PROCEEDING_SEMINAR INTERNASIONAL_ICERI 2016

by Dwi Rahdiyanto

PROCEEDINGS

Revitalization Of Vocational In Free Trade Era (ICERVED) 2016

Friday , 29 January 2016
Politeknik Negeri Medan
Indonesia

Business Administration Department
Politeknik Negeri Medan, Indonesia

ISBN 978-602-73886-0-4

CONTENTS

DEVELOPMENT MODEL OF PRACTICE LEARNING BASED COLLABORATIVE SKILLS IN HIGHER VOCATIONAL EDUCATION

Dwi Rahdiyanta
Yogyakarta State University
E Mail: dwi_rahdiyanta@uny.ac.id /Hp. 0818273996

Abstract

The purpose of this research is to improve the general quality of vocational education graduates at the higher education. In more detail the purpose of the study in the 2nd year is as follows: 1) to determine differences in attitudes and behavior between the experimental class (which implements a development model of practice learning based collaborative skills) with the control class (which does not apply development model of practice learning based collaborative skills), and 2) to determine differences in student achievement between the experimental class and the control class. Globally, this study conducted with the approach of Research and Development for two years. While the research methods used in the 2nd year of this (implementation activities) using quasi-experimental approach. Collecting data using observation sheets, documentation, evaluation of learning outcomes and interviews. In this study the data were analyzed by means of qualitative and quantitative, then presented descriptively. The results of the research that has been conducted is: 1) there is a difference between the attitudes and behavior of students with practice applying the development model of practice learning based collaborative skills, compared with classes that do not implement development model of practice learning based collaborative skills ($t = 7.211$, $p = 0.000$); 2) there is a difference between the achievement of students by implementing development model of practice learning based collaborative skills, compared with classes that do not implement development model of practice learning based collaborative skills ($t = 10.573$, $p = 0.000$).

Keywords: Development model of practice learning, collaborative skills, higher vocational education.

INTRODUCTION

Vocational education as part of the national education system plays a strategic role for the actualization of skilled labor and are ready to work. From various studies that the opportunity to have a high and sustainable economic growth of a country will be the greater if supported by human resources that have: (1) knowledge and basic skills to adapt to the demands and dynamics of the ongoing development; (2) levels of education that the higher; (3) the skill of expertise background in science and technology; and (4) the ability to produce good products from the quality and price, able to compete with other products in the global market.

Based on data from the National Statistics Agency (BPS) 2011, there are 82,1 million Indonesian workers charged groups un-skill workers (workers who do not have the skill or

competency in kind). The group un skill workers the majority are graduates of public schools. Whereas groups thereon filled skill workers (workers with the skills or competencies in) of 20.4 million people. As well as the composition of the top is the expert workers (expert) with 4.8 million people. See this condition of Indonesia will be difficult to compete with other countries in the era of globalization and the tight competition now this time or in the future.

Based on the fact will be the responsibility of the education world especially vocational education to produce competent graduates. Therefore the competencies that will be developed through the learning process must be referring to the competencies needed by industry world. One of the courses in universities that is very important and strategic to the formation of the competencies is practical courses. Therefore seen is very important to always improve the quality of teaching practice. Based on pre-survey which has been implemented in the manufacturing industry, obtained the information that the process of making a product unit requires collaboration (cooperation) from skills (collaborative skills). Without the cooperation and the end result of the product that is expected could not be achieved. One of the efforts to instill the attitudes and behavior of learners related to the competencies required by the world the industry is to develop the model of teaching practice through collaborative skills approach.

The problems that will be discussed are: 1) whether there are differences in the attitudes and behavior between students who were taught using the model of teaching practice based on collaborative skills with students who are not taught with the model of teaching practice based on collaborative skill, 2) whether there is a difference between student learning achievements of students taught using the model of teaching practice based on collaborative skills with students who are not taught with the model of teaching practice based on collaborative skill, and 3) whether the students who taught with the model of teaching practice based on collaborative skills have the readiness to work in the manufacturing industry which is better.

