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Enhancing Educational Research
for Developing a Person of Character

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May, 7-8, 2014

PROCEEDING
INTERNATIONAL CONFERENCE ON EDUCATIONAL
RESEARCH AND INNOVATION 2014
May 7 - 8, 2014

**ENHANCING EDUCATIONAL RESEARCH
FOR DEVELOPING A PERSON OF CHARACTER**

Prof. Dr. Sri Atun
Prof. Darmiyati Zuchdi, Ed.d.
Dr. Margana
Dr. Siti Hamidah



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MESSAGE

FROM THE YOGYAKARTA STATE UNIVERSITY RECTOR

Welcome to Yogyakarta, Indonesia!
His Excellency Director General of Higher Education of Education and Culture
Ministry
Honourable Heads of Institutes of Research of the surrounding universities
Vice Rectors and Deans of all faculties
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
A very good morning

On behalf of Yogyakarta State University and the committee, let me first of all extend to you all my warmest and heartfelt welcome to the 2nd International Conference on Educational Research and Innovation, held in Yogyakarta, one of the most historic and cultural cities in Indonesia, and, also, the city of education.

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 50th anniversary. The theme of this year's conference is Enhancing Educational Research for Developing a Person of Character.

Distinguished Guests, Ladies and Gentlemen

Research is one of the three activities that has to be done by the academic members of the university. The lecturers' research activity 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. Through research activities, it is expected to get valuable empirical facts to improve and develop the theory and practice to bring a better quality of education.

In connection with the essence of educational research that has been conducted to improve the quality of education, it is suggested that the research process should be done through a systematic process to get the knowledge and to solve the educational problems by using a scientific method, from the process of collecting data and its analysis up to the

stage of formulating the generalization based on the data interpretation. So, the research has a quality that is scientifically approved.

Another important effort is by updating the knowledge and insights in the educational field either through reading related references or having discussions and meetings with other researchers and educational practitioners. In this context an international conference on educational researches and innovations constitutes a strategic forum to improve the researchers' insights and studies in contributing themselves to solve the educational problems through researches.

I do hope that in the next conferences the coverage of the research areas also includes education in all fields, including education for professions, not only education in the school level.

Distinguished Guests, Ladies and Gentlemen

This conference will not have been what it is without the support from various parties. In this opportunity let me extend my sincere thanks and highest appreciation, especially the Head of the Research Centre and Community Service, the Chairperson of the Anniversary of Yogyakarta State University and the whole conference committee members. We have done our best to make this conference a big success. However, should you find any shortcomings and inconveniences, please accept my apologies.

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 that all related parties can read are useful for us to improve the quality of education.

Thank you very much for your attention.

Wassalamu'alaikum warrahmatullah wabarakatuh.

May peace and God's blessings be upon you all

Yogyakarta, 7 May 2014

Rector,

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

**MESSAGE
BY THE CHAIR OF THE CONFERENCE**

His Excellency Director General of Higher Education of Education and Culture
Ministry

Honorable Rector of Yogyakarta State University

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

On behalf of the committee, allow me to extend my warmest greetings and welcome to the 2nd International Conference on Educational Research and Innovation, held by Yogyakarta State to celebrate its 50th anniversary.

Raising the theme - Enhancing Educational Research to Develop a Person of Character - this conference is designed to develop the educational sciences and policies, innovations in the research methods, and doing some network among institutions focuses the discussions on the four pillars of education - class dynamics, teacher training, student learning, and teaching method.

Education should make humans better and wiser. They should be able apply their knowledge for a good life in every aspect of the society. An educational system can be considered successful if it can develop the human character which is needed to gain respect for this nation.

To achieve that, people are expected to help one another to improve the quality of education in this country. Hopefully, all discussions in this conference can be inspiring and useful for us to improve the quality of education.

Ladies and gentlemen

For your information, we will proudly present one keynote speech, four plenary presentation sessions and five parallel presentation sessions. Four outstanding speakers in the field of educational research have been invited. They are **Professor Dato' Dr Ibrahim Ahmad Bajunid** from INTI-Laureate International Universities, Malaysia, **Dr. Elizabeth Hartnell-Young** from Australian Council of Educational Research, **Prof. Darmiyati Zuchdi, Ed. D** from Yogyakarta State University, and Dr. Seloamoney Palaniandy from Infrastructure University of Kuala Lumpur, Malaysia.

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.

