

Project-Based Learning Guided Lesson Study Improve the Achievement of Learning Outcomes on Seminar Accounting Education Course at Department Of Accounting

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Abstract: *The research impact project-based learning guided lesson study in Seminar Accounting Education course has been conducted in 2012. The research was focused to improve student achievement of learning outcomes in Seminar Accounting Education course at Department of Accounting, State University of Malang. The learning outcome were defined on skill levels, the exploration ability and reviewing issues (contemporary) in the field of accounting education both conceptual and factual, creating of research proposal, and final grade. The research approach was classroom action research guided lesson study. The data were analyzed by comparing student score with the minimum requirement score and the improvement of score from cycle 1 to cycle 2. The implementation of project-based learning guided lesson study improved the ability of student to create research proposal. The average score achieved by the students has surpassed the minimum requirement (75) in the cycle 1 and 84% of the students have surpassed the minimum requirement, and in the cycle 2, 100% of the students have surpassed the minimum requirement.*

Keywords: *Project-based Learning, Lesson Study, Seminar Accounting Education, Learning Outcome.*

I. Introduction

Seminar Accounting Education Course for Accounting Education program at Department of Accounting, Faculty of Economics, State University of Malang were designed to give capability for students to explore and review the issues (contemporary) in accounting education field, both conceptual and factual, including the related research results, and the capability of reporting the project result in the form of research proposal for sarjana's thesis. Related to students' duty to demonstrate the ability to make scientific paper and present it in a classroom forum, both for group work or individual work, this condition demands the students to write scientific papers in the form of sarjana's thesis research proposal through the research practice in the form of national and international scale research journal review, exploration practice in the field (high school/vocational school/ madrasah), with the aim to review the contemporary issues in accounting education field.

Project-based learning is selected as a model because according to Railback (2002), PBL is an authentic learning model that facilitates the students in planning, executing, reporting and evaluating the ongoing project and work collaboratively to execute a series of work (project) that finally create a form of product in the end of the project (Petrosina, 2009), in this term is research proposal. Cerbin and Koop (no date) said that the implementation of lesson study (LS) has four main objective, (1) gain a better understanding of how learners learn and teachers teach, (2) obtain result that can be used by other teacher, outside participants of LS, (3) systematically improve through collaborative inquiry, and (4) construct pedagogical knowledge from other teachers. LS facilitate teacher to the quality of processes and learning outcome (Lewis, 2002).

According to Colley (2008), Project Based Learning has the following steps: identifying and defining the project, seeking for information, and planning the project, executing the project, demonstrating and reporting all results, and evaluating the project. Therefore, Accounting Education Seminar course with PBL model can facilitate students in designing, executing, reporting a research project, and reflecting it in their learning results.

In this research, the application of Project Based Learning model in Accounting Education Seminar course is designed through the steps that are adapted from Colley (2008) as follows: The first step, identifying and defining the project. In this step, the students discussing the basic concept of three types of research methods on developing learning innovation. According to Puslitjaknov (2008), Research on Learning Innovation Development can be executed through three types of research methods, which are: (1) Classroom Action Research, (2) Quasi-Experiment) and (3) Design Research. Therefore the research method in developing the learning innovation will be consists of the methodology of the three kinds of research. This step is executed cooperatively with the lesson study guide. In cooperative learning, students usually form groups that each consists of 3-4 students based on their interest on three types of research method on learning innovation development. In this step, the lecturer guides the students in discussing and reviewing the problem that will be developed in problem solving planning through research.

The second step is seeking for information. After deciding on the problems that will be reviewed, the students seek for relevant literature with the theme of the problem that will be researched. This literature will be analyzed critically and then discussed in groups. In this step, the lecturer gives tasks to the students to find literature, guiding and facilitating the students in performing critical analysis, guiding and facilitating the students in selecting the relevant information based on the students' research project theme.

The third step is planning the project. Based on the result of the information gathered and literature review that cooperatively performed and discussing the project planning, the next step is creating the design draft (project proposal). the proposal draft is presented and discussed in classroom forum and receive suggestion from other groups and the lecturer for the betterment of the proposal. The lecturer facilitates the discussion of the project planning and ensures that each project receives suggestion, both from lecturer or students from other groups.