New Paradigm of learning as a product innovation should be more provides the process to restore the fact learners to conscience as a man who has all the potential to experience becoming process in developing the fullest man. Therefore, any facilities provided to facilitate learners and anyone that the facilitators will accompany learners learn, should be departed from and oriented on what is the purpose of learning learners. The purpose of the original learning appears from motivations (intrinsic motivation). The learning paradigm that are able to touch the hearts of learners to raise intrinsic motivation should be the first focus in developing learning facilities. The learning paradigm will raise positive attitude toward learning so that learners are ready to do though think, taste, and sport in live learning events.

Marzano et al (1993), formulating learning dimension to five levels; (1) the attitude and perception that positively to learn, (2) acquisition and integration of new knowledge, (3) expansion and enhancements to the knowledge, (4) use of knowledge significantly, and (5) getting think effective and productive. The five dimensions of learning will be internalized by learners when they are able to do by think, taste, and sport in learning which are all derived from motivations that most in. The Basis of quantum teaching (Bobbi de Porter et al., 2001; Bobbi de Porter, 2000) stated "bring their world to our world and mention our world to their world", may need to be translated by the teachers in developing learning facilities that are able to touch the hearts of learners to be more responsible for the school. The competence of responsibility is one of the competencies of potential attitude in building the competencies echelons, like creative thinking of productive, decision-making, troubleshooting, learn how to learn, collaboration, management and/or restraint. The responsibility is one of the competencies of potential attitude in building the competencies other things like creative thinking of productive, decision-making, troubleshooting, learn how to learn, collaboration, management and restraint. The competencies are absolutely

needed by learners to be able to become a man that is an adaptable, flexible, and versatil in all aspects of life that always changed. Competency-based learning is learning which is done with the orientation of the achievement of the competencies learners. So that the estuary of the end result of learning is increasing the competence of learners can be measured in the pattern the attitude, knowledge and skills (Sidik Purnomo, Http://kidispur.blogspot.com/ 2009/01/principles of learning-based-. html).

The concept of competency based learning requires formulated him clearly the competencies that must be owned or displayed learners after attending the learning activities. With the benchmark in the achievement of the competencies in the learning activities learners will escape from studying material that does not need the material that does not support the achievement of mastery of a competency.

The achievement of each competency is closely related to the learning system. Thus the components of the minimum competency-based learning is:

a. The election and the formulation of the right competence.
b. indicator specifications to determine the assessment of competency achievement.
c. the development of functional delivery system and relevant with the competencies and evaluation system.

Related to the aspects of learning, Depdiknas (2002) stated that the competency-based learning has five characteristics as follows: (1) stressed on its achievements competencies learners individually as well classical, (2) results-oriented learning and diversity, (3) Delivering in learning using the approach and methods that vary, (4) learning resources not only lecturers but also other learning resources that meet the elements of the educational, and (5) The Assessment emphasized on the process and the results of learning in the effort of tenure or the achievement of the competencies.

More information according to the National Agency of Professional Certification (BNSP), which in this case the metal Professional Certification Institution and Machinery Indonesia (LSPLMI), stated that there are 4 (four) dimensions competencies which must be noted: (1) Task Skill is the ability to carry out the main task of a job, (2) Task Management is the ability to manage the type of tasks to support a work (3) Contingency Management Skill is the ability to respond and manage events that irregular or problems from a job, and (4) Job/Rolls Environment Management Skill is the ability to adjust with the responsibility of the work environment. In detail the title of the unit of competency on the certification scheme especially for machinery operators lathe and milling conventional based on the Standard Operation Procedure (SOP) competency assessment machining BNSP field can be seen in the following table.

Table 1.
Operator certification scheme for conventional lathe and milling complex.

No.	Unit Number	Title of Unit Competency	Weight
1	LOG.OO01.002.01	implementing the principles of salvation and work accidents in the work environment	0
2	LOG.OO01.003.01	applying quality procedures	0
3	LOG.OO02.005.01	measured using the measuring cup	2
4	LOG.OO02.012.01	Perform mathematical calculations	2
5	LOG.OO09.002.00	Read the image of the technique	2
6	LOG.OO07.006.00	do the work with the lathe machine	4
7	LOG.OO07.007.00	do the work with the milling machine	4
8	LOG.OO18.001.01	using the vessels hand	2
9	LOG.OO12.003.01	measure with precision mechanical measure	2
10	LOG.OO07.020.00	Using the complex lathe machine	4
11	LOG.OO07.011.00	Using the complex milling machine	4

The competency based learning characteristics are demanding that the lecturer to always innovate and improvise in determining the method and the appropriate learning strategies. In the process of learning that many obstacles, is required to lecturer search and find new approaches that effective and efficient. But at this time the teachers and lecturers is still considered less possesion provisions journalists team, methodical knowledge, materials and creativity in learning (Dedi Supriyadi, 2001). In such a condition then learning model selection must be adjusted with the ability of lecturers and not weigh on the work of lecturers.