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, 7 May 2014
Head of Research Institute and Community
Service of Yogyakarta State University

Prof. Dr. Anik Ghufon, M.Pd.

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IMPLEMENTATION OF COLLABORATIVE LEARNING PROJECT – WORK FOR MANUFACTURE VOCATIONAL STUDENTS

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ABSTRACT

This research has succeeded to (1) find out the required academic culture of the workforce for manufacturing vocational students, and (2) explore the learning strategies applied for institutions of vocational education-related to manufacturing development of the required academic world culture. The purpose of this study was to produce a learning model suitable for the soft skills of vocational students of manufacturing in order to build an academic culture. The research used a survey method. In the early stages, the research was conducted to find the required academic culture of the workforce for manufacturing vocational students. In the next stage, the research was aimed at exploring suitable learning strategies applied to vocational education students in manufacturing-related development of the academic culture of the world of work required. The results showed that the academic culture that needs for graduate diploma's program employees includes four issues such as discussion, reading, researching, and writing. However, the academic culture of reading and discussion was important, while researching and writing did not really matter. In this context reading SOP (Standard Operating Procedure) is closely related to the job, whereas the discussions were about discussing the efficiency of the work, discussing the work, discussing work steps/products, and discussing the case of faulty work. To develop the academic culture of learning strategies applied to vocational education students is more suitable using manufacturing strategy than Collaborative Learning Cooperative Learning.

Keywords: cooperative learning, academic culture, vocation, manufacturing, collaborative learning

Introduction

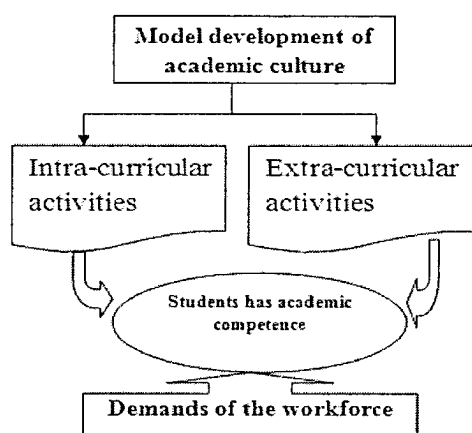
Background

Changing world characterized by globalization requires a competent workforce. They must have the ability to work in the field (hard skills) or technical skills and able to think logically and systematically (academic ability) to deal with change. Especially for the graduate diploma program that will plunge in the workforce. Manktelow (2009) showed not only hard skills or technical skills, academic abilities a person has a strategic role in determining a person's success in the work place. Development of technical skills aspect needs to be balanced with academic skills such as the habit of thinking rationally, do not accentuate the emotional attitude, arguing based on data and facts, respect differences of opinion, and others.

However, in fact there are many educational institutions or vocational diploma programs are not aware of its importance. Therefore, it becomes a challenge to integrate vocational education competencies both kinds of components in an integrated and balanced to be able to set up a complete human resources that have the ability to work and thrive in the future.

Academic ability will flourish when familiarized in academic culture. Many models of developing students' academic culture that can be broadly through intra- and extra-curricular activities, in example: student leadership training, outbound, seminar, etc. In addition, many ways for students to familiarize academic culture through intra-curriculum, for examples the relevant research subjects, discussion, problem solving, CLoP-Work, etc.

Understanding academic culture in this study include at least five things, namely: always think logically, reading habits, accustomed discussion, the spirit of research, and used to write. Therefore, the framework constructed in this study as shown in figure.



Frame of the development of the academic culture

Institutions of higher education, especially vocational education, which is the last formal educational institutions before individuals enter the workforce need to anticipate this. The application needs to reorient the learning set learning strategies that students can develop academic culture. The strategy should be implemented directly in the learning process in the classroom or in the lab. It is expected the vocational education institutions can develop the academic aspects of student competence. Therefore, vocational education institutions as providers of the diploma program needs to create policies that lead to habituation academic culture directly implemented in the course of practice.

From the table above it is clear that the academic culture in vocational education is an important aspect in producing graduates who have adequate academic abilities. Therefore, it is necessary to study, formulation, and implementation of integration patterns in the development of the academic culture of learning practices with a variety of strategies.

Problems

The problems are: (1) how the formulation of the academic culture of the workforce needed for manufacturing a vocational student? and (2) how relevant learning strategies to build students' academic culture manufacturing vocation?

