movement has emerged as the main jihadist group in Iraq and Syria (ISIS). The brutal reputation of ISIS fighters on the battlefield have further inspired radical-minded individuals seeking instant outcomes and combat experience to join the notorious terrorist group. In Indonesia, the operational dynamics of ISIS have had a profound impact, radicalizing local Muslim youths and drawing many to the conflict [7].

According to the latest official estimates, at least 500 Indonesians have joined either ISIS or other militant groups. They travel to Iraq and Syria for various reasons, including fighting the authoritarian regime and eliminating the Shiite population. They are potential leaders of future terrorist cells in the country. This further suggests a potentially growing relationship between ISIS and local militant groups.

Despite significant improvements in counterterrorist capabilities, Indonesia has not made meaningful progress in de-radicalizing home-grown militants and terrorists. The country's lack of de-radicalization programs means its security architecture is ill-prepared to anticipate the future threat of returning Indonesian militants and the further expansion of violent ISIS ideology.

3. The Need of Multicultural Education

The current social problems such as student and youth clashes and other forms of radicalism throughout Indonesia show the social ill, namely the lack of sensitivity and respect toward other people from different groups.

Social conflict and religious disharmony in particular are a challenge for educators in doing their best to prepare the next generation as democratic citizens with good character.

To realize this goal, religious harmony should be developed at school at as early an age

as possible. It is most urgent that we promote creative and innovative programs to support positive civil discourse among students [8].

In a multicultural setting, students come from different ethnic, religious and social backgrounds and their mindset is dominantly shaped by those backgrounds. School programs should deliberately facilitate peer interactions to develop positive civil discourse.

Ideally a policy should be enforced whereby schools are staffed by teachers and personnel of different religions, ethnicities and from different social groups. The campus should also provide places of worship for students of all religions. Students will learn how others perform religious rituals. And this would be an effective form of religious education within a multicultural school setting.

The traditional way of teaching religion has been criticized for emphasizing theological and ritual aspects, while ignoring the social aspects, namely horizontal interactions and tolerance among followers of different faiths.

Therefore, we need to reform our education. As part of its concerns about the real threat against pluralism, multicultural education is the best method to cope the problem. The discourse on multicultural education was voiced in an effort to counteract growing radicalism in the country and to instill a sense of inclusiveness in the young generation. When effectively implemented in a pluralistic society, multicultural education provides the opportunity for young and adult learners to learn fundamental principles that help them critically evaluate and respond to what they see and experience as they live in a multicultural society [9].

These principles include learning to have social skills important for interacting with students from other racial, ethnic, religious and cultural groups; learning to understand universal values shared by all cultural groups such as compassion, justice, equality, tolerance, peace, freedom and care; learning about possible stereotypes and other related bias that could produce harmful effects on racial, ethnic and religious relations.

What is multicultural education? In the next section, I will explore the principles of multicultural education.

4. Multicultural Education

Multicultural education is “an approach to teaching and learning that is based upon democratic values and beliefs and that affirms cultural pluralism within culturally diverse societies in an interdependent world” [10]. In short, multicultural education seeks to embrace, recognize, and incorporate a multitude of diverse cultural experiences and contributions into the curriculum. Multicultural education thereby provides a vehicle for teaching citizenship to students.

The basic principles of multicultural education offer a way to weave in the ideals of citizenship. Specifically, there are three reasons why multicultural education should be used to teach citizenship: (a) it offers a way to equalize education for all students; (b) it helps students to understand their responsibility to society; and (c) it teaches students to respect the human rights of others [11].

According to James A. Banks, the founder and leading proponent of multicultural education, multicultural education includes five dimensions: (a) content integration: the teachers use cultures in their curriculum; (b) knowledge construction process: the teachers help students to understand the various frames from which knowledge is constructed; (c) prejudice reduction: action or activities that teachers use to help students develop positive attitudes toward difference; (d) equity pedagogy: teachers' modification of instruction to facilitate the academic achievement of students from diverse backgrounds; and (e) an empowering school culture and social structure: school culture that promotes equity and empowers its multiple stakeholders to participate in the examination and reform of school practices. In sum, multicultural education is a field of study designed to increase educational equity for all students [12]. These dimensions, conceptualized in teacher behavior, focus on the selection of multicultural curricular content, the implementation of culturally mediated instruction, and the creation of an empowering classroom context [13].

5. Building Up the Indonesian Civil Society

Multicultural education functions to build up a civil society. The civil society has universal values, whereas for Indonesia it has special characteristics due to its diversity of cultures, race and religions, and its population spread over thousands of islands with serious communication problems. Multicultural education plays a very strategic role in building up a democratic, well-informed and tolerant Indonesian civil society.

Based on the Hamburg Declaration on Adult Learning (1997), some principles that are relevant to build an Indonesian civil society are

as follows [14]: (a) *education for all*: all members of the society are demanded to be involved and not only just a small group or only just implementing compulsory education for the younger generation; therefore, multicultural education should be developed and enjoyed by all strata of the society; (b) *empowerment of people* to create an independent society, which is not only a society that is free to think, and free to express its opinions but also a society that requires rich and broad information so that mutual understanding and respect will emerge; (c) *a flexible program*: a program that responds to the need of the society; (d) *open to globalization*: multicultural education must give a change to the building of the Indonesian society which has a global perception so that they can live harmoniously in a competitive open world.

6. A New Paradigm in Education in Building Up Indonesian Civil Society

We need a new paradigm in education to build up Indonesian civil society. Some strategies to build national education, based on multicultural education, are as follows [15]: (a) education from, by and together with the society: education must respond to the need of the society, the society is not an object of education, but actively participates in educational programs; the society is involved in the program; (b) education based on national culture which is grounded on local cultures; (c) the process of education is the process of hominization (to educate human beings to be independent) and the process of humanization (to educate human being to be responsible to oneself and to well-being of the society); (d) education of democracy; (e) the institution of education must concretize the values of democracy; (f) decentralization of the national education.

7. The Goals of the National Education

The goals of the national education based on multicultural education are as follows [16]:

(a) *An attitude of democracy*: the national education must form the students to have dignity, rooted in local culture, to have identity as Indonesian nation with *bhinneka* characteristic, and to have an attitude of democracy, such as to have creativity and freedom to speak up opinion, to have different opinion, to value a better opinion of others; this democracy climate must be integrated in the learning process, thus, there is no place for an autocratic teacher or lecturer.

(b) *An attitude of tolerance*: the characteristic of *bhinneka* in Indonesian cultures demands an attitude of high tolerance to each citizen. This attitude must be supported by all Indonesian people to build a harmonious society with variety of religions, ethnics, cultures, full with new ideas. Besides an attitude of tolerance, we also need to develop an attitude of compromise.

(c) *An attitude of understanding to one another*: in a democratic society, different opinions are high valued to build a society that has a wide and rich horizon. Therefore, our national education must be able to develop knowledge and experience of *bhinneka*. Local cultures must be developed and strengthened to become elements to build national culture. An attitude of understanding to one another can be enhanced only if there is free and intensive communication among citizens and inter-ethnics.

(d) *Having good moral, strong faith and piety*: the Indonesian society with its variety of cultures has characteristic as a society with strong faith. Indonesian people are very religious. Variety of religion and belief demands the attitude of tolerance and understanding to one another. Religious education in the system of national education, therefore, has function to reinforce a spirit of tolerance and understanding in living together.

(e) *Having global horizon*: global society is marked by the progress of Information and Technology (IT) and free trade. It gives occasions and challenges to Indonesian people to develop science as well as skill to overcome problems caused by globalization, like poverty, regionalization, polarization, marginalization, and fragmentation. Therefore the national education ought to have a vision to empower the people to have capacity to face the challenges of globalization.

8. Conclusion

The fact that there are many ethnic groups, many diverse cultures and a variety of religions and beliefs in Indonesia, becomes the foundation to develop identity of the Indonesian nation. Amidst the rising of Islamic radicalism that causes conflict between ethnics and religious, we need to develop multicultural education, which should become part of developing our national education.

Multicultural education will help each Indonesian citizen to develop an openness and inclusive attitude so that we can live together in

harmony and peace and work together in building the Indonesian nation towards Indonesian civil society.

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THE IMPLEMENTATION OF BLENDED LEARNING AS A INTRUCTIONAL STRATEGY TO LEARNING OF CNC PROGRAMMING

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Abstract

Learning CNC has been done with face-to-face, with the physical presence of teachers in the classroom. The strategy used is direct instruction.

CNC learning with direct instruction strategy thus has drawbacks; (1) the learning activity is centered on the teachers so that students tend to be passive, (2) instructional time provided much taken to discuss the theory/ concept that less provide to apply the concept to solve the problems; (3) can not individually learning, and (4) most of the students have not been able to achieve the learning objectives.

Weakness of CNC learning with direct instruction is repaired by blended learning approach, that combines between face to face and online learning. The essence of online learning is the use of technology to expand and improve the self-learning opportunities for students, which is aligned with the face-to-face learning approach. The CNC learning using blended learning, teaching materials can be downloaded online and learn yourself by learners at home or outside the classroom. Mastery tests, can be done online by learners at home, and test scores as feedback can be directly obtained learners. Activity of students in the classroom is to practice completing tasks such as troubleshooting of NC programming. Activities of a teacher, focused on giving assistance learners to practice and expanded transfer, or completing of problem solving.

Keywords: CNC programming, learning strategy, blended learning

1. Introduction

In the past decade there has been a major change in the way people store and access information. Changes, mainly driven by the development of computers and digital technology. In education, the development of computer and digital technology, encouraging educational reform, including the use of computer technology in the learning process, such as the Computer Assisted Instruction (CAI), for presentation of teaching materials and information in the form of images, texs, graphs, simulations, animations, exercises by providing immediate feedback and individualized learning. Computer technology also helps the process of learning, from teacher-centered, to the learner-centered.

Related efforts to improve the quality of learning, observations are intended as a preliminary study on the subject in the learning CNC in the Department of Mechanical Engineering Education FT UNY. obtain preliminary information; (1) The students' competencies, is not optimal; (2) the number of CNC machines as a learning tool, it is not comparable with the number of students, (3) study conducted by face-to-face learning model, using a direct instructional strategies; (4) learning is done in groups, a CNC machine used by an average of 4 to 5 students.

Results of Lesson Study in learning CNC identified a number of problems, including mostly students, decreased concentration and interaction with learning resources when learning is still going on. Based on discussions with the teaching team / colleagues involved in lessson Study, note that the decline in both cases is due to the application of learning strategies, especially in group learning strategies. CNC learning using learning strategies as a group, have an impact, including the distribution of responsibility for completing the task of preparing the NC part program, and the time to practice the operation of CNC machines among students, are not distributed evenly. Many occur, only one student in a group active in doing the task, other students because they feel no / less

capable, less confident, tend to be passive and be entrusted to friends in the group to complete the task of learning.

Distribution of responsibilities, allocation of time and the opportunity to interact with learning resources between students in one group, is different. It thus led to the acquisition of the experience and capabilities of each student to handle the operation of CNC machines, such as the ability to prepare the NC part program, input an NC program, set the machine and cutting tools, run the part program on a CNC machine, and revising the NC part program, are also different. Students who are active in the group will get more chance to interact with learning resources that have much more experience and a better capability, to handle the operation of CNC machines. Students who are less active and more handed the task of preparing the NC part program and operate the CNC machine to friends in the group, much less the gain learning experience in dealing with the operation of CNC machines, so the ability to handle CNC machines tend not to achieve specified learning objectives.

The emergence of the problem, that not all students can achieve competency standard CNC programming, an indication, CNC learning with face-to-face learning methods and practice in groups, less effective. Root of the problem is. time allocation, task completion responsibilities are not distributed evenly among group members. They have individual abilities and potential in learning, is different.

Efforts to improve the quality of learning, so that each student achieve the expected learning outcomes, the allocation of time to interact with learning resources, and responsibilities in the completion of tasks should be distributed evenly to all students, according to their individual abilities. To that end, the learning CNC must be done individually, should provide experience to prepare NC program to every student, and encourage students active, independent, and are fully responsible for the learning tasks that must be completed. Hopefully, all the students were able to achieve the learning goals, which are competent in preparing the NC program, and operate CNC machines.