Ted Panitz (1996), explained that collaborative learning is a personal philosophy, not merely teaching techniques in the classroom. According to him, collaboration is the philosophy of the interaction and lifestyle that makes the cooperation as a structure of the interaction is designed in such a way to make it easier for collective effort to achieve a common goal. Thus, collaborative learning can be defined as a learning philosophy that make it easier for learners to work together to build each other, learn and change together and forward together again. This is the philosophy of the global world needs today.

Collaborative learning facilitate learners to learn and work with each other to donate thought and responsible for the achievement of the results of learning in groups and individuals. Different from the conventional learning, main pressure collaborative learning or cooperative learning is "learning together".

The structure of the purpose of collaborative characterized by the number of mutual dependence that is so great between learners in groups. In collaborative learning, learners said "we the United States well the United States you", and learners will achieve the goal only if the other learners in the same group can achieve their goals with (Arends, 1998; Heinich et al., 2002; Slavin, 1995; Qin & Johnson, 1995). Collaborative learning can provide the opportunity to go to on the success of the teaching practices. As the technology for learning (technology for instruction), collaborative learning involves active participation learners and minimize the differences between the individual. Collaborative learning has increased the momentum of formal and informal education from two power that meet, namely: (1) The realization of the practice that live outside the classroom requires collaborative activities in the life of the real world; (2) grow awareness interact socially in an effort to introduce learning means.

According to Johnson (1995), at least there are five basic elements in order to make a group of cooperative learning occurs/ collaborative, namely:

a. Mutual dependence positive.
   In this learning each learners must feel that it is dependent upon a positive and tied with fellow members of the group with responsibilities: (1) control teaching materials; and (2) ensures that all members of the group also prevail against it. They feel will not succeed when other learners also not success.
b. Direct interaction between learners.
   The best learning results can be obtained with the existence of verbal communication between learners are supported by mutual dependence positive. Learners must face each other and help one another in the achievement of learning objectives.
c. The responsibility of the individual.
   In order to make a group of learners can contribute, support and help one another, each learners are required to be master the material that made the subject. Thus each member of the group responsible to learn the subject and is responsible for the results of group learning.
d. Collaborate skills.
   Social skills learners is very important in learning. Learners are required have collaborated so that the skills of the group created a dynamic interaction to learn from each other and teach as part of a collaborative learning process.
e. The effectiveness of the process of the group.

Learners process the effectiveness of school groups with how to explain which actions can contribute learning and which are not and make decisions of the actions that can be continued or that need to be changed.

The skills according to the dictionary "bahasa Indonesia" was interpreted as a skill or certain capabilities that is owned by a man. In the field of machining techniques, skill is the skill or ability that is needed to do the types of machining work. The skills are the skills of creating various objects work in the form of machine components using the machines vessels, including how operation and setup of the machine.

So collaborative skill can be interpreted as a combination of various ability or skills. This can be explained that the product collaborative skill is product that is produced from some kind of work with different skills. The implication in the teaching practice is manifested in learning materials. In practical lessons machining, learners given job sheet to exercise an object of work with the engine vessels. To apply the practical lessons based on collaborative skill, learning materials in the form of job sheet must be developed in order to meet the criteria of collaborative skills. This means that job that will be given to the students is the job that is composed of many components. This means that in the process of learning the practice, students were divided into several groups, where each member has the task of working on a component and then can be paired in one group become one unit working objects. Thus the learners will be more motivated in teaching and really in attempting to master the competencies maximum, due to the success of the group is the success of each individual so that they feel will not succeed when other learners also not success.