Theory

1. Cooperative learning

In the book cooperative learning structures for teambuilding (Miguel & Kagan, (2006) cooperative learning is an approach to organizing classroom activities into academic and social learning experiences. Students must work in groups to complete the two sets of tasks collectively. Everyone succeeds when the group succeeds. Cooperative learning is an approach to organizing classroom activities into academic and social learning experiences. Learners must work in groups to complete tasks collectively. Here each person is successful if the group successfully.

Cooperative learning is dependent on small groups of learners. Although the content and the instructions given by the characterizing part of the teaching faculty, but cooperative learning carefully combining small groups so that the members can work together. Each group member is responsible to learn what is being served and helping friends' members to learn. When this cooperation takes place, the team created an atmosphere of achievement, and subsequent enhanced learning (Medsker and Holdsworth, 2001).

Cooperative learning refers to the method of teaching in which students work together in small groups to help each other in learning. Most in this case involve the learners were divided into groups of 4 (four) people who have different abilities.

The distinctive feature cooperative learning is students placed in cooperative groups and stays together in a group for some period of time. Previously these students were briefed or trained on how to work together, be a good listener, gives a good description, and how to ask questions correctly.

Cooperative learning activities can play many roles in the lesson. In particular lesson of cooperative learning can be used three (3) different purposes. For example, a group of students attempting to find something, then after a time-out college students can work as discussion groups. After that the students will have the opportunity to work together to ensure that all members of the group have mastered everything he had learned.

According to Slavin (2005) cooperative learning is learning that is done in groups. Students in the class used small groups consisting of 4 to 5 people to understand the concept facilitated by lecturers. Cooperative learning is learning by setting small groups by taking into account the diversity of the student members of the group as a forum for collaboration and problem solving through social interaction with their peers. They give each other a chance to learn something well at the same time and be a resource for other friends. So cooperative learning is a learning model that promotes collaboration among students to achieve learning goals. Cooperative learning has the following characteristics: (1) to complete the learning materials, students learn cooperatively in groups, (2) a group formed of students who have the capability of high, medium and low, (3) if the class contained students which consists of several races, tribes, cultures of different genders, it is necessary that in each group consisted of race, ethnicity, culture, different genders, and (4) the award is preferred to work on a group of individuals.

The purpose of cooperative learning are: (1) results-oriented academic learning, which is to improve student performance academic tasks. This model of learning is considered superior in helping students understand difficult concepts; (2) acceptance of diversity, namely that students receive their friends who have a variety of backgrounds; and (3) the development of social skills, which is to develop the social skills of students include: sharing tasks, actively inquire, respect other people's opinions, fishing friend to ask, want to express their ideas, and work in groups.

2. Collaborative learning

Cooperative and collaborative by several researchers in the field of education often means almost the same collaboration. Cooperative means involving the joint activity of two or more; done with or working with others for a common purpose or benefit. While collaborative means accomplished by collaboration, while the definition of collaboration is defined act of working jointly: "they worked either in collaboration or independently". Therefore, collaborative learning is learning meaningful cooperation. As a collaborative learning process to realize course this is done is to familiarize students with cooperative learning.

Scharge in Herlanti (2011) says that exceed collaborative learning cooperative activity, since the collaborative partnership is not end, but a means to achieve the learning objectives. The result of the collaborative is a new discovery.

Such as cooperative learning, in Ruhcitra Jonassen (2008) states that collaborative learning can also assist students in developing the knowledge that is more meaningful when compared to individual learning. Activity in this collaborative learning indirectly conditioned the way students learn. The other thing is that the class managed collaboratively students are more motivated, have a curious nature; there is a feeling of helping others, and work more focused.

The basic concept of collaborative learning departed from the philosophy that a person needs to learn to have a partner. John Dewey in his monumental "democracy and education" illustrates that the class is an actual picture of society. Therefore, the class can serve as a laboratory for learning about real life. Principles of Dewey's thinking about education, among others, (1) in the study students should be active, learning by doing; (2) learning should be based on the motivation of the students themselves (intrinsic); (3) knowledge is something that is dynamic, not static; (4) the learning activities should be tailored to the needs and interests of the students themselves; (5) the study carried out by the principle of mutual understanding and mutual respect for one another;

and (6) learning activities should be linked to the real world.

3. Academic culture students

Increased academic culture among students can be done by getting a student to be creative and innovative in accordance with the character of an intellectual, for examples of students' academic culture is a culture of reading, writing, and researching, as well as various forms of other activities related to the improvement of science. In determining the merits of academic culture can be based on a system of learning in the classroom. If the learning system can spur students to work, it will create a conducive academic culture. To improve the academic culture that is conducive to familiarize the student was done with as much as possible to read and write.