To create individual learning CNC, done by applying blended learning approach, which is an approach that combines face-to-face learning which tends teacher centered, with an integrated online learning with computer assisted learning which tends student centered. CNC learning with face-to-face is learning with teacher presence in classrooms, directly using CNC machines, but because of the limited number of CNC machines, not all students could be in the CNC machine. Students who do not get a chance to be in the CNC machine, given exercises to prepare NC program using computer-aided media (virtual CNC), so that the face-to-face learning here is done by computer assisted learning.

Problems in the implementation of blended learning approach that combines face-to-face learning, online and computer assisted learning in the learning CNC, is;

(1) whether brended learning approach to learning CNC, able to improve learning outcomes in subjects CNC,
(2) how the pattern of implementation of blended learning approach, can improve student learning outcomes?

According to Graham in Taina Joutsenvirta & Liisa Myyry [4], the essential definition of blended learning, is to combine, between face-to-face learning and computer assisted learning or computer-based learning. While Bleed, [4] the blended learning is seen as an opportunity to redesign the development of learning materials, schedules, and the provision of education that combines, between learning physical and virtual or "bricks and clicks".

According to Purnima Valiathan in Gray Harriman [3] blended learning combines online learning with face-to-face learning. Blended learning is able to provide a learning experience that is most efficient and effective by combining two or more modalities (media) delivery. The term blended learning, used to describe a solution that combines several methods and different delivery media. Blended learning is also used to describe, learning that mixes various event-based activities, including face-to-face classrooms, live e-learning, and set their own course of study.

In a paper presented at a national seminar Sukartawi [6] by quoting the opinion Semler argued, that blended learning is basically combines the advantages of a variety of learning techniques into a learning activity to achieve a certain goal. According to Semler in Sukartawi, blended learning is to combine the best aspects of on-line learning, structured activity of learning with face-to-face, and learning practices in the

real world. On-line learning system, learning in the classroom, learning through work experience, each has its own weaknesses. Blended learning approach has the advantage in this case could be used to overcome the weaknesses of each of these approaches.

Publications University of Wolverhampton [7] states that blended learning at the University of Wolverhampton is an approach to learning and teaching that combine and harmonize, learning approaches conducted in face-to-face sessions, with the opportunity to learn made online. The essence of the application is the use of technology to expand and improve learning opportunities for students through the provision of tasks and materials that enrich, and in harmony with the face-to-face learning.

In the opinion of Christensen, Horn, and Staker [2], blended learning is a formal course that learners learn by: (a) partly through online learning, with time, place, order, and the speed is set learners themselves; (b) partially supervised study in a building away from home; (c) provide an integrated learning experience according to the characteristics of learning of each student. Further described by Christensen, Horn, and Staker, blended learning emerged as one of innovation, combining strategy / learning model, which is relatively a further innovation for learning in the traditional classroom. This combination is an effort to present the best of the two strategies / learning models, namely the advantages of online learning combined with the advantages of learning in a traditional classroom.

From the expert opinion that has been described, Blended Learning least noted there are three kinds of sense seen from the elements or components combined, namely; (1) blended learning as learning that combining or mixing media, tools and technology, activities or types of activities that are selected to optimize a learning activity, (2) blended learning combining or mixing different learning methods within an activity learning, and (3) blended learning, which mixes or integrate between online learning and face-to-face learning.

In blended learning which combines online learning and face-to-face learning, according to the Sloan Consortium [5] will effectively and efficiently reduce the time to learn if the proportion is 30 compared to 70, which means 30% for online learning, and 70% face to face. Online learning is mainly used to deliver learning materials (content) which is more theoretical, conceptual which will be discussed and applied in a face-to-face learning. Thus, in blended learning, made possible once the application of the concept of both physical and in virtual form.

Thus, the definition of blended learning in this research is learning that combines the use of various media, tools (technology), activities, methods / strategies, the implementation is done by combining online learning and learning between face-to-face (F2F). The proportion between online learning, to deliver content learning materials, and learning face to face around 30%, and 70%.

Blended learning objectives, according to Bleed, and Garnham & Kaleta in Joutsenvirta and Myyry [4] is as an opportunity to design / redesign the development of learning materials, schedules, and the provision of education that combines physical and virtual learning. Learning program was redesigned to combine the best features of a face-to-face learning in the classroom with the best features of online learning, to increase opportunities for students to actively learn the instigation or orders from within ourselves flexibly, which makes the students learn independently.

Based on the definition and purpose, it can be seen that the blended learning approach has the characteristics or special characteristics, which makes different with other approaches. Some characteristics or specific traits are linked to; (a) learning approach, which is to give learners the opportunity to set their own course of study; (b) strategy / learning model, which is a strategy that mixes various event-based activities, including face-to-face in the classroom, and live e-learning, thus providing meaningful learning experiences; (c) media for delivery of materials and other learning resources which can be a stimulus to create internal learning processes, and (d) the evaluation, in this case includes cognitive, psychomotor (skills), and affective.

In a blended learning approach, particularly with regard to the implementation of online learning, e-learning, and other computer assisted learning, such as the practice of preparing the NC program using the Virtual CNC software, demanding the fulfillment of certain conditions. These requirements, should be prepared and filled in advance, before the blended learning approach is applied, both involving facilities /

infrastructure and support skills that must be owned either by lecturer and students.

Requirements related to the facilities / infrastructure includes among others; (A) a computer (personal computer / PC, or laptop), which can be connected to the internet either via cable or WIFI, which is available in the classroom / laboratory with considerable amounts, one student one computer or a computer owned by the students themselves (b) Internet network that can be accessed easily and quickly using both wired and wireless LANs at any time, and at the same time by all students. In addition to the requirements of facilities / infrastructure, faculty skills also required to (a) develop and prepare instructional materials to be presented in e-learning; (B) use of e-learning software, for example software beSmart; and (c) developing the LMS (Learning Management System). While a student must have the skills to access the internet, familiar, well skilled login and logout activity to enter in various blogs and websites, and it would be better if it has a computer.

2. Discussion

Blended learning approach has the theoretical and empirical support for the tradition and the rationale for the implementation of blended learning, namely behaviorism, the theory of social learning, individual learning, and constructivist. Behaviorism theory underlying the teaching activity, that; (1) in learning, teachers must submit behavior can be measured and observed to be learned by learners; (2) teachers must give feedback, reinforcement, and rewards to students who have been selected are able to meet the specified behavior. Social learning theory underlying the learning activities that require teacher must give a demonstration to show the units of basic skills that must be followed or imitated by learners. Individual learning is the basis for teachers to prepare teaching materials and online exercises that can easily be accessed and studied by students, and can provide immediate feedback, the mastery and understanding of teaching materials, after the students do exercises and mastery tests. While the constructivist theory, the underlying teachers to provide experiences for students to learn to experiment, practice to apply the knowledge that has been held on practice learning activities using a software simulation, and learn to solve a problem if there is a mistake in practice the application of such knowledge.

Syntax or steps blended learning approach, composed proportionally follow the recommended ratio Sloan Consortium, which is 70% face-to-face learning, the remaining 30% of online learning and computer assisted learning. However, the distribution of this percentage can not be regarded as a formula that applies equally to all learning, for all fields of study, because the reference is essentially a match between the needs of the use of face-to-face and online, as an effort to achieve the learning objectives. Syntax / steps blended learning approach is as follows:

The first step, preparing learning materials for independent study, which will be presented online, utilizing e-learning system that has been developed. Presentation of learning materials so arranged, the order follows the pattern of the presentation on direct instructional model [1], which is a model of the face-to-face learning, which is applied to the learning CNC. Submission of material arranged in the order; (1) The presentation of teaching materials to improve motivation, including the presentation of pictures of the products are done with CNC machines, followed by a mild question about the product, and write the learning objectives; (2) the presentation of learning materials that are explanatif and elaborative to improve understanding of the theory or concept and basic knowledge of CNC programming. Material is presented in a verbal format (text), and pictorial (visual) such as images, photographs, animations, and video; (3) the presentation of material which is demonstration, to show an example of the application of theory or concepts, and demonstrate or present a step-by-step skill correctly; (4) the presentation of material to practice applying the theory or concepts, materials are made in the form of the question or task to be completed student; (5) develop tests, to check for understanding and providing feedback.

The second step is to upload learning materials that have been prepared, in order to be accessed and downloaded students with e-learning, and record all interactions of students with learning resources in e-learning. All forms of student interaction with learning resources e-learning must be recorded, so it can be known and ascertained, that the learning materials can be accessed by all students participating in

lectures CNC, including feedback to the learning outcomes are achieved.
The third step, it is face-to-face learning in the classroom. Its activities are guided practice. In this step, lecturers guide students in practice in preparing simple NC program, which is the practice of applying the theory of NC programming, to be arranged as a sequence of machining operations in the form of a command code, which can be read and executed by a machine.

The fourth step, is to check the student's understanding, .and provide feedback. Lecturer gives individual assignments to students to prepare NC program, and check the students' understanding in preparing the NC program. Lecturer provide feedback to students, select students who have reached an understanding to be given reinforcement.

The fifth step, is giving practices and expanded transfer. At this step lecturer assigns an expanded practice, the transfer of skills, applying skills already possessed to a more complex situation. This is done with the practice of problem-solving, which encourages mastery of metacognitive knowledge. Lecturers give assistance to students, the practice of preparing more complex NC programs, and about troubleshooting NC programming.

Syntax blended learning approach as described, showed that the blended learning approach, learning activities become more done by the students themselves (student centered), both corporately and individually. At home or elsewhere outside of the classroom, students learn the theory, concepts and basic knowledge of NC programming, with self-learning materials, which can be obtained through online (e-learning). In addition to the learning materials, tests of mastery, has also been prepared by lecturers, students must answer the mastery test, as well as online.

In the face-to-face learning sessions, classroom activities, a lot of practice in preparing for NC program, and practice to operate the CNC machine, because the learning materials that are the theories and concepts, students have learned independently, through online learning or e-learning. In the classroom, lecturer is a consultant, which provide assistance to students in doing tasks, such as tasks on guided practice to prepare NC program, independent practice to prepare NC program, and the practice expanded in preparing the NC program.

Learning activities in a blended learning approach, as is flipped learning activities (flipped learning). In conventional learning, studying the theory and concepts of activity is usually performed by students in the classroom through the elaboration and explanation by the lecturer. However, in blended learning, the activities carried out at home or outside the classroom, using a self-learning materials that can be obtained through e-learning. On the other hand, practical activities were expanded, in conventional learning usually given as homework (PR) to be done at home. In the study using a blended learning approach, Homework (PR) is done in the classroom and conducted with the assistance of lecturers.

Learning CNC using blended learning approaches, making the allocation of more time to practice the exercises prepare NC program and operate CNC machines, because learning to understand the theory, worked out by students independently at home through online learning. In class, the portion of the learning activities are more centered on the student be increased. This is important, because it makes the students have more time to interact with learning resources, so as to obtain a lot of learning experiences necessary to achieve the learning objectives, ie able to develop a the NC program, and able to operate the CNC.

In addition to the time to interact with resources to learn more, learning motivation of students is also high, especially when students are involved in the problem-solving effort NC programming, for example, solve the problem of error toolpath. Student motivation and concentration to find the source of the error, make improvements NC program, and undertake execution NC program to determine outcomes improvement, looks very high. Students often forget that learning time is up, so it's time to close or terminate the learning is often too late.

Classroom atmosphere or climate encourages all students to engage actively and intensively interact with learning resources. Class activities, many filled with discussions and collaborative activities between students and lecturers, and students with students. They are actively involved in problem solving NC programmers fix errors that occur. Conditions such as this class is very good and expected. At

the end of the study, the results of summative tests known that all students successfully achieve the learning objectives have been determined, which is able to prepare an NC program, and able to operate the CNC machine tools properly. Thus it can be said that the learning CNC using blended learning approach can improve the quality of teaching and student learning outcomes.