The fourth step is executing the project. The students cooperatively perform the research project on the exploration of the contemporary issues in accounting education in the field (high school/ vocational school/madrasah) based on the planning. Next, the students gather the documents of the research project result, and reporting the progress of the research project with a program. In this step, the lecturer monitors the progress of the students' research projects.

The fifth step is documenting and reporting the results. Based on the research practice result on exploration on contemporary issues in accounting education field, the students describe, analyze data and the research project documents, compiling the research project reports, presenting the result of research projects in scientific discussion in classroom forum. The lecturer helps students in describing analyzing data and research project documents, writing reports, facilitating communication of the students' research project results in the form of scientific discussion in classroom forum.

The sixth step is project evaluation. The students reflecting the planning, execution and reporting of the research project, identifying the obstructions and difficulties during the research project to be used as a learning material in the next project. In this step, the lecturer guides the students in reflecting and helps the students in identifying the obstructions and difficulties in performing the research project.

The research purposes were to: (1) improve the basic concept understanding on the three research methods on learning innovation development among students, (2) improve students' competence in writing scientific papers in the form of research proposal, (3) improve the students' ability to execute and communicate the result of the research, (4) know the students' responses towards the application of Project Based Learning.

II. Literature Review

The ideal learning is student centered learning, in which in the learning process, the students will try to construct their own knowledge and actively engaged in finding information (Permendiknas No 22, of 2006). One of the learning models that is expected to be able to cope this problem is Project Based Learning (PBL). The focus of the PBL is in the concepts and main principles from a study discipline, involving the learners in the problem solving investigation and other meaningful tasks, give the opportunities for the learner to work in autonomy to construct their own knowledge and communicate them in a real product..

All this time, the learning process applied in the Accounting Education Seminar course in Accounting Department State University of Malang has not included the application of Project Based Learning (PBL) model. The PBL model application in the learning process is very crucial to improve students' ability to think critically and give the sense of independence in learning. PBL is one of models that can organize projects in learning (Giilbahar&Tinmaz, 2006). PBL gives opportunities in the student centered learning system which is more collaborative, and the students engaged actively in performing the projects independently and cooperatively in a group and integrating the real and practical problems.

The research result of Suwono, H., (2011) shows that the implementation of PBL can improve students' capabilities in planning and performing research, as well as communicating the research result. In the first cycle, 81% of the students has surpassed the minimum requirement (75), and in the second cycle, 100% of the students has surpassed the minimum requirement. More than 81% of the students think that PBL can improve students' understanding on the basic concept of research, although many of them feels that there are many tasks that must be completed.

In the other hand, the learning process and achievement problem felt by the lecturer is usually solved by him/herself, and does not involve the colleagues in resolving the problems. The colleagues here is the lecturer team with the same course in the department and other lecturers outside the science field, in which the colleague is expected to give suggestions. The approach used in performing collaboration among lecturers is the lesson study approach. Lewis (2002) defined lesson study as follow: As we will see, lesson study is a cycle in which teachers work together to consider their long-term goals for students, bring those goals ti life in actual "research lessons" and collaboratively observe, discuss, and refine the lessons.

III. Methods

The study conducted using collaborative classroom action research, where planning, implementation, observation, and reflection carried out in a collaborative manner through *lessonstudy*. The results of reflection in earlier cycle (i.e the strengths and weaknesses of action and suggestion) were used to improve learning process in the next cycle. The research is performed on the students of Accounting education Seminar course in Accounting Education Program, Accounting Department, Faculty of Economics, State university of Malang in the odd semester 2011/2012.

The data are gathered using the basic concept of three types of research method on learning innovation development test, assessment rubric of the research review result from national and international journal articles, assessment rubric on exploration research practice report in field (Vocational school/high school/madrasah), and questionnaire on students' perception to know the students' responses towards the implementation of project based learning.