Building the academic culture has become the foundation for the advancement of the campus. Due to good academic culture awakening, will impact on a variety of things. Therefore, the education system should be changed, especially in class learning to build towards a more academic culture.

Academic culture essentially covers the three things, namely:

Efforts to develop new knowledge in continual (the continuous search for new knowledge).

The effort to seek the truth continuously (continuous for the truth); and

Efforts to maintain the wealth of knowledge that has been there from the various types of fraud (the continuous defense of the body of knowledge against falsification). (Kompas, 21 April 2004).

Five Pillars of Academic Culture

Academic culture must constantly reflect and evaluated in order to find the conducive growth. At least there are five pillars of the development of academic culture that should be reflected together. First, the culture of thinking. Think it has become part of human life. Culture is think that question is to build the habit of mental and critical, reason,

reflection, and intellectual attitude of the symptom that develop in society. People who have a culture of thinking will be responsive to what he found in everyday life. He is not lazy to think. He will be very innovative and creative in his entire life. This is a kind of culture, builds demand for each student.

Second, the culture of reading. Greatest effort in the development of higher education in the future is to build a culture of reading, especially among college students. Reading should be a culture. Reading crisis is still a major problem in our society. Even for people who are often grouped as members of the academic community to live in, reading is still unfinished business. That is, interest in reading as things that should not need to be busy again when someone is at the college level even still jammed developmental studies.

Third, culture discussion. Enthusiasm seek the truth, listen to the other person's attitude, and willingness to be criticized is the basic attitude to culture discussion. Never wait until there is a large on-campus seminar to train new self expression. Seminars, symposia, and discussions are obviously only going to happen on special occasions. Cultural discussion needs to be intensive built in mini groups, either formally or informally. Discussion, questions and answers, exchange of ideas, mutual affirmation, and raw criticism in principle should be eating-drinking intellectual potential. Only then the expected growth in academic culture really materialized.

Fourth research, it is one of *tridarma perguruan tinggi*. The development of science will occur if given research attention, both field research and literature. Research is a form of social and moral responsibility towards the public intellectuals. College academic culture was just going to wake up and thrive when given a place of research.

Fifth, publications. Publication aspects also be come very significant for academics. At least the publication reflects the poor academic atmosphere in an academic institution. In contrast, the proliferation of publications showed enthusiasm for an institution to cultivate academic life.

These five points listed above form the basis of academic cultural development. Academic culture is maintained at each university institution undoubtedly become the basis of the formation of new generations of critical intellectual, creative, initiative, innovative, able to compete on a global stage.

Methods

This study is a survey, which aims to identify the academic culture demands DUDI. The consequences of these demands will lead to the academic culture essential for the manufacturing of vocational education students.

The survey conducted on manufacturing industries located in the region of Yogyakarta, central java, and west java representative are a of the city/ county. Data source is the manager/leader of the company.

Data collection is divided into two parts. Quantitative data was collected using a questionnaire, containing open and closed questions. Data qualitative data were collected by using observation and interviews with managers/leaders of their respective companies.

Results and Discussion

1. Data research

a. Academic culture of the workforce needed for manufacturing vocational students

Needs assessment done to see what are the aspects of academic culture are important manufacturing industries owned by employees graduate diploma program. Respondents were involved in needs assessment consists of 14 managers/corporate leaders from 10 companies in Yogyakarta, central java, and west java. Table 1. List of companies' research sites

No.	Companies' Name
1	Industri Karoseri Agustus, Magelang
2	Industri Karoseri Avena, Magelang
3	PT Tjokro Bersaudara, Solo
4	Koperasi Batur Jaya, Klaten
5	PT Mekar Armada Jaya, Magelang
6	KING Manufacture, Solo
7	PT Indonesia Power UBP, Cilacap
8	CV KHS Yogyakarta
9	PT Tripatra Yogyakarta
10	PT Bukaka Teknik Utama Bogor