3. Conclusion

Based on the description of implementation steps on blended learning in the CNC learning proces that have been explained, it can be concluded that;

1. Blended learning is learning that combines the use of various media, tools (technology), activities, models, methods and strategies. The implementation is done by combining between online learning and face-to-face learning (F2F). The proportion between online learning content to deliver learning materials and learning face to face around 30%, and 70%. However, the distribution of this percentage cannot be viewed as a proportion that applies equally to all learning subject, for all fields of study, because it is essentially a reference to the suitability of the need to use face to face and online in achieving the learning goal that have been determined.
2. Learning actifities in blended learning approach, as if flipping learning activities (flipped learning). In conventional learning, students' activity to learn the theory and concepts held in the classroom through the elaboration by the lecturer. In blended learning, the activities carried out at home or outside the classroom, through teaching and learning with e-learning. Homework which is usually done at home, on blended learning approach, homework is done in the classroom with the lecturers' guidance.
3. In blended learning approach, the process of learning is mostly done by the students themselves, (student centered). Students learn the theory, concepts and basic training NC programming path through self-learning materials that can be obtained through online (e-learning) from their own home or any other source outside the classroom. The students also fulfil the mastering of materials test online from their own home. In the face-to-face session, many classes of activity filled with practical activities such as practice to preparing NC programs and to operate CNC machining practices, Lecturer act more as a consultant, mentoring students in doing their tasks in the classroom.
4. Learning CNC using blended learning approaches, make the time allocation to practice the exercises prepare NC programming path and operate CNC machines, as learning activities centered on the student become more numerous, the students acquire their necessary learning experiences to achieve learning objectives more. In addition, students' motivation is high, especially when students are involved in the effort of problem-solving NC programming.
5. Class activitiy is filled with a lot of discussion, and collaboration between students and lecturer then students with other students, in problem-solving NC programming path task. All students successfully achieve the learning objectives that have been determined, which is able to preparing a NC programming path and able to operate CNC machine tools properly.

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INNOVATION IN THE IMPLEMENTATION OF HIGHER EDUCATION

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Study of the Use of E Learning as a Marketing Communications Strategy of Private Higher Education Institution in Indonesia
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Abstract

The competition between higher education institutions in attracting prospective students increased as the height of a higher education institution that stands today. Each race each other educational institutions improve educational facilities and infrastructure facilities, improvement of the curriculum, the quality of human resources, collaborate with outside agencies, to emphasis the cost of education. The increase in the facility includes the application of e learning in the implementation of the course. E learning application provides convenience and flexibility in teaching and learning activities. E learning facility allows students to follow the course without having to come to the class; making it easier for the students who are constrained by time or activity and geographical distance to campus.

This paper is a study of innovation in educational research methods to identify learning facilities used in the provision of education and educational research review from the perspective of communication. Therefore, exposure of marketing communication strategies using e learning in the lecture as an attraction for students, consumers of higher education institutions.

Using a mixed method research methods, quantitative and qualitative, with a survey of students and then depth interviews with managers of private universities implementing e learning programs in Indonesia. At the time of this abstract was written, research is still held in Jakarta and will soon be carried out in Medan (representing the western region) and Makassar (representing the eastern region of Indonesia).

Our preliminary study, in the region Kopertis III (2015) resulted in findings that e learning can be partially marketing communications strategies for PTS. That is, the application of e learning as a teaching and learning method improves the PTS opportunity to be selected as a college by students.

The findings of this study contribute academically useful insights and references regarding the review of educational research through the concepts of marketing communications. As a practical manner, the findings of this study are expected to be a recommendation for the management of other private universities in shaping the marketing strategy of the institution

Keyword: e learning, innovation, education Research

1. Introduction

The competition between higher education institutions in attracting prospective students increased as the height of a higher education institution that stands today. Each race each other educational institutions improve educational facilities and infrastructure facilities, improvement of the curriculum, the quality of human resources or the setting of teachers should also be improved, cooperating with outside agencies, to cost reduction be rethought, all these things be done with to be able to attract prospective students to join higher education institutions.

Facing the competition between universities, one of the ways in which the college is to create a learning strategy. Learning strategy is one of the factors that influence the achievement of learning. Strategic of competence has been progressing quite rapidly along with the development of information and communication technology (ICT).One of them is e-Learning. E-Learning has even become a necessity for academicians, considering both lecturers, students and educational institutions have made use of computer technology in the process of teaching and learning activities.

Strategy paradigm change from teacher-centered learning to learner-centered encourages academicians to use e-learning as a method of

learning is perceived to be learner centered. Utilization of e-Learning is expected to motivate the improvement of the quality of learning and teaching materials, the quality of the activity and independence of the students. e-Learning can also be used to overcome the limitations of the classroom as well as the barriers of distance and time, in the implementation of teaching and learning activities. (UMB, 2009)

In connection with the issue of marketing communications private colleges with multimedia-based teaching practices have been carried out, other than in the context of the development of information technology and alternative models of e-Learning models. It also as one of the strategies undertaken by the PTS in Indonesia in attracting prospective student interest .Where the existence of this model attracts students because of this learning model in value very effective because it can be done anytime and anywhere.

Based on the results of research conducted Siti Komsiah (2005) on Mercu Buana University, shows the importance of marketing communications PT to get students and able to compete with other PT. The results showed there is a real connection between marketing communications with attitude selecting students primarily on indicators of exposure to newspapers, magazines, letters and total advertising campaign with loyal to PTS choice. Similarly for marketing communications via the website, promotional letters and exhibition stand is also associated significantly with attitude choose.

Based on the above background, this study is intended as an analysis of the marketing communications mix applied by the PTS (Perguruan Tinggi Swasta, Private Higher Education Institution) to see marketing programs that have been implemented, and how the development of information and communication technologies are utilized by private universities through e-learning models to be one decoy for prospective students.

2. E LEARNING EFFECTIVENESS AS A MODEL OF LEARNING

E-learning is a type of learning that allows instructional materials delivered to students by using the internet, intranet or other computer network media [Hartley, 2001]. E-learning is an education system that uses an electronic application to support the teaching and learning with the Internet media, computer network, or standalone computer [LearnFrame.Com, 2001]. Rosenberg (2001) emphasizes that e-learning refers to the use of Internet technology to deliver a range of solutions that can improve the knowledge. This is similar to Campbell (2002), Kamarga (2002) which essentially emphasizes the use of the Internet in education as the essence of e-learning . Purbo (2002) explains that the term "e" or an abbreviation of electronics in e-learning is used as a term for any technology that is used to support the efforts of teaching via the internet electronic technology. Or e-learning is defined as follows: e-Learning is a generic term for all technologically supported learning using an array of teaching and learning tools as phone bridging, audio and videotapes, teleconferencing, satellite transmissions, and the more Recognized or web-based training computer aided instruction Also commonly Referred to ‘online courses’.

The effectiveness of e-learning can be viewed from a variety of things depending on the objectivity of the company in implementing it. Based on research by Tom Barron (2003) LOD: Quality and Effectiveness Survey, companies measure the effectiveness of e-learning: the number of trainees, cost savings, learner assessment / testing, ROI analysis, learner self-reporting, customer satisfaction, manager / mentor reporting, bottom-line gains, and others. Furthermore Barron (2003) examines how companies determine the quality of e-learning, namely from: learning effectiveness, learner experience, cost-efficiency, technical implementation, and others.

In term of effectiveness, Morrison (2003, p.49) draw conclusions from several studies that: "According to research, the worst case scenario is that e-learning is as effective as traditional face-to-face classroom learning; the best case scenario, the e-learning that delivers significant advantages to the learner-both in the quality of learning and the level of performance that results. "

Larry G. Moyer found when learning occurs, and then there is a change. Changes can be made in attitudes, ways of thinking, beliefs and customs. Thus, to understand the effectiveness of our need to understand the extent of the changes that may have occurred or which can be measured (Moyer 2005). The same thing expressed by Stuart Emmett (2003) effective learning will produce change. However, effective learning requires encouragement and support from colleagues, supervisor or mentor, as well as the supporting environment. Learning process involve knowledge, skills, motivation, and application. Motives necessary for us to do

something. Including, innovation on these processes.

Previous studies of innovation decision-making have been limited in their ability to understand the adoption of innovations by three factors: (1) they often lack the perspective of the potential adopter, (2) they lack a recognition of social and contextual structures inherent in the environment, and (3) they do not address the possibility that the adoption of one innovation can be contingent upon its relationship to another innovation. Identifying and understanding teachers' goals and beliefs is critical to creating a evaluative analysis of reform efforts in education. Researchers have primarily understood innovations as independent variables; however, once they enter the classroom, the innovations become part of a complex system of social and pedagogical interactions. Finally, previous studies on innovation adoption have not considered innovation as a goal-based process that is impacted by or contingent upon other innovative aspects in the research environment

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A REFLECTION FROM ENGLISH AS A FOREIGN LANGUAGE (EFL) CLASSROOM OBSERVATION RESEARCH

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Abstract

In an effort to improve teaching and promote student learning, classroom observation is frequently used to assess what takes place during a teaching-learning process by which some kinds of improvement are recommended. The importance of classroom observation requires researchers to understand and implement essential principles before, during, and after observation. This paper is expected to provide teachers and researchers with inspiring ideas and best practices required for further development.

From observation research into EFL teaching, there are a number of issues which need special attention from English teachers and researches. *First,* it is important to confine the aspects or dimensions of teaching highlighted in an observation. Assessing many points of teaching in an observation session is almost impossible to carry out. *Second,* it is absolutely demanded to undertake intensive literature studies and review relevant research in greater depth. As far as Communicative Language Teaching (CLT) is concerned, there are persistent disagreements and debates on basic concepts such as communicative competence, authenticity, fluency versus accuracy, pair work and group work, and classroom interaction. It is even very important to comprehend misconceptions, including those in CLT underlying a wide variety of practices in different parts of the world. *Third,* it is strongly suggested to examine the failure and success stories of the implementation of CLT in several countries so as to make sense of similar situations in Indonesia. *Fourth,* it is essential to give systematic training to observers and researchers so that professional development on the one hand and student learning on the other hand finally can be accomplished.

Keywords: observation, communicative language teaching (CLT), English as a foreign language (EFL), professional development

1. Introduction

This paper comes from my research study on the effective teaching of English at Vocational Secondary School (VSS) in 2013-2014. In the study, classroom observation was employed to observe teaching behaviors of three English teachers at three different schools. English classes of Hospitality Program at the three schools were chosen as the objects of the study. VSS is a three year school in Indonesia designed for those who intend to enter the world of job or continue further studies at tertiary levels upon completion.

2. Background

In addition to its traditional use for evaluating teachers, classroom observations are also employed in staff development programs and observational research. Observation is also believed to be able to give important feedback and enhance teaching effectiveness in a comprehensive way. Basically observation has four purposes: development, training, evaluation, and research. Who will be involved in the observation—observer and observed teacher—are determined by its purpose [1].

Various perspectives and experiences deriving from observational students are interesting to note, given that many think that they are able to the job easily. It must be kept in mind that a researcher whc conducts an observational research also serves as instrument. As a consequence, he or she must equip himself or herself with sufficient knowledge before entering the world of classroom.

3. Classroom Observation

Apart from many strengths of classroom observation to assess teaching learning process, there are also some weaknesses which might happen unless classroom observation method is well prepared and implemented by well-trained observers. Moreover, some weaknesses which come from poorly-prepared observation make many criticize even resist using this method. Among the criticisms are wasting time, disturbing classroom atmosphere, making

teacher worried and nervous, and often giving false picture of teacher effectiveness [3]. It is noteworthy that some crucial problems pertaining to classroom observation that must be addressed by researchers. First is the involvement of administrators instead of practicing teachers which makes judgmental nature is more apparent. Second is the difficulty to have systematic and objective observation due to lack of well-trained teachers and administrators as well as systematic forms or instruments. Then they inevitably serve as standards. Third is the purpose of classroom observation which tends to evaluate teachers which in turn makes them under threat. Fourth is teaching behaviors rather than teaching skill development are often emphasized in post-observation meeting. It allows to make observers 'criticize' teachers in very subjective and evaluative manners. These are undoubtedly counter-productive as teachers finally demonstrate defensive reaction [8].

The criticisms should encourage researchers to employ classroom observation method in more careful ways starting from the process of designing the research, collecting data, analyzing the data, and interpreting the findings. As far as classroom visit is concerned, teacher development including his or her much better understanding of student learning in the classroom must be taken into account [7]. Another thing to consider is enhancing teacher's capacity to assess his or her own teaching effectiveness.