The learning feasibility data is analyzed to know whether the learning has been executed according to the Program and Semester Learning Activities Planning of Accounting Education Seminar that has been designed or not. Concept acquisition improvement is based on the test score data of concept acquisition in cycle I and cycle II. Students are decided to acquire the basic concept of three types of research method on learning innovation development, if they have equal or higher score than minimum requirement (75). The successfulness of the treatment is measured based on the improvement of the scores from cycle I and II. The treatment successfulness in improving students' capability to design a research is defined based on the students' research proposal score towards the minimum requirement (75). If the students' research proposal scores are equal or higher than 75, the students are considered capable of designing research proposal.

The data of the Research practice result report is also analyzed and compared with the minimum requirement (75) to know the students' capability in performing research and communicating the result of the research. The students are considered capable to perform and communicate the result of the research if the score of the research practice result report is equal or higher than 75.

IV. Results

The Research Result as Follows:

First, The Understanding of Basic Concept of Three Research Methods on Learning Innovation Development.

The understanding of the basic concept of three types of research on learning innovation development, which are: (1) Classroom action research; (2) Quasi-experiment; (3) Design Research is measured with concept understanding test. The test material including terminology definition and research procedures of the three types of research on learning innovation development.

The students perform research practice to strengthen the understanding of the basic concept of three types of research on learning innovation development. The research practice is performed in cycle I and cycle II. The theme of cycle I is the review of the earlier researches taken from national and international journal article, and then communicate it in classroom discussion forum. In the cycle II, students are asked to perform their research in the field (vocational school/high school/madrasah) and communicate it in classroom discussion forum.

The average result of the concept understanding test in the cycle I is 64.3 (table 1), this average is lower than the minimum requirement (75). The data also shown than only 10 students (22.7%) that have the score of 75 or higher. It shows that the concept understanding among students is still below the minimum required score.

Next, in the cycle II, the researcher modifies the course process to improve students' achievements. In cycle II, the students are given the task to explore three types of research on learning innovation development in scientific work (sarjana's thesis) in library and the result is discussed in the classroom. In the cycle II, the understanding of the basic concept of three types of research on learning innovation development improved to be 67.6, though the result is still below the required minimum score. The number of students that reached the minimum required score in the cycle II is 14 (31.8%).

In cycle I, the students perform the review practice of the earlier research taken from national and international journal articles to strengthen their understanding on the basic concept of research. In doing so, the students are given task sheet and they work using the prepared steps in the task sheet. After the journal article review practice, the students must write a report of the practice result using the existing format. The average score of the journal article review practice report in the cycle I is 83.2 (table 1). The cycle I data shows that the average score of the journal article review practice is higher than the minimum required score. The cycle I data also shows that 41 students (93.1%) have passed from the total of 44 students.

In the cycle II, the students perform the exploration research practice in the field (vocational school/high school); the average score of the students' achievement is 89.4. It shows that all students have

improved achievement from cycle I to cycle II. In cycle II, the students are asked to describe the problems found in the accounting learning in the field (vocational school/high school/madrasah) including learning model, teaching material, media and evaluation tools used in the accounting learning process. This task demand students to find the problems in accounting learning that worth to be researched further. The data shows that the average score of the describing the problems found in the accounting learning in the field (vocational school/high school/madrasah) is 76.7. The score achieved by the students is higher than minimum required score and all students have passed the requirements.

The average score in describing the problems found in the accounting learning in the field (vocational school/high school) turned out to be lower compared to the exploration research practice score in the field. In performing the research practice (cycle I and cycle II), the students follow the instruction given by the lecturer. On the other hand, the task to describe the problems found in accounting learning in the field (vocational school/high school/) demands creativity and more critical thinking. So, the score difference between those two tasks shows that describing the research result is more difficult than performing task with prepared procedures.

The improvement of the understanding of the basic concept of three types of research on learning innovation development can be seen in the table 1 as follow.

Table 1. Research Concept understanding score

Score	Concept understanding Cycle I	Concept understanding Cycle II	Exploration practice Cycle I	Exploration practice Cycle II	Problem description task cycle II
Lowest	49	41	76	79	74
Highest	84	81	91	89	81
Average	64,3	67,6	83,2	89,4	76,7
% that surpassed minimum requirement	10 (22,7%)	14 (31,8%)	41 (93,1%)	44 (100%)	44 (100%)

Note: number of students 44; minimum required score 75.