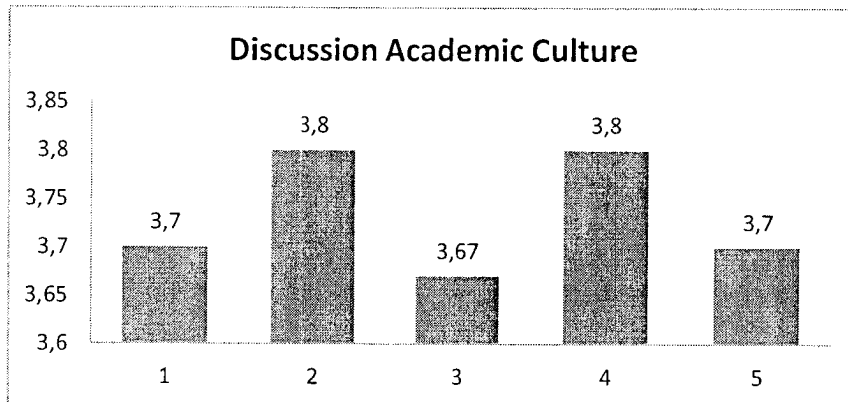
The survey results obtained will be categorized into 3 categories namely essential if score ≥ 3.50 ; less important category of $\geq 3.003.49$; and the categories are not important < 3.0 . After the data is analyzed by giving a weighting to the point answers, can be obtained scores on each aspect and facet indicator shown in the table below:

Table 2. Mean score category ranking academic culture is important for graduates of the diploma programmed

No.	Academic Culture	Score
1	Discussion	3,73
2	Research	3,45
3	Read	3,36
4	Publication	3,04

From the table above it can be seen that the average discussion to be one of the importance academic culture applied in industry and publications become less important applied. To see a more detailed level of importance of each aspect of academic culture, the following are the explanations.

Discussion

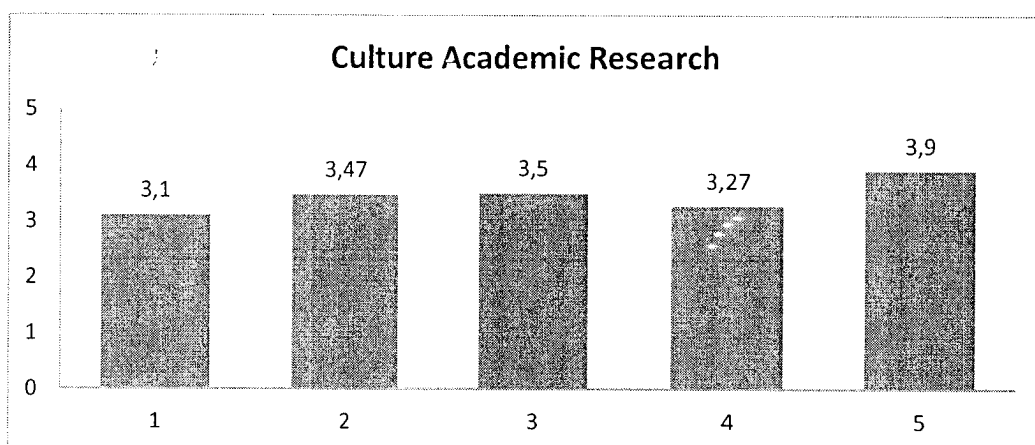


Information:

1. Step Work/WorkPreparation
2. Work Efficiency
3. Effectiveness of The Work
4. Product
5. The Case of Faulty Work

In a discussion of academic culture, all aspects tend to have similar levels of interest. This fact suggests that the discussion is that culture is important applied for diploma graduates in the industry.

Research



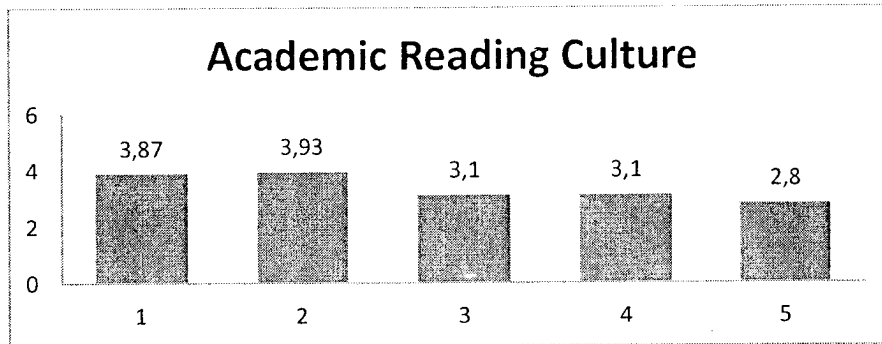
Information:

1. Analysis of future market needs
2. Trial of the effectiveness and efficiency of work
3. The calculation of the effectiveness of the use of tools
4. Trial results product

5. Evaluatethe work

From the academic research culture there are two aspects that are considered important in the

calculation of the effectiveness of the use of the tool and evaluation work.