What is also important in observation research is researcher's creativity in conducting observation and analyzing the data [5]. The creativity is required at least in seven aspects; labeling and categorizing process, using methodological approach from other disciplines or fields, doing "theoretical import" from other fields or disciplines, making sense of "novel methods", reporting, using metaphor, and making up unique and special structures.

In line with the above principles, there are at least five key principles that must be kept in mind for good classroom observation [2]. The first is to conduct meeting between observer and observed teacher. It is important to build trust as well as to reach agreement on some essential points such as focus of observation, context, teacher's and observer's roles, and the way of providing feedback. The second is to confine focus of observation. Without confined focus agreed on during the meeting, the observation will put the teacher as an object of 'mini judgments'. The third is to set up criteria which are negotiated before observer and teacher come into the classroom. It is likely that the established criteria is reviewed during the observation process and then renegotiated in light of the refinement of best practice definition. The fourth is to have observation skills. The skills are very crucial to prevent an observer from making judgment too easily on quickly and quickly, creating situation in which an observed teacher feels uncomfortable (lack of mutual trust and support), and selecting inappropriate observation tools which do not support data collecting. The last is to provide good and objective feedback.

Some major problems which emerge in classroom observation have to do with bias in light of familiarity between observed teacher and observer [6]. Any previous experiences and any kinds or personal relationships between them tend to result in biases which are hard to deal with. These personal aspects often affect observer's perceptions which lead to subjectivity in scoring and giving feedback. The potential biases must be anticipated. The are some strategies suggested to overcome this matter: recognizing potential influence before coming into the classroom, having independent observers to the job, establishing quality checks such the use of video and the involvement of second observers to ensure accuracy.

Further effects of observers are also noted such as change in observer's scoring over time, observer's overall judgment affected by teacher's most noticeable or apparent character which make an observer awards higher or lower a teacher deserves to get, observer's tendency to stay safe by awarding a middle rating points because of personal or institutional reasons [6].

4. Discussion

Referring to elaboration above, a lot of challenges face educational researchers employing the observational method. A number of serious actions must be taken in an effort to improve our research quality. To anticipate wasting of time, for instance, an observer must be ready with an y in struments or to ls or forms—ratings, checklists, structured narration, etc.—on which aspects to be observed are clearly stated. There are available models or patterns that can be chosen by observers before coming into the classrooms. There are also lots of observation protocols along with their strengths and weaknesses to be reviewed.

To make a comprehensive record of what happens in the classroom, the use of video is strongly recommended. It is very important to

catch the classroom dynamics and lots of details which cannot be observed at the same time. They require a relatively long time and much more careful efforts to study comprehensively.

It must be kept in mind that a lot of events involving teacher and students, including student learning and classroom atmospheres cannot be recorded by an observer and they will vanish easily. The record also allows the observers to watch and assess the classroom activities as many as they need to. The more they watch the record, the more aspects and details are assessed and recognized.

Another effort to deal with the problems which springs from the various important aspects to observe in the classroom is focusing only to two or three teaching dimensions will make an observer fix his or her attention on key aspects after a consensus is made between teacher and observer. Highlighting pre-activities and closing or questioning technique and assessing student ability to communicate in English at hotel is an example.

To anticipate that the observation will disturb classroom situation or teaching-learning atmosphere, an effective communication between a teacher and observers before and after an observation process is absolutely required. Ensuring that through the observation the researcher would much help teachers to make improvement rather than judge teacher's behaviors will make them cooperative and thereby willing to act in a natural fashion.

Communicating the purposes as well as the importance of classroom observation in terms of student learning to students is also very useful. It will lead to student cooperation to behave normally in spite of the presence of observer(s) and audio-video equipment. These finally will prevent teachers and students from being disturbed and watched by outsiders.

With regard to CLT, there are persistent disagreements over basic concepts such as communicative competence, authenticity, fluency versus accuracy, pair work and group work, and classroom interaction. Also important is to understand misconceptions underlying a wide variety of practices in different parts of the world along with the debates by experts. It is worth noting that the above key concepts in CLT are very dynamic in that they are strongly affected by various statements from research findings and best practices in different countries with different contexts.

Lack of disagreement on certain key terms and concepts make remarkable gap between two or more raters. As a consequence, sufficient inter-rater reliability is difficult to achieve. It is no guarantee, however, that training observers will dissolve this problem. Limited time for training, different educational background of trainees, trainees' prior knowledge of basic concepts and subject matter contribute to this problem. Making them understand controversial issues is a difficult job, more particularly for those who know little about related issues apart from their controversies.

5. Conclusion

A number of conclusions can be drawn from the discussion above. First, understanding principles of good observation is very urgent given that we often take part in observational activities and research. More important is making fair jugdment based on what we have observed so that an observed teacher is motivated to develop his or her teaching and to promote student learning. Second, establishing good communication between researchers as observers and observed teachers on the principle that they need each other in the collaborative work for better future. Third, keeping abreast with state of the art methodology in ELT and observation research must be viewed as interesting endeavor.

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THE EFECTIVENESS OF FLEXIBLE HOMEWORK COMPARE WITH COMMON HOMEWORK MODELS ABOUT GLB AND GLBB IN SENIOR HIGH SCHOOL

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Abstract

The purpose of this research is to find out the effectiveness of flexible homework in improving motivation and achievement compare with common homework model in the matter of : (1) students' learning result improvement (2) students' motivation. The population of this research is all students of class X SMA Santa Maria Yogyakarta. Where as the sample of this research is students of class XB (25 students) as an experimental class and class XC (25 students) as a controlling class. The data of physics learning improvement result is analyzed by using test-t. the result of this research shows that tobs > terit (197,714 > 1,684). Therefore, tobs is significant and it can be concluded that flexible homework model is effective to improve students' learning achievement in the topic of GLB and GLBB. The data analysis result of students' motivation shows that student amount in each motivation level criteria is 5 students of 20% of very high-motivation student category, 18 students or 72% of high-motivation student category, 2 students or 8% of medium high-motivation student catergory.

Keywords: flexible homework, GLB, GLBB.

1. Introduction

Learning is a series of activities and soul to obtain a change in behavior as a result of individual experiences in interaction with the environment that involves cognitive, affective and psychomotor one of them is studying physics. The fact learning physics in school, students are only given definitions, then directly to the examples, so that learners acquire only those records in the form of symbols and formulas, no application in everyday life.

Achievement is the result of efforts that have been made. Learning physics requires an appropriate strategy in order to achieve maximum results and impact on student learning achievement. Therefore, we need a method or way teachers deliver lessons in physics. One of the tasks of teachers in improving student learning outcomes physics is to apply learning through Task Homework. Where the purpose of this homework assignment is for students to keep learning at home and can use the time outside school hours.

Based on the results of interviews conducted at The Ohio State University showed that the traditional method of homework has a negative effect on the motivation of some students. Provide settlement problems after homework is collected is not so good because students feel they do not have time to learn the task given earlier because they have to work on the next task.

Therefore, the researchers developed a model where homework homework should not be viewed as learning assessment tools. By improving the quality and quantity of support for students with homework is to give a good answer of the questions given before the day of collection and give freedom to the students to be able to choose a matter-sola that they will work. Such a model is called a flexible homework (Bao, L & Stonebraker, 2002). This is what makes the researcher intends to conduct research on the development of traditional homework becomes a chore flexible.

2. Theoritical review

Homework is a learning model where the teacher gives an assignment, then the student should be accountable for the results of the task (http: //www. Metode-metode mengajar-pre-test.com). While flexible according to major Indonesian dictionary is easy to resolve themselves with the state or condition; supple.

From the above understanding both of understanding and flexible homework can be concluded that the flexible homework is a method given by the teacher to assign tasks such

as problems for the student to be able to do at home. Of the questions are given, students can choose their own questions that will be done, so that each student can work on different problems. In addition, students are free to choose whether to work on all problems or just do the problem in accordance with predetermined targets teachers.

The use of flexible models of homework is to assume that students are mature and responsible, so they want to try to understand the material and get good grades and homework should not be viewed as a learning tool assessment tool. The main purpose of the model Flexible homework is to improve the public relations function as a learning tool for students. Efforts to improve the quality and quantity of support received by students during their homework is done by giving a good answer of the questions given before the day of collection.

In physics learning requires an appropriate strategy that results achieved by students and the maximum effect on student achievement. Learning achievement is the success rate of students in influencing learning materials in schools are then expressed in the form of a score or value obtained from the test results of a number of specific subject matter.

Learning achievement in the form of value that would be obtained after undergoing tests students' learning presentation, which implemented a formal, orderly and well-planned. Value test presentation is also useful as a means of improving learning motivation. Experience shows that students will be keen to learn when to be held test.

3. Research methods

This research is quantitative research and case studies. Quantitative because the data obtained in the form of numbers and will be analyzed using statistical test-T.

The shape of the experimental method of research is composed of two classes of experimental classes and control classes. Both classes were given a pretest, followed by giving the GLB and uniformly accelerated learning. After learning the experimental class finish homework given flexible control while class was given a traditional homework. Then give the posttest to second-class matter, continued giving questionnaire. Questionnaire used is immediately closed the questionnaire, along with a statement and answer options so that respondents can just choose the answer that is considered the most in conformity with her. Furthermore, conducting interviews to students. Interviews in this research is guided interview by preparing a list of questions yag been made. The last step is to perform data analysis with analysis of test-T.

4. Research result

Data obtained from research in the form of scores of questionnaires, interviews, homework, the pretest and posttest. Here are the data of the study.

Table 1. Percentage of Students in Each Criteria Level Motivation in questionnaire scores

Category	Interval	Control (%)	Treatment (%)
Very High	81 – 100	12	20
High	61 – 80	60	72
Moderate	41 – 60	28	8
Less	21 – 40	0	0
Very Less	< 21	0	0

Table 2. Percentage Increase in scores on the pretest and posttest results Each Control Problem for a Class

Classification Weight Problem		Weight Problem	The Average Score		The Rise Score (%)
			Pretest	Posttest	
Difficult No. 1 and 2	1	15	2,16	5,16	20
	2	15	1,2	2,64	9,6
Moderate No. 3 and 4	3	10	0,88	3,6	27,2
	4	10	0,64	1,44	8
Easy No. 5 and 6	5	5	0,16	0,64	9,6
	6	5	0,32	0,8	9,6

Tabel 3. Percentage Increase in scores on the pretest and posttest results Every Problem for a Class Treatment

Classification Weight Problem		Weight Problem	The Average Score		The Rise Score (%)
			Pretest	Posttest	
Difficult No. 1 and 2	1	15	1,8	10,68	59,2
	2	15	0,6	6,68	40,53
Moderate No. 3 and 4	3	10	0,4	6,48	60,8
	4	10	0,08	4,28	42
Easy No. 5 and 6	5	5	0,08	1,56	29,6
	6	5	0,08	1,36	17,6

5. Discussion

In Table 1, the results showed that the students have a high motivation that students fall into the category of very high and high. When viewed from both classes of both classes and class control treatment, the results showed that students' motivation in class many treatments are on a score of 3 (317) with a high category. While In the control class is on 3 scores (247) in the highest category. This means that both classes have a high motivation. However, if viewed from a total score of choice in learning motivation questionnaire score of 3, class treatments have a greater amount than the control class.

It can also be based on the results of interviews conducted with flexible homework models of 6 samples taken that students who have a good value, medium, and low. Students who do well tend to choose the first work after that they match with the answers already exist. Students who scored're likely to see an answer there is to know the ways of the process and then try again to do it themselves, but there is also the work first and then match the answer is no. Students who scored low tend to directly copy the answers.

In Table 2, about the numbers 1 and 2 (categories difficult) showed that students in working on an increase of 14.80% by using the model of regular homework. Problem 3 and 4 (medium category) showed that the ability of the students in working on an increase of 17.60% using the usual model of homework. Students' ability to work on the problems in the category of easy (about 5 and 6) increased 9.60% by using the model of regular homework.

In Table 3, about the number 1 and 2 (categories difficult) showed that students in working on an increase of 49.86% using the model flexible homework. Problem 3 and 4 (medium category) showed that the ability of the students in working on an increase of 51.40% using the model flexible homework. Students' ability to work on the problems in the category of easy (about 5 and 6) increased by 23.60% with the use of models flexible homework.