RESEARCH METHOD

This research uses approach Development Research. In the first phase of the research done in exploration activities, which consists of a preliminary study, the formulation of the conceptual model, validation and revision and testing model. While research on the second stage is done implementation activities and dissemination.

The activities of the implementation of the model of learning materials (conceptually) is done by using the design of the experiment facades or Quasi Experimental Design two groups with pre-test and post-test. (Borg & Gall, 1998:536, and Fraenkel & Wallen, 1993:128). Purpose of the use of this design to test the effectiveness of the model and validate the conceptual model that has been produced by empirically. Testing the effectiveness of the model is done for the conceptual model developed so that can be a model empiric or worthy misapplication.

Because the implementation process is done on the practical lessons, so that the design of the research that is used is the design of the posttest-only control design. This adjusted with characteristic of practical lessons where to student achievement assessment seen from working objects practical results, so it is not required pretest.

Now the design of the research can be seen in the picture below:

1

R X O2
R O4

Picture 1. Posttest-Only Control Design

Description :
R = control classes and class test taken random
O2 = posttest trial class
O4 = posttest grade control

The location for this research is at the Department of Education Mechanical Engineering Faculty of Engineering, Yogyakarta State University, and manufacturing industry machining field in Yogyakarta.
The methods and techniques of data collection on research is: (1) observation sheet, (2) documentation, (3) interview to dig a good response from the students and university lecturers, and (4) assessment sheet work objects in the self-assessment.
The research result data analyzed with quantitative and qualitative way. To test the effectiveness of the model developed compared with the old model, analyzed using methods t-test.

THE RESEARCH RESULTS AND DISCUSSION

1. The results of

This research carried out on the complex machining process courses taught on the 4 st semester students majoring in Education Mechanical Engineering Faculty of Engineering, Yogyakarta State University (FT-UNY). The process of research carried out during the eight meeting. The meeting one to with the three used for the explanation and the preparation of the learning activities while the fourth meeting until the eighth is at the core of research activities, so that every meeting observed the development of student activities related to the implementation of aspects of the characters and related to learning achievement or ability students on complex machining process courses. In accordance with the characteristics of courses practice, then the character aspect is applied honest, discipline, diligent, carefully, independently, hard work and concerned. While the aspects of student learning achievements are reflected in the workmanship job sheet on complex machining process courses have been assigned.
The Data result of observation of the behavior or student activities related to the implementation of aspects of the attitude of the class experiments can be seen in the table 2, and the data result of observation of the attitude or student activity on the control classes can be seen in table 3 below.

Table 2. Student activities class experiment

The aspect of student behavior/attitude	The number of students at the meeting to						Average	Percentage
	3	4	5	6	7	8		
Honest	8	12	12	14	16	16	13.0	0.81
Discipline	13	15	15	15	16	16	15.0	0.94
Diligent	7	11	12	12	14	16	12.0	0.75
Carefully	7	11	12	11	14	15	11.7	0.73
Independently	6	12	13	14	14	16	12.5	0.78
Hard Work	5	10	12	15	14	14	11.7	0.73
Concerned	12	13	14	15	14	15	13.8	0.86
Average							**12.81**	**0.80**

Table 3. Student activities class control

The aspect of student behavior/attitude	The number of students at the meeting to						Average	Percentage
	3	4	5	6	7	8		
Honest	5	6	9	9	12	12	8.8	0.74
Discipline	7	10	9	12	10	12	10.0	0.83
Diligent	4	5	6	6	8	10	6.5	0.54
Carefully	5	6	6	4	7	9	6.2	0.51
Independent	5	6	5	7	7	9	6.5	0.54
Hard Work	6	5	7	5	5	7	5.8	0.49
Concerned	4	6	6	8	11	12	7.8	0.65
Average							**7.38**	**0.62**

Now data about student learning achievements taken from the assessment of work objects practical results as much as three (3) job practice. The full data can be seen in the table below.

Table 4. The experiment class student learning achievements

Student	Job practice			The average
	I	II	III	
1	75	78	82	78.33
2	78	78	75	77.00
3	77	73	78	76.00
4	75	77	82	78.00
5	78	76	77	77.00
6	80	75	78	77.67
7	82	68	76	75.33
8	77	80	80	79.00
9	78	80	78	78.67
10	80	77	82	79.67
11	76	76	80	77.33
12	75	78	80	77.67
13	73	68	78	73.00
14	65	70	77	70.67
15	65	70	75	70.00
16	72	68	75	71.67
	value of average Total achievement			**76.06**

while student learning achievements to control classes can be seen in table 5 below.