Second, Capability of Planning Research

In cycle I, the students are asked to perform the earlier research review research taken from national and international journal articles to know their ability in planning thesis theme based on the result of earlier research review. The average score of students’ achievement in planning research theme is 79.2 (table 2), which is higher than the minimum required score. There are 37 (84%) students that have surpassed the requirements. In cycle II, the students are asked to complete their research theme with relevant literature review. The critical analysis result is discussed in classroom and assessed, with the average score result for students’ critical analysis towards the references is 81.3 and there are 38 students (83.5%) that meet the requirements.

After performing critical analysis based on literature review, the students write planning (proposal) of descriptive research in the field (vocational school/high school/madrasah). The proposal then submitted and assessed. The proposal data of the students in this cycle II shows the average score of 84.3 and all students (100%) have meet the minimum requirement. The data shows that the score and percentage of the students that meet the minimum requirements improved compared to cycle I. The score improvement from cycle I to cycle II is 5.1 points. And the percentage improvement of the students that meet the requirement is 16%.

Third, The Ability to Execute and Communicate The Research Activities.

In cycle II, students perform the exploration research practice about factual learning of accounting in the field (vocational school/high school/madrasah) based on the written proposal. The research is performed outside the school hour for 2-4 weeks, depends on the students’ chances in the field. The data of the research result firstly presented and discussed before written into research report. The average score for the research report is 82.7 (table 2). This average score is higher than the minimum required score and all the students have met the requirement.

The reflection on the test score shows that the understanding of the basic concept of three types of research method on learning innovation development in the cycle I is lower than the minimum required score. Based on that result, in cycle II, the lecturer as a researcher modifies the course procedure by giving tasks in the form exploration of the three type of research method on learning innovation development in scientific work (thesis) in library and the result is discussed in the classroom. With this change, in the cycle II, the understanding of the research concept improved from 64.3 to 67.6, though the score is still below the minimum required score. Therefore, new learning methods still needed to improve the research concept understanding for students, such as with cooperative discussion about basic concept of three types of research method on learning innovation development.

The research planning (proposal) score average is 79.2 (table 2), it means that the average score of the students is higher than the minimum required score (75). there are 36 (82%) students that surpassed the

minimum requirement. In the cycle II, the students complete their proposal by using the information from literature. Then the students are asked to analyze the literature critically and use it to support their research. The students are given examples on how to perform critical analysis prior analyzing literature critically. The score data in Cycle II improved with the average of 84.3 (table 2) and all students have surpassed the minimum requirement. The analysis result shows that critical analysis task helps the students in perfecting their proposals.

The average score for exploration research result in field (vocational school/high school/madrasah) is 82.3 (table 2), this average score is higher than the minimum required score. The research data shows that all students have score above the minimum required score.

The students' score in planning proposal and performing and communicating the research result is initially within the range of 80-85. Therefore, students' ability in planning research and executing and communicating the research result still need to be improved. The review on proposal and research result report shows that the scientific writing ability as stated in the scientific writing guide is still low. Therefore, the ability to write scientific work needs to be improved.

The improvement of students' ability in writing research proposal, critical analysis on literature and the research result report can be seen in the following table (table 2).

Table 2: Research Proposal, Critical Analysis on Literature and Research Report Scores

Score	Research proposal cycle I	Critical analysis cycle I	Revised proposals cycle II	Research report cycle II
lowest	66	71	77	76
highest	91	94	94	95
average	79,2	81,3	84,3	82,7
Number of students that have passed minimum requirement	37 (84%)	38 (86,3%)	44 (100%)	44 (100%)

Note: number of students 44; minimum required score (KKM) 75

Fourth, Students' Responses.