Data resulting from the increase in learning physics were analyzed using t-test. the results showed that $t_{obs} > t_{crit}$ (197.714> 1.684). So t_{obs} is significant and it can be concluded that the model flexible homework effectively to improve student achievement on the subject of the GLB and uniformly accelerated motion. The results of data analysis showed that the number of student motivation of students in each criterion student motivation level is 5 or 20% of the students are classified in categories that have a very high motivation, 18 students or 72% of the students are classified in categories that have high motivation, and 2 students or 8% of students classified in the category of being motivated.

6. Conclusion

From the analysis of the data obtained from the four learning sessions, the following conclusions research has been carried out:

1. Learning physics on the subject of the GLB and uniformly accelerated motion with flexible PR model is more effective in terms of improving student achievement compared to the usual model of homework.
2. The use of more flexible homework increases student homework motivated than usual.

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PILOTING A MODEL OF EDUCATIVE AND ATTRACTIVE PHYSICAL ACTIVITIES BASED ON CHILDREN'S DOLANAN TO OPTIMIZE KINDERGARTENERS' GROWTH AND DEVELOPMENT

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Abstract

One type of the games is *dolanan* (a Javanese word for 'play'), which is an activity inseparable from children world but has not been optimally used in kindergartens. Therefore, the use of children's dolanan in teaching-learning at kindergartens needs to be developed. This research and development study at the second stage of three stages is designed to try out a model of educative and attractive physical activities (Majeda) based on *dolanananak* as a means in optimizing kindergarteners' growth and development. This study was conducting the small- and large-scale tryouts.

The study employed the research and development approach by Borg and Gall. The small-scale piloting was conducted at TK/SD Model Sleman and TK PKK Temanggal, Sleman. The large-scale tryout was conducted at TKN Pembina Wonosari, TK ABA Kauman Yogyakarta, TKN Pembina Galur, TKN 1 Sleman, and TK ABA Karangmojo XVII.

The results of the field tryouts showed that the model format needed to be revised into Majeda based on children's dolanan consisting of six components, i.e.: (1) concepts, (2) materials/themes-subthemes, (3) learning objectives, (4) syntax, (5) teacher and student activities, and (6) learning outcome assessment. In addition, a guide to use Majeda was revised into one with the following outline and elements, i.e.: (1) introduction, (2) Majeda based on children's dolanan, (3) how to use it, and (4) closing. Based on the results of the piloting, it can be concluded that the Majeda based on children's dolanan is appropriate for further operational testing.

Keywords: children's dolanan, model of physical activities, educative and attractive, kindergarteners.

1. Introduction

Foundationing in physical growth, mindset and personality development of the child will be determined by the acquisition of a learning experience since the child is still early childhood. The experience gained through the process of interaction with the family, community, and educational institutions is a learning process, which is crucial for the growth and development of children. Physical growth and development of knowledge, skills, and attitudes and behavior among children will depend on what is seen and perceived by children from the neighborhood, and what is taught by parents to their children.

Optimization of the golden age of children so that children get adequate facilitation to experience optimal growth and development and continue to be pursued by the government and society. Efforts are made through improvement of the organization of children's education since early childhood or early childhood education (ECD). One type of early childhood education is kindergarten (TK). Mansur (2009: 127-128) states that TK is one form of early childhood education units in the formal education that organizes educational programs for children aged four to six years.

In the management of kindergarten learning process, teachers need to understand and take into consideration the characteristics of learners. These characteristics, include (1) children aged 4-6 years were divided into group A for ages 4-5 years, and group B for ages 5-6 years of age

(Government Regulation No. 27 of 1990 on Preschool), (2) children who are experiencing growth and development. Significant growth in quantity changes experienced by children, such as height, weight, and body size. Payne and Isaacs (1995: 15-17) states that there are two terms of growth and physical development of the child's motor, ie gross motor movements, and fine motor skills. The development means that the child undergo a qualitative development in a variety of capabilities, namely: Ability gross motor and fine motor skills, cognitive abilities, language skills, psychosocial and socio-emotional sphere, Moral and religious values, and the arts and creativity.

In order for the child's growth, and optimal child development can be achieved, in addition to pay attention to the characteristics of children, kindergarten teachers have to design and implement the learning process in accordance with the characteristics, interests and needs of learners. Therefore, teachers need to choose and use methods and appropriate learning models in the learning process. Selection of methods and learning models should pay attention to learning payload to be delivered, the characteristics of the child, the ability of teachers, and the school's capacity. Moeslichatoen (2004: 24-29) suggested that kindergarten teachers use teaching methods appropriate to the characteristics and the development of kindergarten children. Ministry of Education (2008: 19) states that there are five common learning model implemented in kindergarten. All five models are models of classical learning, group learning model with safety activities, learning model based on the point of activity, area learning model and learning model based centers and when the circle. Although the five learning model has the particularity of each, but the learning models have in common the learning steps, namely: preliminary activity / initial, core activities, breaks / meals, and end / closing activities. In addition, the fifth model of learning pack integrated thematic learning materials in the form of theme and sub-themes that will be presented to the students.

Learning in kindergarten is very close related with the play, because play is the primary vehicle for learning in kindergarten. As said by Morrison (1988: 260) that play cherished values as a learning medium which is suitable for children ages in kindergarten. Willis and Symon-Parker (2010) states that play is an activity that shows how children learn and assimilate new things into the knowledge or skills they already possessed. Saskatchewan Education (1994) outlines that through play children's early learning can be achieved. Socio-emotional development, intellectual activity can be developed through play. Therefore, the chance to play was a key factor in the learning program in kindergarten. Moeslichatoen (2004: 24-25) adds that the play has an important meaning for the growth and development of children, hence the use of the play is a must for kindergarten, and can not be ignored at all. For kindergarten children learn is play and play is learning. Playing promote meta-skills and competence in perception, memory, language, communication, and representation. Learning is a process of change in skills, knowledge, and competence in stages when children participate in play activities (Wood and Attfield, 2005: 87).

One type of activity that is very well known children's play and has a diversity of types is a traditional children's games *or Dolanananak*. Various types of *Dolanananak* can be chosen by the teacher and implemented in the learning process. *Dolananchild* is one of the popular play activities and loved by children. These games have educational values that are important. ViviWijayanti (2008,12) states that Dolanan derived from the word dolan which means playing. Dolan which means playing gets the suffix -an, thus becoming dolanan. Said Dolanan in the form of the verb is playing (to play), as a noun is a game (game). Poerwadarminta (in ViviWijayanti, 2008: 12) adds that dolanan meaningful (a) play, (b) the means used for fun for kids, and (c) of the game. Dananjaya(1991, 171) states thatdolanan-children everywhere in theworldare usuallydistinguished bygesturessuch as running, jumpingorbysimplesocialactivitiesliketag,hide and seek, fighting,or based onbasic mathordexterity of the handsuch ascountingor throwingstonetoacertain holes, orspeculative games.

Dananjaya statement is in line with the thought of Ki HadjarDewantara. Ki HadjarDewantara (2009: 147-148) states that ... Some kids Java games, such as: boast, gateng, and unclang, which educates children to be careful (bead pratitis), agile, clear the eyesight, and others. Then too the game, such as: dakon, Cublak-CublakSuweng, and kubuk that educating children about understanding the calculations and estimates. ... In addition, the game of gobak, trembung, raton, cu, geritan, obrog, archery, si, jamuran, jelungan, and others that are sports which would educate children in terms of: the strength and health of the body, dexterity and courage, visual acuity, and others.

Learning in kindergarten is a typical process that implements the process of nurturing

and developing the interests and stages of child development. Therefore, learning in kindergarten is instructive and attractive activity. Activities that are educational, because it is the process of providing the opportunity and facilitation to the child so that the child has a learning process to develop all the potential intelligence to be harmonious, and balanced. Activity is attractive means that the learning process carried out by utilizing the playing activity to be interesting, challenging, and fun for children. With characteristics such learning, children will be willing and happy to follow the learning process.

By paying attention to the discussion above, it can be shown that Dolanan anak has the characteristics needed in order to be used in the learning process. Therefore, Dolanan anak placed as a vehicle to deliver learning material presented. In addition, learning to use Dolanan anak is an activity that is both educational and attractive. With these reasons, learning model is then called a model of physical activity-based educational and attractive Dolanan anak and shortened to Majeda based Dolanan anak. Majeda development based on Dolanan anak has entered the second stage of field tryouts. Field tryouts carried out in two stages, namely small-scale tryouts and large-scale tryouts.

2. Research Methodology

This study aims to produce a model of learning in kindergartens, which utilizes Dolanan anak as its base. Therefore, this study uses the approach of research and development. Borg and Gall (1983: 771-772) states that research and development in education is a process used to develop and validate the educational product.

For the purposes of development Majeda Based on Dolanan anak, this research will be done in three stages, namely: (1) Preliminary Study and Design of Model; (2) Testing Model tryouts; and (3) operational testing, revision and preparation of modules, and Dissemination Model. Stages of research done on this occasion is Majeda field tryouts with based on Dolanan anak.

3. Results and Discussions

Experiments of the model implemented, as a follow up on the results of preliminary studies and model development. Experiments of the model is the implementation of the second phase of of research of the three stages of research and development that will be done. The first phase of the research to produce a draft Majeda based on Dolanan child, which has five basic components. This draft was getting validation from an expert, and socialized at kindergarten teachers. After socialization, then conducted the tryout stage, small-scale tryouts and its revisions, and large-scale tryouts and their revision. Test results and discussion are presented as follows.

3.1 Small-Scale Tryout

The first small-scale Tryout was conducted in kindergartens and primary schools Model Sleman, as much as two meetings on 4 and September 5, 2014. The second small-scale Experiments conducted in kindergarten PKK Temanggal Purwomartani in one meeting on September 13, 2013. The results of pilot scale small indicates that the format of the model needs to be improved to be more adapted to the requirements of a learning model in accordance with the opinion of Joyce, Weil, and Calhoun (2009). Component models become more complete because of the five elements become six components. However, actually the fifth element is substantially similar to the six components of the final model, only the initial model does not yet include the substance of the concept and assessment of learning outcomes.

In addition, teachers in the field giving considerable input for the improvement of the model, which Dolanananak can be modified without losing its substance so that the children do Dolanan easily. Not required all Dolanan must exist in every stage of the learning activities, Dolanan could be at the beginning of activity, core activities, or at the end of the activity. It is highly dependent on the specified learning objectives and content or theme / sub-themes presented.

By taking into account various input from those involved in small-scale tryouts, based Majeda format Dolanananak undergo significant changes from the five components into six interrelated components and unity. All six components are: (1) concept: that describes what is meant by MajedaDolanananak based, (2) Material / theme-subthemes: describe what will be learned by the students on the pemebelajaran episode, (3) Learning Objectives: describe about targets to be achieved by students after attending the learning process, (4) Syntax / learning steps: the stages or steps to be done in the implementation of learning, (5) the activities of teachers and students: explaining about what activities are to be implemented by teachers and students during the learning process, and (6) the assessment of learning outcomes: shows how teachers carry out an assessment of the results or performance of the students as a result of learning. With improvements made based on

these inputs, based MajedaDolanananak ready to be tested on a large scale.

3.2 Large-scale Tryout

A large tryoutTryout was conducted at five selected kindergartens. Each kindergarten perform one meeting and observed by a team of experts. Implementation of large-scale tryout is State Kindergarten PembinaWonosari is on 19 September 2014, Kindergarten ABA Kauman Yogyakarta on 23 September 2014, State kindergarten PembinaGalur dated on 26 September 2014, State kindergarten 1,on 2October2014, and Kindergarten ABA Karangmojo XVII on 13 October 2014.

Large-scale test results show that the observations by a team of researchers, teachers have been able to implement Majeda based games children in accordance with the concept set out by the research team. In addition, the evaluation experts pointed out that Guru has been able to make the selection of Kids Toys in accordance with the material / themes / sub-themes presented. Teachers have the right to choose the model / learning methods, according to the model / learning methods and values selected in Kid Games, according to the model / learning methods and elements that were developed in the Games of the Child.

Because teachers have the ability to choose games that fit the theme / sub-themes were presented, plus the students understand and comprehend with Children played games, and the number of students in accordance with the rules of the Games of the Child, the learning process can proceed smoothly and well, such as is illustrated in the following description.