Table 5. The control class student learning achievements

Student	Job practice			The average
	I	II	III	
1	65	66	70	67.00
2	60	65	65	63.33
3	70	68	68	68.67
4	72	70	70	70.67
5	68	70	66	68.00
6	72	60	60	64.00
7	68	62	65	65.00
8	70	65	62	65.33
9	70	60	66	67.33
10	65	65	72	67.33
11	60	72	68	66.67
12	70	66	60	65.33
13	65	70	65	6667
14	60	65	65	63.33
15	60	65	65	63.33
16	72	70	70	70.67
12	72	60	60	64.00
	Value of average Total achievement			**66.33**

The next stage of the test done analysis requirements in accordance with the type of analysis that will be used to know the difference between good attitude/Activity As well as student learning achievements between the classes of the experiment and control classes. Now the test is analysis requirements and homogeneity and normality tests.

To test the distribution of data normal or not used the method the value of the ratio of skewness and kurtosis ratio. The data can be said normal distribution if the value of the ratio of skewness and kurtosis ratio value is located in the range -2 until with 2 (Muhammad Nisfiannoor, 2009). From the test results normality obtained the conclusion

that the distribution of good data for the control class or experiment is normal distribution. In this case to the class data of the experiment, the value of the ratio of skewness variables (-1.748) and kurtosis ratio (-0.288), and to control classes shows the value of the ratio of skewness variables (0.821) and kurtosis ratio (-0.370).
To test its homogeneity of data research results with levene statistics retrieved on 0.189 significance Based on Mean greater 0.05. So also the test result data student learning activities with the levene statistic obtained the significance of 0.189 on Based on mean that greater 0.05. Thus the research data was homogeneous. Based on the results of the analysis of the requirements of the test, then the test can be performed with different test parametris. The technique used is a different test with test – t.

Students learning achievements

Based on the research results obtained average value of experimental class learning achievements is 76.06. While the value of the average classroom learning achievements control is 66.33. Based on the test results vary, known value of t-count = 10.573 with p= 0.000. Thus it was proven that there is a significant distinction between student learning achievements class experiment with the class control. In this case the class learning achievements experiment is better than the control classes.

Student learning activities

From the results of research on student learning activities, obtained that 80 % from grade student active experiments, while for grade control only 62 % of students who are active. Based on the test results vary, known value of t-count = 7.211 with p = 0.000. Thus it was proven that there is a distinction between students learning activities class experiment with control classes. In this class students learning activities of the experiment better than the student learning activities in the class control.

2. Discussion

Based on the results of the implementation of which has been completed, quantitatively proved that by implementing this learning model, able to integrate aspects of the attitude or behavior (characters) so that formed characters learners which is reflected from the activity or the behavior of learners during the learning process. Based on the results of these observations during the implementation process, seen that the stages of learning practices based on collaborative learning model the skills that effective in raising awareness of the learners phase is the exploration of the aspects of the work attitude. In this phase learners are required to convey their opinions related to the aspects of the work attitude is supposed to be owned by a person especially in implementing the process of practical lessons. The purpose of the implementation of this phase is when a person has consciousness is theoretically related to the aspects of the characters (which is seen from the discussion process of delivery of opinion by learners related to the aspects of the characters), then logically someone is surely will carry out aspects of the character especially in the process of learning the practice.
It is evident from the result of observation of the activity of learners during the learning process in progress, learners capable of or actively convey their opinions during the process of exploration of the aspects of the attitude, turns out during the learning process in progress, learners are diligently implement aspects of attitudes related to work with good character. So the stage of exploration aspects of this character is effective in integrating aspects of the characters in the learning process.
The next stages in the learning-based collaborative skill practice is discussion in the drafting Work Preparation Sheet. In this stage the learners are required to be able to collaborate and appreciate the friends in his group or friends in other groups. So with the

passing of these stages are capable of getting learners to have brave character aspect holds, appreciate the opinion of others, and cooperation.