Students' responses towards research based learning in Accounting Education Seminar are recorded using questionnaire (table 3). The important finding in this research is that 85% students think that research based learning can improve their understanding on the basic concept of three types of research on learning innovation development, giving a clearer picture of a research through the earlier research review from national and international scientific journal, helping to find research theme from the descriptive research practice result in the field (vocational school/high school/madrasah), developing the creative ideas in finding learning problems in the field (vocational school/high school/madrasah), helping to apply research theory into practice, improving willingness and habit to collaborate in the learning process. On the other hand, the students are also happy to be taught with research based learning model, though there are many tasks that must be done. The students are happy to find research theme that can be developed for their sarjana's thesis research planning. The percentage of students that experience problems in the execution of the research and the writing of research report is more than 40%.

Students' responses towards the implementation of project based learning model can be seen in the table 3 below.

Table 3. Students' Responses toward Project Based Learning Implementation

Question	Students' response percentage (%)			
	Very agree	Agree	Doubtful	disagree
1. Accounting education seminar is an important course because it gives students the chance to demonstrate their abilities in exploring and reviewing contemporary issues in accounting education field.	91	9	0	0
2. With the application of project based learning in accounting education seminar course, it can help me to apply the research theories into practice.	15	76	9	0
3. I am happy with the course using project based learning model though there are many tasks that must be done.	16	69	15	0
4. With the implementation of project based learning can improve my understanding on the basic concept of three types of research method on learning innovation development.	54	46	0	0
5. The implementation of project based learning can help me in practicing to describe the accounting learning problems in the field (vocational school/high school/madrasah)	19	71	10	0

6.	With the implementation of project based learning, it can help me to be more capable in developing creative ideas to find research theme that can be developed for sarjana's thesis.	17	68	15	0
7.	With the implementation of project based learning, I improve my willingness and habit to collaborate in learning process.	19	65	16	0
8.	With the implementation of project based learning in Accounting education seminar, I still have some difficulties in writing research proposal.	22	28	50	0
9.	With the implementation of project based learning in Accounting education seminar, I still have several difficulties in performing research practice.	17	40	43	0
10.	With the implementation of project based learning in accounting education seminar course, I still have some difficulties in writing research result report.	13	49	38	0

The result of the research shows that the implementation of project based learning is capable of improving students' competence in planning research, executing and communicating research result. This result of the research is in compliance with the research done by Asan and Haliloglu (2005), that shows the improvement on researching skill on students through the implementation of project based learning model.

The research skill improvement can be achieved because project based learning facilitates student to identify problems, finding resolution information from various sources, designing and executing the problem solving through research and reporting the research result through collaborative activities. The students research project presented is supported by cooperative work starting from theme selection, planning, execution, reporting up to the research project reporting. It is a proof that project based learning improve collaboration that finally can improve learning achievement along is in compliance with the research done by Suwono (2011).

Project based learning help students to think critically. The capability of critical thinking in project based learning is exercised through giving task to critically analyze literature source which is used as a reference in research, analyze own and other students' research in classroom discussion forum, and reflect the research result. In the implementation of project based learning, the ability think critically is exercised to the students since the designing phase of the research project until communicating the result of the research.

Project based learning can also facilitate the development of students' scientific behavior. Scientific behaviors that need to be developed into students are objectivity, honesty, responsibility, readiness to receive critics and suggestion, and rational thinking. Students learn about honesty and objectivity from the data collection process, data analysis, and concluding the research based on the data. Students learn about responsibility through presentation of research project. In this presentation, students are also learning to receive critics and suggestion, give a logical argument and learn to accept flaws and strength.

Therefore, students' ability in performing research is still need to be improved so that students are skillful in doing research. High education institution should create an academic situation that supports the students' research capability improvement through real experience. According to Suwono (2011), there are three things that should be paid attention by the high education institution in creating competent researchers. First, creating an academic environment that encourages creativity and students' critical ability, because the best researcher requires critical ability and creativity. Second, design the course/learning system that encourages students to learn to do research so that it will train the creativity and critical ability in researching. The third is creating research culture.