Students actively participated in Dolanananak in learning, and student enthusiasm in the implementation Dolanananak play, so students seemed happy to play Dolanananak. Therefore, the class orderly and controlled, although crowded class atmosphere and happy.

Due to large-scale tryout results show that teachers have understood Majeda adequately, then Majeda based Dolanan anak not revised or improvement on substance. Although the results of these studies show that teachers have an adequate understanding of the concept Majeda based on Dolanan anak, but there are still shortcomings which need to be repaired.

When carefully considered from RKH used, and implementation of RKH in the learning process there is still a shortage that has not been in line with expectations of researchers, which is largely Dolanan anak still placed as the opening activity at the start of activities, so it is still slightly Dolanan anak used in core activities. Therefore, the use of guidelines based on Dolanan anak Majeda need to be updated by adding elements that have not been listed so that manual use of Majeda format based on Dolanan anak. be (1) introduction: background, objectives, and the scope, (2) Majeda based on Dolanan anak: concept, content / theme-subtema, learning objectives, syntax / measures, the activities of teachers and students, and assessment of learning outcomes, (3) how to use: preparation, execution, and reflection, and (4) the cover. Free use of the complete format is presented in the appendix.

Having regard to the tests carried out showed that Majeda based on Dolanan anak has undergone revisions in format and the user guide. The final form of both is as follows. Majeda format based on Dolanan anak has six components, namely (1) concept, (2) the material / theme- sub-themes, (3) learning objectives, (4) syntax / learning steps, (5) the activities of teachers and students, and (6) the assessment of learning outcomes.

Guidance on the use of Majeda based on Dolanan anak have the basic elements: (1) introduction: background, objectives, and the scope, (2) Majeda based on Dolanan anak: concept, content / theme-subtema, learning objectives, syntax / measures, the activities of teachers and students, and assessment of learning outcomes, (3) how to use: preparation, execution, and reflection, and (4) the cover; bibliography; and attachments.

By taking into account the results of field tryouts, which successfully completed Majeda format based on Dolanan anak, and guidelines for its use, the researcher believes that Majeda based on Dolanan anak quite feasible for operational test and tested its effectiveness in the next stage so that the model deserves to be disseminated to the general public.

4. Conclusion

Based on the proposed introduction, description and analysis of the data, and use the results of the discussion, the conclusion that can be drawn are as follows.

1. Small-scale tryouts conducted in kindergarten Model Sleman and kindergartens PKK Temanggal in three meetings, and managed to revise *Dolanananak*Majeda based on six components: (1) concept, (2) material / theme-subthemes, (3) learning objectives, (4) the syntax / learning steps, (5) the activities of teachers and students, and (6) evaluation of learning outcomes.

2. A large tryout conducted in Kindergarten School 1 Pembina Wonosari, kindergarten ABA Kauman, State Kindergarten Pembina Galur children, state kindergarten 1 Sleman, and kindergarten ABA Karangmojo XVII of 5 meetings at all schools kindergarten. The result has been established based on DolanananakMajeda which has six components as referred to in paragraph 1. As a result of the implementation has not been satisfactory, the manual use of the pause should be revised, so that guide has a framework with the following elements: (1) introduction: background, objectives and scope, (2) Majeda based on Dolanananak: concept, creative / theme-subtema, learning objectives, syntax / measures, teacher and student activities, and assessment of learning outcomes, (3) how to use: preparation, execution , and reflection, and (4) the cover; a bibliography; and attachments.
3. Majedabased on Dolanananak, based on the results of the tryout have the form of a final conclusion as contained in point 1 and point 2. Therefore, Majeda based on Dolanananak adequate to be applied in the test operation.

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BUILDING SINERGYCAL COLLABORATION AMONG MINISTRY OF EDUCATION, DIRECTORATE GENERAL OF POPULATION, AND MINISTRY OF HEALTH FOR MARGYNAL COMMUNITY THROUGH "*OPEN EDUCATION*" MODEL

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Abstract

"Education is the most powerful weapon which you can use to change the world". Quote from Nelson Mandella is real and true.

One of the education processes which is easy for public to reach and well developed and successful is the open educational model. Why should there be collaboration among Ministry of Education, Directorate General of Population, and Ministry of Health? It is because from the three aspects there is a possibility to have breakthrough of "Open Education". The margynal community living patterns in many ways are not worthy, especially in education, health and sexual life or biologycal needs which are related to population growth. Why is it specially adddressed to margynal community?

Excersively they have to be the main target of education and health services. The margynal community here is those who live in the river banks, under the bridges, in waste landfills, around the markets, on the streets, who do not have awareness of education, health, etc. Education is urgently needed and we have to be proactive to get in touch closely to give stimuli and motivations, and educations. Education for the margynal community is urgently needed to apply for education can change everyting like the quote from Nelson Mandella that "Education is the most powerful weapon which you can use to change the world". Intensive education for grassroots can change the world since the number of grassrots is more than the number of high level society. Educated and charactered community will fill the structure of grassroots.

A Qualified "Open Education" Model for margynal community is the solution for the problem of low educational growth in developing countries like Indonesia.

Key words: Collaboration, Open Education, margynal community.

1. Introduction

1.1 Background of the Problems

Based on some information, e.g. from the survey conducted by UNESCO, Indonesia belongs to the very low strata of education, the 10th of fourteen countries in Asean. The teacher qualification is in the lowest grade, the 14th among 14 countries in Asia Pacific. The important problem is our attitude as Indonesian citizens to think of the solutions we have to do in relation with education which is related to social problems of the people.

We all realize that education is the fundamental base in developing human civilization, especially the civilization of a country. However, it is not easy to realize. In order to make it easier and faster to realize, all stakeholders have to collaborate. The concreate example is that a community structure is formed by some categories or aspects of human life. They are social aspect which is under the authority of Ministry of Society, population aspect which is under the authority of Directorate General of Population under the Ministry of Domestic Affairs, and public health aspect under the Ministry of Health and the Ministry of Environment.

Based on the above situation, the writer thinks that one of the ways to construct lower people community structure into a more civilized and qualified one is through education. The process of educating and upgrading the marginal communities can not only be managed by one of the stakeholders but also by all the stakeholders above. Why? It is because human beings do all the activities all together at the same time. They are from the social environmental activity, working, way of life (healthy or not), biological needs or fertility, fulfilling ethics and morality (naturally or hedonic), and their educational aspect (educated or non educated).

According to Soemardjan (in www.septianhara/makalah perubahan sosial), related to social change, "social change is a change which occurs in the society which will influence the social systems of the society including attitudional value, social attitude, and attitudional pattern of a certain society. According to Gilin and Gilin (in septianahara), social change is a change which occurs as a variety of ways of life which are accepted by the society because of geographical change, materialistic culture, human population composition, ideology and educational diffusion or new findings in the society.

By educational process it is hoped that a change will occur from various aspects of life: a change of civilization, social and cultural changes and an increase in intellectual quality. By sinergical education, it is hoped that diffusion and innovation will occur contigiously where ideas are communicated and transferred into social systems and give positive impacts (Roger: 2003). Education is an absolute requirement for developing civilization. Without wholistic, comprehensive and adequate education, human resources will not develop well.

In this paper, specifically wants to focus on education for marginal community. The progress and the development of a country is measured by the level and the quality of the human resources in the country and education which is one of the effective ways and keys to solve the problems of backwardness and stupidity of which will finally solve the problems of poverty.

The fact is that there has still been stupidity and some people do not go to school to study for the reason of poverty, especially in the developing countries like Indonesia of which the number is quite significant so that it will influence the condition of the country. In this case, in order to make all the poor have the chances to get education the Indonesian government actually has done various ways like providing Bantuan Operasional Sekolah (BOS) or School Operational Fund and Program Keluarga Harapan (PKH) or Ideal Family Program that are still running. However, are they the sollutions of even distribution of fund for the poor? We all can see that in fact the funds go to the wrong destinations. Why? It is because in practice, there have still been many manipulation practices of the fund of BOS, where the ones which get the funds are schools which have been well established and most of the students are not poor students.

Poverty results in negative changes in children life like slow physical, moral and mental development and the intellectual. The children of poor people who live at river banks, at both sides of railways and the waste area are marginal people who need special cares. They are groups of people who get less less attention and the solution of how to make them educated. Therefore, there will be no potentials for them to do crimes.

We have to try to change the life paradigm of all mankind that besides the needs of food for human being to live, they live for making all creatures in the universe live in tolerance. Therefore, improvement of the human thoughts is needed by all human beings that they can not live without the universe and things on it.

Human beings are not "Homo homini lupus" but are "Homo homini socius" and Homo sapiens". It means that human beings are closed friends for other human beings, who can think. Human beings are closed friends for the other life, closed friends for other lives, for all the existing habitats. Therefore, a harmonic ecosystem for all life occurs.

1.2 Problem Limitation and Problem Statement

Based on the above explanation the writer thinks that the problem of poverty is very complicated in relation with education in Indonesia. Therefore, the writer limits the problems of the study specifically on the importance of education for marginal society. The problem statement is:

"Why is education for marginal society crucial and urgent, especially for school-age children?"

By giving early education for them, it is hoped that the young generation is avoided from various divergences of social attitude, ethics, morality, mentality, and intellectualism, to be early anticipation of the development of marginal society-based crimes.

1.3 Objectives and Benefits

Objectives:

Based on the problem limitation above, the objective of this writing is to give input and consideration or idea in improving and considering various policies, especially in managing education, pulling poverty out, and education acquisition management for school-age children in marginal society excercively.

Benefit:

It is hoped that this writing will give benefit, especially for decision makers and government of the importance of cooperation and collaboration among the Ministry of Education, Directorate General of Population and Ministry of Health in solving the problem of the rising population growth in marginal societies of productive ages which tends to be proporsionally high and has negative potentials. Indonesia is in emergency condition of education. Therefore, one of the solutions is handling it all together.

2. Theoretical Review

Ki Hajar Dewantara, the most prominent figure of Indonesian education, stated that: "Education is an effort to trigger good attitude, thought and character of students that we can modernize and reach the completeness of our life, and the life of our children in accordance with their world" (Dewantara, 1977:14). It is in line with UU no. 2 Year 1989 about the National Education system supported by UU no 20 Year 2003 about the national eduction system as stated in article 34, saying that:

1. Every citizen of 6 years old can attend the compulsory education.
2. The central and local governments guaranty the application of minimum compulsory education of elementary school level for free.
3. Compulsory education is the responsibility of government which is done by educational institutions, the central and local governments, and society.

In addition, the opening of The Indonesian Fundamental Ordinance of 1945 states that the goal of national education is to educate the national life which is stated in detail in verse 31 that (1) every citizen has the right to ge education… and (2) every citizen has to attend elementary education and the government have to support with fund.

Eduation is urgent and fundamental for a nation since the development of a nation is determined by the quality of the citizens. Therefore, education is the key of tackling stupidity which results in poverty. Imbalance distribution of education in Indonesia results in low rank of Indonesian education in Asean and International levels. Therefore, teachers have a very important role in the success of educational institutions of how the quality and system are designed to manage the responsibility of teaching and educating.

Sunarwan (2001:60), then stated that "It is important to learn how to see the educational system from "new perspective" dan think it in different ways".

By education, then, the changes in societies will occur from social side, value and attitude, and attitudional pattern in the societies where they live.

3. Discussion

3.1 Poverty Versus Education

The number of overty in Indonesia is quite high. Based on Republica.co.id, it is predicted that in 2015, 12.25% of the total Indonesian population or 30.25 million people are poor. Based on BPS (Statistic Centre Bureau) data, of the total population in 2011, 11.25 % were the poor. Therefore, there is an increase of poverty of 1%. There are three groups of people in the structure of Indonesian societies: the rich group of 20%, midle group of 40%, and the poor group of 40%.

Based on the above condition, it is not easy to lessen the number of poverty of 40%. We have to work very hard and wholeheartedly.

One of the reasons why it happens is that many programs run by the government do not get the right targets and makes poverty not easy to handle. Therefore, the government should immediately have special treatments to make the poor parents to support their children to study.