Other steps in the context of the integration process aspects of the characters is on when the evaluation process work objects practical results. Before assessed by teachers working objects practical results first done the self-assessment by learners. In the process the learners must perform the measurement independently the objects they work each and then the results of assessment populated in the sheet has been provided. Data from the evaluation independently by learners is then done cross check by the teacher. From this activity can be seen the level of honesty learners especially in implementing the self-assessment.

Based on the results of the implementation of which has been carried out, then globally can be known that there are differences in the aspect of the characters learners between the class experiment with control classes. This is shown from the difference of activity learners during the learning process took place. In the class experiment is much more active or better when compared with the class control.

Based on the results of research related to the students learning achievements and the results of these observations on learning activities in relation to the straight path with learners learning achievements. Based on the data obtained, on the class experiment where the level of their activity is better then school achievement achievements also far higher compared with control classes. Some facts on the top according to the research done by Marvin Berkowitz (2000) from the University of Missouri-St. Louis, shows the existence of improvement motivation learners in achieving their academic achievement in schools that implement character education.

After the implementation process done, then according to the research stages, then carried out the process of dissemination. This process is conducted with the purpose to introduce the model that has been developed and has proven effectiveness empirically. Dissemination activities carried out by inviting some of the related party to perform an in-depth discussion, from elements of the lecturers, teachers and from manufacturing industry party.The results from the dissemination activities in this research is as follows:

a. Participants Discussion (FGD) can accept and understand the model of teaching practice based on collaborative skill, as an alternative learning model in order to establish the attitude or behavior (characters) learners.
b. Need to be made so easy applicative guide its application in learning, especially practical lessons.
c. Need to be made to posted the implementation of when will be applied in the other practices courses.
d. The determination of aspects of the attitude of the students behavior/will be integrated, adjusted with the characters in the work of the courses that will use this learning model.

Based practice collaborative learning model skill, is development of CBT learning model where in the learning process as well as integrate the aspects of the attitude or behavior. This model more devoted to practical lessons, where in this learning room competency aspects or practice the skills of learners. Aspects of the attitude/behavior integrated course can be adjusted with the characters in the work of courses that will be applied.

CONCLUSION AND SUGGESTION

1. The conclusion

Based on the results of research can be summarized as follows:

a. There is a difference in the attitude (activity/behavior) learning between students who are taught by applying the model of teaching practice based on collaborative skills, compared with the class that does not apply the model of teaching practice based on

collaborative skills (t = 7.211 ; p= 0.000). Student activity after applied the model of teaching practice based on collaborative skills have increased by 50%.

b. There is a difference between student learning achievements by applying practices based on collaborative skill , compared with the class that does not apply the model of teaching practice based on collaborative skills (t=10.573; p= 0.000). In this case the average student learning achievements which taught by applying the model of teaching practice based on collaborative skills is higher compared to the student learning achievements which taught not to use the model of teaching practice based on collaborative skills (X-experiment = 76.06 > X-control = 66.33).

2. Suggestions

Based on the conclusion that has been formulated, there are several things that can be used as suggestions, namely:

a. The learning model that has been developed has been proven to increase work attitude, especially in the teaching practice machining process that it needs to be tested have tried to courses other practices..

b. The implementation of the model of teaching practice based on collaborative skills more of this portion of the emphasis on the activities of learners during the learning process takes place, so that the role of the lecturer/teachers should focus more in the process of mentoring and assistance to learners.

REFFERENCES

Arends, R. I. (1998). *Learning to teach.* Singapore: McGraw-Hill book Company.

Bobbi de Porter, Mark Reardon, dan Sarah Singer-Nourie. (2001). *Quantum Teaching*. Bandung: Kaifa.

Bobbi de Porter, dan Mike Hernacki. (2000). *Quantum Learning*. Bandung: Kaifa.

Borg, W.R., & Gall, M. D. (1998). *Educational Research, an intro-duction*. New York: Longman.

Dedi Supriyadi dkk (2001). *Reformasi Pendidikan Dalam Konteks Otonomi Daerah.,* Yogyakarta: Adicita Karya Nusa.