Course system which is designed to motivate the students to learn to do research using the learning design that facilitates them to do research project and using performance assessment. According to Gaer (1998), project based learning (PBL) have a huge potency to create a more interesting and meaningful learning experience both for the learner in universities and the learner in transitional training to enter the workforce. According to Railsback (2002), PBL is a learning model that aims to make students to be able to plan, execute, and evaluate the projects that have application in real world. Gaer (1998) and Railsback (2002) opinion show that PBL model is a learning model which is suitable to train research capability in students. Therefore, this model is very appropriate to be used as learning model in Accounting Education Seminar course.

V. Conclusion

Project based learning can improve the students' capability in planning, executing research and communicating research result. The average score achieved by the students have surpassed the minimum required score (75) in the first cycle and 84% of the students have surpassed the minimum requirement, and in the second cycle, 100% of the students have surpassed the minimum requirement. Project based learning has also improved the students' capability in understanding basic concept of three types of research method on learning innovation development through lesson study and exploration research practice in field (vocational school/high school/madrasah).

More than 85% of the students think that project based learning model can improve their understanding on the basic concept of here types of research method on learning innovation development, help them to implement the research theory into practice, improve their willingness to collaborate in doing tasks. Furthermore, the students are also happy to be taught with project based learning model although few of them still have difficulties in following this learning model and they think that there are too much tasks.

VI. Recommendation

Based on this research result, the researcher recommend to use the project based learning in the courses to improve students' capability in planning, executing, reporting and communicating the project, especially the courses that demand research practice.

Acknowledgement

The authors are thankful to Dean, Faculty of Economics State University of Malang and her staff; and also to Dr Nasikh, for providing the necessary facilities for the preparation of the paper.

References

- [1]. Asan, A. &Haliloglu, Z. 2005. Implementing Project-Based Learning in Computer Classroom. The Turkish Online Journal of Educational Tehnology, 4 (3) 68-81, (Online), (<http://www.tojet.net/articel/4310.pdf>, was accessed on 29 January 2012.
- [2]. Cerbin, Bill & Kopp, Bryan. Not dated. A Brief Introduction to College Lesson Study. (One line), <http://www.uwlax.edu/solt/lsp/index2.htm>, was accessed on 14 January 2012.
- [3]. Colley, K. 2008. Project-Based Science. The Science Teacher, 75 (8): 23-28.
- [4]. Gaer, S. 1998. What is Project-Based Learning?. (Online). (<http://.aol.com/Culebra.Mom/pblprt.html>), was accessed on 21 January 2012.
- [5]. Giilbahar, Y. & Tinmaz, H. (2006). Implementing project-based learning and e-portfolio assessment in an undergraduate course. Journal of Research on Technology in Education, 38, 309-327.
- [6]. Kemendiknas. 2010. Regulation of the Minister of National Education of the Republic of Indonesia Number 22 Year 2006 on the Content Standards for Primary and Secondar Education Unit (Online) <ftp://ftp.unm.ac.id/permendiknas2006/Nomor%2022%20Tahun%202006.pdf>, was accessed on 14 January 2012.
- [7]. Lewis, Catherine C. 2002. Brief Guide to Lesson Study. (Online), <http://www.LessonResearch.net/briefguide.pdf>. was on accessed 14 April 2012.
- [8]. Petrosina, A. 2009. Project-Based Learning: Background Knowledge and Theory. Madison: Wisconsin Center for Education Research, (Online), (<http://college.Cengage.com/education/pbl/background.html>), was accessed on 19 January 2012.
- [9]. Railback, J. 2002. Project-Based Instruction: Creating Excitement for Learning. Northwest Regional Laboratory, (Online), (<http://www.nwrel/reques/2002aug/index.html>), was accessed on 19 January 2012.
- [10]. Suwono, H, 2011. Project Based Learning to Improve Learning Outcomes for Linnology at the Department of Biology. Journal of Science Education, 17 (5): 368-377.
- [11]. Tim Puslitjaknov. 2008. Learning Innovation Development Research Methods. (Online), <http://www.infokursus.net/download/0604091354>, was accessed on 21 January 2012
- [12]. Wikipedia. Project-Based Learning, (Online), (http://en.wikipedia.org/wiki/Project-based_learning), was accessed on 29 January 2012.