What system should be established? In this writing, the writer tries to make the scheme of base-camp model which will be offered to the government as a new policy in upgrading the poverty and stupidity by giving education with the system of "pick up service" by establishing based groups with the model of camp sites where they live. For example, an educational camp is established in a group of garbage pickers, especially for children of school

ages. The camps can also be established in river banks The students are those who do not have the opotunity to study in formal elementary and secondary educational institutions. For those who study at the formal schools, the tuition fee is free and is supported by the govervent through BOS (School Operational Fund).

Who are the teachers? They are voluntary teachers of university fresh graduates who have not got jobs. The salary is allocated from the 20% of educational fund. BOS (School Operational Fund) which has been distributed to middle and high level schools should be distributed to lessen poverty and stupidity for marginal societies.

3.2 Why should there be Collaborations among Minitries?

Quoted in online Republica dated 15 January 2002, the government would have a new scheme to handle poverty. The government stated that the development of eastern area of indonesia would be prioritised. However, in the writer opinion, marginal societies are in all left behind suburbs and villages in all parts of Indonesia. There should be sosial services related to the increasing number of population, education and health. Education is important for handling population increase which is imbalance with the economic growth to make the societies live in prosperity and their social life is well managed. Therefore, coinsident cooperation is needed. Coinsident means the activity is done at the same time, to reach a certain goal, and occurs at the same place. In this case, the fund is supported by three ministeries. Technically, each materials from the three ministeries are delivered at the same time in the process of education which covers three interests of lessening stupidity, lessening poverty by educating them to be productive, making them have good morality and characters, and the Ministry of Health educate them not to have sex divergence and have good klowledge of fertility to have controlled children with maturity and healthy life.

By integrated didactic process of three Ministries, it is hoped that the cooperation can create *homo homini socius* (human beings who socialize with others) and *homo sapiens* (human beings who have intelligence and good attitude), to be human beings with natural attitude and healthy mentality who do not have potentials to do crimes for the lack of knowledge and the mind which is occupied by instinct, not healthy mind.

4. Conclusion

Based on the above idea, the writer thinks that such collaborated activity with thinking and action paradigm of effectiviness and efficiency might result maximally with fund efficiency. In this process of education, we try to produce effectiveness of a certain goal with the cheaper process but with a better process and result.

One of the efficiency problem of education is that in practice education is expensive. The solutions to make education run well are:

1. Systemic solution, by improving the social system related to eductional system.
2. Technical solution, related to technical matters which have been discussed above related to the ways how to make educational processes run smoothly and have no problems in the forms of teaching and its application.

The two solution above are practical efforts to improve teaching quality with visual aids etc.

CAN DIALOGIC READING ENHANCE EARLY LITERACY OF INDONESIAN PRESCHOOLERS ?

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Abstract

Research on emergent literacy states that young children learn about reading through experiences with oral language.The purpose of this study was to examine the effects of implementing dialogic reading techniques in a Pos Paud setting by kader Pos Paud to improve emergent literacy development. There were eight children in the control group and nine children in the experiment group. The emergent literacy test was used to determine the emergent literacy development. The Mann Whitney test statistical method indicated a significant gain between the experimental group and the control group (mungkinkah ditambah dengan nilai Meannya bu?). A Wilcoxon test revealed a significant gain in emergent literacy development for the experimental group (idem). Therefore, this study has found that a caregiver on storybook reading may lead to a possible positive influence in emergent literacy development for the prekindergarten children whose caregivers attended the training program,or The findings of the study have revealed that a caregiver on storybook reading plays an imperative role in developing emergent literacy in prekindergarten children.

Keywords: Emergent literacy development,dialogic reading, caregiver, preschool children, Kader Pos Paud

1. Introduction

Emergent literacy is a period or stage of the earliest of literacy development especially with regard to reading and writing. Emergent literacy appears before the children get formal instruction in school. Emergent literacy includes the skills, abilities, knowledge, and attitude that is the precursor of conventional literacy skills. Home environment and parents are an important role models to develop literacy emergent. Views of emergent literacy about the development of reading skills in early childhood have explained that the children are 'always' in the process of developing literacy behaviors. Teale and Sulzby (in Whitehurst & Lonigan, 2001) have stated that emergent literacy is generally used to refer to the process of becoming literate. Literacy-related behaviors that emerges during the pre-school is an important aspect in the process of literacy development. That displays behavior as a part of the prerequisites for developing literacy skills (Justice & Kaderavek, 2002).

Environments that support emergent literacy development are observed by the researchers. It refers to contexts that influence the development of emergent literacy such as home environment (Connor, Morrison, Slominski, 2006; Ezell & Justice, 2000; DeBruin-Parecki, 2001; Lawhon & Cobb, 2002; Weikle & Hadadian, 2003; Bingham & Pennington, 2007), playgroups and kindergarten (Hawken, Johnson & McDonnell, 2005; Yu & Pine, 2006; Girolametto, Weitzman, Lefebvre, & Greenberg, 2007). One of the fundamental parts of the literated environment is shared reading activities. According to many experts, reading with children is the easiest way for children to get the source of information and very rich opportunity to develop the language skills (especially emergent literacy) in a very supportive environment (Lonigan, 2004). A number of interventions have been developed to initiate the development of emergent literacy through shared book reading.

On the other hand, according to Meyer, Wardrop, Stahl and Linn (1994) shared reading activity does not always give a stunning effect for emergent literacy development. The appropriate methods used, attitudes and interactive behaviors that occur between adults and children is an aspect that need to be considered in order to improve literacy development. Those opinions are supported by experimental studies of Ezell and Justice (2000) illustrated thatadults who refer to the writing material when reading to the children, both verbal (eg comments, questions and requests) and non-verbal (pointing to the

writing and tracking the texts) increased verbal expression related to the text in the book. The study has involved 24 adults and 24 children with average age four years old. An article written by Justice and Ezell (2004) also describes that the use of verbal and nonverbal signs in shared book reading will attract children's attention and interaction to the reading text. The children's attention that is directed to the reading text at shared book reading activity will affect the mastery of the rules of written language. In both studies, the interaction between parents and children is not maximized because questions used is only subject to attract attention to the reading material. In another study, researchers have tried to combine a variety of shared reading techniques in order to get maximum results.

Experiments that have been conducted by Whitehurst, Arnold, Epstein, Angell, Smith and Fischel (1994) have described that the increasing ability in language skills especially in vocabulary aspect after using a dialogic reading program. The study has been applied in low-income families, at the government's child care of New York for six weeks. In the research by Whitehurst, Epstein, Angell, Payne, Crone & Fischel (1994) have also found an increase in the children's literacy skills especially in the aspects of identification letters and first sound of the word after dialogic reading activities. In their writing, Doyle and Bramwell (2006) have believed that dialogic reading activities will give children the opportunity to participate. The kind of opportunity will be meaningful experiences that stimulates children to learn. Meta-analysis research by Trivette and Dunst (2007) have concluded that dialogic reading activity is the most influential method to improve children's language skills. While shared book reading activity have lower interaction than dialogic reading activity and more intended to make children become more acquainted with a writing material.

1.1 Emergent Literacy

Emergent literacy is a period or the earliest stage of literacy development especially related to reading and writing. Emergent literacy appeared before the children get the formal education such as in school. Emergent literacy includes skills, abilities, knowledge and attitude that were the precursor of conventional literacy skills. Home environment and parents are an important role for developing emergent literacy.

Research by van Kleek (in Rhyner, Haebig & West, 2009) found that the development of emergent literacy is divided into two stages: the first stage is from infancy to three years old then the nest stage is from three years old to four years old.

In the first stage, children have comprehension that writing texts have meaning. The knowledge gained from exposure to media that include writing material and terms related to the reading of books such as 'books' and 'pages'. Children also have started to be able to tell story by their own words without the help of the pictures in the book. Besides, children begin to recognize rhymes and letters. The second stage is the older preschool children begin to learn the forms of letters and the relation between the forms and the sounds of letter. Children also begin to learn to write and match the shape of the letters with its sounds, to tell story in detail and show a better ability to guess the events in the story (in Rhyner, Haebig & West, 2009).

Whitehurst and Lonigan (2001) argue that emergent literacy and conventional literacy are formed from individual abilities to use information from the two domains that interrelated and dependent. The domains are outside-in and inside out. The parts of the Outside-in are the source of information obtained from outside the words or text that directly supports children's comprehension of written language (e.g vocabulary, conceptual knowledge and story schema). Outside-in process involves the children's understanding of the story. It represents the knowledge about the world around the children, semantic knowledge and knowledge related to the functions in the context of written language. Outside-in process allows the child to understand the concept of 'sentence' and a context that allows the concept occurs and to be used, allows the children to understand the concept of 'sentence' and the context that allow the concept to be used.

While the parts of inside-out process are the source of information that comes from the text which support the children's ability to convert text into the sound of letters and the sound of letters into writing (phonemic awareness and knowledge of letters). Inside-out process is the representation of children's understanding of the underlying rules of written language. Inside-out processes are such as decoding aspect of reading, so the children should be able to solve the 'symbol' or 'code' of writings in order to compose the sound of letters. Inside-out process includes the children's knowledge and understanding of letters and sounds, the relationship between the letters and sounds, grammar and pronunciation, the cognitive strategies that must be mastered by the children to be able to read properly.

Factors that influence the development of Literacy Emergent Literacy :

a. Family characteristics include culture (Bingham & Pennington, 2007), beliefs (Weigel, Martin, & Bennet, 2006) and socioeconomic status of family (Torr, 2004).
b. Characteristics of children, including the children's interest in reading activities (Snow, Griffin, Burns, 1998), children who have disability (Weikle & Hadadian, 2003), and children's attachment (Bus & Ijzendoorn, 1988).

1.2 Dialogic Reading

Dialogic reading is the term which implies that there is a dialogue or conversation during shared reading activity. The strategy is based on three principles: a) encouraging children to participate, b) providing feedback to the children, c) adapting the style of reading with the development of children's language abilities. According to Zebenbergen & Whitehurst (2003), the type of shared book reading that has been first developed by Whitehurst et al., is a set of strategies or techniques that shortened with terms CROWD and PEER. The techniques are:

1) PEER (Prompt, Evaluation, Expand and Repeat) are the technique used by adults to maintain interaction with children while reading together. The technique consists of encouragement (such as compliments), expand the children's responses, provide evaluation and repeat the child's response.
2) There are five types of questions used to encourage dialogue when read together namely CROWD (Completion prompts, recall prompts, open-ended question, Wh's question and distancing question).

Justice and Kaderavek (2002), suggested choosing a story book carefully if the purpose of reading is to get children's attention and interaction with the text. Important characteristics to consider are the size and the amount of writings that appear in the book. Research on storybook in some classroom settings showsthat not all children have the same understanding on the salient or prominent writings.

Other studies have recommended the books that emphasize large and thick writings to facilitate the children to enjoy and interact with the writings while reading together (Ezell & Justice, 2000). Books featuring a few words each page can help children to distinguish letters and words. Therefore, a story book for early children should consider the following matters: (1) The number of words per page (about five words or less), (2) The size of writings must be large and thick (approximate size 20 or larger), (3) Repeated letters / words (some words appear several times in the text of the story), (4) illustrations / pictures match with the story. The pictures in the story books will help children understand the plot of story and encourage children's involvement to the reading books activity. Ezell and Justice (2000) suggested that the displayed pictures must be large, attract attention and become an inseparable part of the story.

DeBruin-Parecki, (2009) argues that this type of interactive behavior in the dialogic reading activities can be taught to caregivers with a variety of cultural and languages contexts. The usual issue including caregivers in the training programme is time, concerns with inability to follow the training, cost issue, languages and culture such as differentiation of culture's traditions and belief. Levin and Aram (2010) have found in their experiments that it is difficult to change the belief of young children's caregivers who think reading is an activity to have fun and change it, to believe that reading is an intentional learning activity. Young children's caregivers who receive a dialogic reading training do not apply the new skills when interacting with the children.