Depdiknas (2003). *Konsep Pendidikan Berorienatsi Kecakapan Hidup (Life skill) Melalui Pendekatan Pendidikan Berbasis Kelas (Broad Base Education-BBE).* Jakarta: Depdiknas.

Calhoun, C.C. and Finch,C.R. (1976).*Vocational educational: Concepts and operation*, Belmont: Wadsworth Publishing Company.

Finch, C.R. and Crunkilton, J.R. (1979). *Curriculum development in vocational education*, Boston: Allyn and Bacon Inc.

Heinich, R., Molenda, M., Russell, J. D., & Smaldino, S. E. (2002). *Instructional media and technology for learning, 7th edition.* New Jersey: Prentice Hall, Inc.

http://nces.ed.gov/pubs92/92669.pdf. diakses pada tanggal 3 Mei 2012

Marzano, R. J. (1993). How classroom teachers approach the teaching of thinking. Dalam Donmoyer, R., & Merryfield, M. M (Eds.): *Theory into practice: Teaching for higher order thinking*. 32(3). 154-160.

Mauly Halwat dan Qanitah Masykuroh. (2006). *Peningkatan Kemandirian dan Kemampuan Peserta didik dalam Mata Kuliah Essay Writing dengan Menggunakan Metode Pembelajaran Kolaboratif (Collabo-rative Learning).* Hasil Penelitian: Universitas Muhammadiyah Surakarta.

Paryanto dan Edy Purnomo. (2007). *Peningkatan Kualitas Pembelajaran Praktik Pemesinan dengan Menerapkan Model Pemelajaran integratif Learning.* Laporan Penelitian: Lemlit UNY.

Sahat Saragih (2002) Pendekatan Coo-perative Learning Dalam Pembe-lajaran dengan Menggunakan Peta Konsep. *Jurnal Kependidikan Nomor I, TAhun XXXII, Mei 2002*

Ruhcitra. (2008). *Pembelajaran Kolaboratif versus Kooperatif.* Diambil pada tanggal 20 April 2012, dari http:// ruhcitra.wordpress.com/pembelajaran-kolaboratif.

Sidik Purnomo.(2009). *Prinsip Pembelajaran Berbasis Kompetensi*. Diambil pada tanggal 22 April 2012, dari http://kidispur. blogspot.com/prinsip-pembelajaran-berbasis. html.

Slavin, R. E. (1995). *Cooperative learning*. Second edition. Boston: Allyn and Bacon.

Qin, Z., Johnson, D. W., & Johnson, R. T. (1995). Cooperative versus competitive efforts and problem solving. *Review of Educational Research*. 65(2). 129-143.

Wagiran dan Didik Nurhadiyanto. (2003). *Meningkatkan Kualitas Pembelajaran Melalui Problem Based Learning Berbasis Kemandirian dan Reduksi Miskonsepsi dalam Mata Kuliah Matematika Teknik*. Laporan Penelitian: Lemlit UNY

Wardiman Joyonegoro, (1998). *Pengembangan sumberdaya manusia melalui SMK*. Jakarta: PT. Jayakarta Agung Offset.

PROCEEDING_SEMINAR INTERNASIONAL_ICERI 2016

ORIGINALITY REPORT

19%	17%	4%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	studylib.net Internet Source	7%
2	eprints.unm.ac.id Internet Source	6%
3	pristiadiutomo.wordpress.com Internet Source	3%
4	Zubeda Bana. "'Great Conversation' for school improvement in disadvantageous rural contexts: a participatory case study", Educational Action Research, 06/2010 Publication	1%
5	Submitted to Erasmus University Rotterdam Student Paper	1%
6	www.walsnet.org Internet Source	1%
7	Submitted to Panjab University Student Paper	<1%
8	pt.scribd.com Internet Source	<1%

9	Submitted to Universitas Negeri Jakarta Student Paper	<1%
10	media.neliti.com Internet Source	<1%

Exclude quotes	On	Exclude matches	< 2 words
Exclude bibliography	On		

PROCEEDING_SEMINAR INTERNASIONAL_ICERI 2016

GRADEMARK REPORT

FINAL GRADE

/100

GENERAL COMMENTS

Instructor

PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6

PAGE 7

PAGE 8

PAGE 9

PAGE 10

PAGE 11

PAGE 12

PAGE 13

PAGE 14