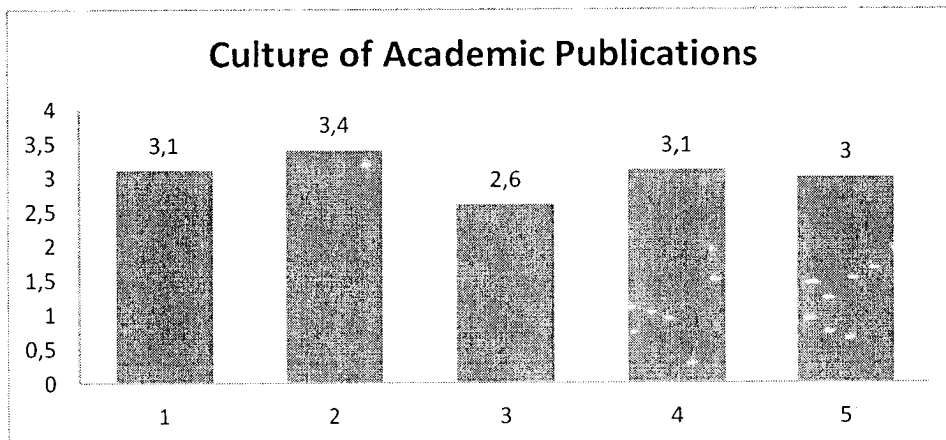


Information:

1. SOP(Standard Operating Procedure)
2. Work instructions/jobsheet
3. Law/Regulationlabor/workplace
4. The developmentof science and technology
5. Issueworld of work today

It can be seen that in the academic culture of reading instruction reading put the work/ job sheets and sops be the most important aspect of the issue while reading today's world to be the lowest.

1) Publication



Information:

1. Writingmanualwork
2. Create reportswritten employment
3. Creating a website
4. Arrangethe results ofthe productcatalog
5. Performinworkingseminars/workshops

From the data obtained virtually all aspects of the publications in the category of less important and unimportant applied in the industrial world.

b. Advice and opinions manager / head of the company

To complement the information obtained through questionnaires, researchers conducted interviews with respondents to see the extent to which the importance of the application of the academic culture in graduate diploma program. Here are the results:

Table3. The level of importance of the academic culture in the workplace

Academic Culture Type	Score
Reading	3,20
Publication	3,13
Discussion	3,06
Research	2,33

C

The significance of the above data, the company's leaders argue that the diploma programs graduates are still working in the industry were asked to continue reading activities, publications, and discussions. While researching activities are not so necessary in the industrialized world. In addition, the leadership of the company to provide input learning activities on campus that are assignment review or update the latest information needs to be propagated.

In addition, from interviews with industry leaders agree that learning strategies should be applied to the manufacturing of vocational education institutions related to the development of the academic culture that takes the world of work more appropriate to use the collaborative learning strategy, not cooperative learning.

These similarities and differences between the collaborative learning cooperative learning can be shown in tables below.

Table4. Similarities and differences between the cooperative learning with collaborative learning

	Cooperative Learning	Collaborative Learning
Similarities	Group Work	Group Work
	Discussion	Discussion
Differences	Group Leader	No Group Leader
	Ranking members of group	No ranking members of group
	Looking for a deal	Not looking for a deal
	Groups' result	Individual result
	For those who already understand, explain to those who do not understand.	For those who do not understand, ask those who already understand.
	Cooperation into learning objectives.	Cooperation becomes a means of learning

Discussion

Based on the above data it can be seen that the academic culture is still required in the workplace. Workforce applying academic culture in the work environment looks better quality of work. The habit of reading, publication, discussion, and research that characterize an academic-including students-diploma program, became concerned in the capital for the potential increase in personal on the job.

Reading that is a positive culture that can directly improve the experience, understanding, knowledge and understanding the instructions that are important to workers as same as discussions of culture. This culture is a practical attempt to solve the existing problems together in order to look for the best solution. While researching culture is an activity that can be done to solve a problem that is not known or the innovative efforts that can be done through scientific principles.