The ability that wants to be developed by dialogic reading method in this research isthe acquisition of language skill which includes vocabulary and comprehension of the story scheme as a part of outside-in domain, the knowledge of letters and awareness of letters as part of inside-out domain. The school's setting usually provides stimulation that relates to coding language symbols which directly relates to the conventional reading ability (as part of the inside-out domain) rather than spoken language ability (outside-in domain). It supports Pujiati's opinion (2007) that many elementary schools have a new student's requirement especially for first grade students to mastering reading and writing ability. Pradono (1995) has said that even before elementary school's grade, many playgroups it is often encountered a lot of demand the children to learn to read that is basically very hard for children under five years old. As a result, children are able to pronounce the letters and words but they will not be able to understand its meaning because the limitation of children's vocabulary and conceptual knowledge.

In this study, researchers use home environment as a place to develop emergent literacy. The usage of home context, suggests that mother or an adults around the young

children acts as the responsible agent that improving the children's knowledge and skills. Adults around the young children refer to 'Kader Pos Paud'. Therefore, before stimulating children, Kader Pos Paud will get a brief training about emergent literacy and dialogic reading.

In this study, it is hypothesized that the emergent literacy development of children who receive treatment with dialogic reading will be higher than children who receive other activity. And there is an increase score in the aspects of emergent literacy development in young children after receiving dialogic reading activity.

2. Methode

2.1 Subject

Criteria for participant were: (1) having normal senses, (2) speaking Indonesian language; (3) never participaing in early childhood's formal education. The total number of subject for experiment group was nine children and eight children for the control group.

Tabel 1 : Characteristic Responden

No	Kelompok Eksperimen				Kelompok Kontrol			
	Name	Age	Sexe	*HLE	Name	Age	Sexe	*HLE
1	FDA	3,6	L	20	FS	3,4	L	21
2	EDN	3,8	P	14	MB	3,6	L	24
3	MNA	3,3	L	26	AW	3,8	P	16
4	FDP	3,8	P	18	SMP	3,6	P	14
5	DTP	3,7	P	25	DAN	3,5	P	26
6	ASAN	3,3	P	26	ARP	3,7	P	17
7	APR	4,1	P	17	AAZ	3,4	P	22
8	AKM	3,5	P	25	MS	3,6	L	19
9	GGP	3,9	L	14				

**HLE = Home Litercy Enviroment score*

2.2 Design

The experiment group had reading session with PEER and CROWD techniques, whereas in the control group was given the usual reading method that applied in the Pos Paud. The experimental design was *the untreated control group design with pretest and posttest* (Cook & Campbell, 1979). The treatment was conducted for three weeks, and the children had reading session three times each week.

2.3 Data Collection Method

Demographic Questionnaire and the Home Literacy Environment Inventory based on Marvin and Ogden (2002) and Whitehurst (2004) research were performed, asking for information about the reading and writing behavior of children and their parents, including age, education, and parental income. Family size was also be considered to control the difference of the young children's background. All data obtained were used for matching the characteristics of participants. Emergent Literacy Development Test was given before and after treatment. The design of test was adjusted to the regulation of Education Department about early childhood education. The regulation stated that literacy competence of children three to four years old were able to express ideas using 4-5 words. Meanwhile, according to Missall, Carta, McConnell, Walker, & Greenwood (2008) in Individual Growth and Development Indicators provided a description of language and literacy competencies that ought be mastered for children aged 3-5 years. The competencies were: a) use a new vocabulary with simple grammar; b) follow the instructions given orally; c) be sensitive to the sequence of events in a story; d) be able to ask and give comment; e) recognize letters (10 letters specially related to the letters form the children's name).

3. Result

There was a presentation of the descriptive statistics for both groups'pretest and posttest measures between the experimental and control groups. Another analysis was about the intervention's effects on emergent literacy development both for the experimental and control groups.

Table 2 dan 3 described all of the children's emergent literacy development measured at the pretest and posttest for both groups (experimental and control). Prior to conducting the main analyses that assessed the intervention's effects, if the experimental and control groups statistically differed with respect to emergent literacy development measures before the intervention.

Tabel 2 The summary of Comparation

Treatment	Group	N	Mean	SD	*Asymp.Sig*
Before	Control	8	3,2500	1,73205	1,000
After		8	1,5000	0,51640	
Before	Experiment	9	5,1111	3,89402	0,001
After		9	1,5000	0,51450	

Tabel 3 The Summary of Wilcoxon Statistic Test

Treatment	Group	N	Mean	SD	*Asymp.Sig*
Before	Control	8	3,1250	1,45774	0,832
	Experiment	9	2,2222	1,78730	
After	Control	8	3,3750	2,06588	0,008
	Experiment	9	8,0000	3,20156	

There was an increasing emergent literacy development in the experimental group who received treatment with a dialogical reading. These results indicated by the value *Asymp.Sig* less than the real level ($0{,}008 \leq \alpha = 0{,}05$) . Meanwhile there was no increase in the control group ($0{,}832 \geq \alpha = 0{,}05$). There were differences in emergent literacy development between the experimental groups who received treatment and a control group who did not get dialogic reading training, with a value of less than *Asymp.Sig* real level ($0{,}001 \leq \alpha = 0{,}05$).

4. Discussion

These results are consistent with the results of several studies analyzed by Morrow and Brittain (2003). The outcome showed that children in the experimental group who get books reading session regularly over a period of time, have a better score in the measurement of vocabulary, reading comprehension and decoding abilities compared with children who did not get books reading session with adults.

One indicator of rich literacy environment is that there is a routinely and continuously shared reading activity. Shared book reading is an activity that can be carried out between adults (mother, caregiver, father, or sibling) and children with various ages and diverse backgrounds. Shared book reading is easy to do, it doesn't take a lot of time, and it can be enjoyed by all people involved, and has many benefits. De Temple and Snow (2003) states that shared book reading is recommended as an activity to improve the school readiness of children and as a way to prevent difficulties in learning to read. Reading book activity with dialogic techniques allow young children to gain plenty of experience with oral and written language that help stimulate the children development during preschool period, such as the rules of written language, books organization, the differences between language in everyday conversation and language used for reading material, and recognize different types of reading material. Children will also have a basic knowledge of letters and vocabulary through exposure toward reading material in story book. Shared reading activities can also help children to experience as relatively complex conversations.

Fletcher and Reese (2005) add that shared book reading is considered as a good context to stimulate the development of literacy. Adults usually use more complex vocabulary while reading together than in the conversation or play time. In addition, adults use longer speech to answer and respond to children's questions and use higher abstraction language. With the mediation of books, adults will be easier to direct the children's attention and participation.

Dialogic book reading is different from ordinary shared book reading because involve active participation from both sides, both the reader and the listener. According to Justice and Kaderavek (2002) there are children who do not enjoy reading books activity because reading book together is an activity based on the use of language. Children with language constraint will consider such activity as excessive and compelling. The dialogic reading activity is very demanding for children to communicate compared with role play and pretend play activity. Similarly in this study, there are children who are more interested in the rooms surrounding, can not sit quietly but always walking or sometimes stand up while make a comment. According the two experts above, this condition is caused by children's delight in reading together mediated by an active involvement in such activities. Therefore, Kader who reads the story needs to be sensitive to the differences in children's interest and enthusiasm to involvethe activity. Therefore, to overcome those obstacles Kader should try to obtain children's participation in reading activities. By observing children who like to answer questions and label the object during reading activity, Kader can make them as a model to stimulate the other children's interest. When children start to get bored, Kader will restrict the question because children are not happy to be questioned. If the children are more interested in looking at the image than listening to the story or if the language used in the storybook too complicated for children, Kader change the way of interact to fit the children's interests and abilities.

Kader who actively involve children in dialogic reading activities are suitable with the result of research conducted by Trivette and Dunst (2007). The study also shows that reading education using an interactive book reading technique result in a more positive outcome. These findings indicate that not only reading

books have benefit to the children, but rather involving the children in conversation about text material will make children have more favorable benefits (van Kleeck, 2004).

There are several techniques that are applied by Kader to involve children as active participants in shared book reading activity. It is used as a guide by researcher in providing treatment. Sometimes Kader ask to the children, add explanation to children's answers or pointed at image and text. Kader try to adjust these techniques to the response generated by the subject, for example when reading "*Ada suara-suara di sekitarku*", Kader pointed to the pictures on the front page then when there are kids say 'Kembang api', to respond with the question from the Kader "Bagaimana suara kembang api?" (adapted to the title). The number and type of techniques used by Kader to help children adapted to children's language ability through the Kader's questions and statements as Kader read the book. Shared book reading will make children learn more about literacy because children listening and discussing about the various types of books with caregivers. The existence of mutual understanding relationship between young children and caregivers facilitate both sides to share experiences related to the content of story and characters in the book. Children learn to use pictures and context to guess the meaning of a word. Open-ended questions that are provided by caregivers give children an opportunity to answer questions as many as possible without limits. Caregivers that help to predict the story from the image in the book will help children to explore the story's structure and plot. Besides, the evaluation provided by caregivers will help children to do analyze thinking. Asking children to relate the story with their experience are an easy way to remember the story's content and new words (Oueini, Bahous, & Nabhani, (2008). Interaction that occur between Kader and children is known as scaffolding.

Scaffolding shown by Kader, aims to teaching children to pay attention to Kader's instruction,also as a way to show a new experience that can be gained from the book. Scaffolding performed by Kader also functions as a way to attract children's attention to the parts of the book and written material that being read. The children's attention in shared book reading activities, according to Evans, Williamson, and Pursoo (2008) is influenced by the increase of age, book illustration, type of writing and the reader's intonation. The distinction of utterances or alteration in the reading's intonation affects the children's ability to concentrate.

Another study also states that sometimes, the use of dialogic reading technique is very exhausting. Research in Turkey concluded that the dialogic reading techniques can lead to frustration and children's lack of interest. In Turkey, dialogic reading technique is still considered as a new technique, it is also the case as in Indonesia. Therefore, there are needs to do modification and technical changes adapted to culture and habits of each family and pre-school education (Kotaman, 2007). Provision of open-ended questions that characterizes this activity should be given slowly. For example, in the first meeting with a new book, children does not have to be given any question or limited to just one question then when the child has already familiar with the activity, kader will be able to ask more questions.

Dwyer and Neuman (2008) provide clear boundaries to selecting books for preschoolers. At preschool age, children are able to directing attention to the text in the book. There is an increase understanding of the plot's story, so children not only give label to the picture. The concept of text which challenge the children's language skills are preferred, so that children are able to understand the de-contextual nature of written language. Expository books for example that related to science, social, and mathematics will improve the development of the children's vocabulary.

5. limitations of the study

a. The kader speech is not measured and recorded so the expected frequency of the comments and questions that are given by Kader to children is not known. In contrast, the response of children aged Kaders in questions and comments are also not calculated so the differences of each individual can not be analysed further. as not to be expected
b. The study can not see the connection between the parts of utterance of Kader with increasing emergent literacy development. These conditions occurr because the researchers could not assess the whole, in part or completely, when child is responding to remarks Kader.
c. Each of the aspects of emergent literacy development are not measured separately, so the difference in every aspect of its significance is not known. Measurements are carried out more general.
d. Treatment is given only three weeks, so that the data has not fully described the development of literacy emergent obtained.

e. Researcher's decision to provide partial control of the process of treatment to the institute, as part of efforts to implement the results of research in the real teaching process actually causes the inability of the researcher to control subjects from the control group to get into the experimental groups. The kader also interpret the results of training in accordance with their understanding of the activity of reading together as part of storytelling, so that the principles of dialogic reading is not fully understood

f. Researchers are also paying less attention to the characteristics of research subjects such as the ability to focus of attention and maturity of the child. Therefore, giving the treatment subjects must be accompanied by a parent or be soothed by more than one Kader.

g. Statistical regression can not be controlled, because the researchers used all subjects.

6. Conclusion

The dialogic reading training program has an influence on the improvement of dialogic reading's knowledge and skill. The implementation of dialogic reading to young children has a significant effect to improve the emergent literacy development.

The application of dialogic reading method into regular stimulation program should consider the plan to set target ability that will be stimulated and adjusted the techniques that will be used in the program. The reading training program must consider the parent's learning habits and beliefs because it requires a routine activity. For other researchers who are interested in the same topic, it is necessary to consider confounding variables such as the children's curious tendency so it will be hard to control their behavior. In addition, the researchers need to consider the physical environment that will be used as training facility because new environment will trigger the children's curiosity, so their attention easily distracted. Shared book reading research typically uses mother as their subject, other researchers need to consider to include the role of father in reading activities.

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