The tip of it is the publication of academic culture. General publication is an attempt to show something to others. Form of publication in the workplace can be a report, catalog, website or performed directly in the forum to explain something to someone else. Fourth academic culture at the top in the world of work is very important to be applied in the production process. It is given that labor orientation focused on the production of goods or services.

The results showed that the culture aspects of academic reading puts two important aspects applied to the graduate diploma program that is read work instructions and read the SOP (Standard Operating Procedure). When viewed from the goal, the two aspects of the same which has a goal to read a step or work procedures, so that workers can perform the work in accordance with appropriate procedures. Read work instructions and SOPs are considered most important for a worker graduate Diploma Program, because the reading aspect is directly related to the work process to be performed. Read work an instruction is very important because there are clearly written in a coherent step work to be done, the equipment should be used, as well as the calculation of the estimated time in progress. While SOP here, contains standard of work to be done or complied with at work, such as the standard operation of the machine, safety and health standards.

Discussions as almost all of them fall into the category of important applied to graduates of the Diploma Program, for example, discusses the work efficiency, discuss the effectiveness of work discussing the work, discussion of work steps, as well as discuss the cases faulty work. Discussing the work efficiency, for example, discuss the workers to get maximum results with the use of the least possible cost and effort. While, discussing the effectiveness of the work is discussing work together to accomplish goals in a way appropriate. Another aspect of the discussion is to discuss the work we usually know or work evaluation. This is very important because with the evaluation of this work will be known shortcomings and work to do the next step.

Discussing job step is also important that should be familiarized by the workers. Discussion unusual step of this work can be done before starting work each day. The workers work today knowing the target, the appropriate action steps, team coordination, and can be a medium to provide important information by the leadership. The last important aspect of the discussion is applied to discuss the case of faulty work or case studies. By discussing this sort of thing can be a reference if no errors are present, which in turn immediately acquired the right solution. When viewed from above aspects can be concluded that the discussion is a means of communication and consultation with employees or leaders to reach consensus or find solutions together.

In the aspect of researching the academic culture, there are two important things that is applied to evaluate the effectiveness of the work and calculate the use of tools. Evaluation of the work in question here is do some research to see the product or performance of a worker that can be mapped in detail the work that has been done. The effectiveness of the use of an important tool applied to ensure optimal use of the tool. Tools to support production activities should be planned effectively as possible with the aim to adapt the work targets and increase the lifespan of the tool.

Looking at the above explanation, writing or publication of academic culture is considered not important by DUDI. This has become our thinking along considering the actual publication of an important culture that can be applied. Publication may be the most appropriate medium for promotion of products such as via the website or product catalog. Publications as well as a means to deliver work reports the results through seminars and workshops as well as a written report. Steps that could be done was to get publicity activities to work activities such as workshops, requiring a report of work, an active website as a means of providing information or discussions and conducted seminars on a regular basis.

Further results of the survey conducted by the opinion of the leadership DUDI accommodate three academic cultures that should be applied is critical

reading, discussion and publication. Researching used as academic culture is considered not important by labor diploma. This is different from the results of a survey that has been done previously that puts research on an important position but here will be detailed explanations.

Aspects of academic culture are considered less important than twice the survey results is the research and publications. Research and publication is very rarely done by a workforce in the field. This is because these two activities is not directly related to their work activities. We know diploma usually plays as operator, foreman or leader is automatically time and their activities devoted to the work done.

Sometimes certain companies do not allow a worker to explore fields other than field work. So the land for labor diploma in this aspect is very narrow. Efforts should be made to familiarize the research and publication of this culture is getting used to the narrow realm of field work ie research work done, daily reports, monthly reports or statements of work each finished product manufacturing and others and reported in such a small group workshops to colleagues each other can share. Further processes that can be done is to implement and participate in the company's internal seminars both a participant and presenter. It is expected that with a lot of activities concerned with the academic culture may evolve slowly and can become work habits.

Conclusion and Recommendations

Based on the research and analysis conducted can be concluded: (1) an important aspect of academic culture applied to the Graduate Diploma Program who works in DUDI sequence is read SOP (Standard Operating Procedure) and work instructions, evaluate the work, discusses the efficiency of work, discuss work, discussion of work steps / products, discusses the case of faulty work, calculate the effectiveness of the work, and to calculate the effectiveness of the use of tools. (2) learning strategies should be applied to the manufacturing of vocational education institutions related to the development of the academic culture

of the working world needs is more suitable than the Collaborative Learning Cooperative Learning.

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