Problem Based-learning For Improving Accounting Student’s Critical Thinking Skill

Primasa Minerva Nagari*, Mika Marsely, Umi Nuraini
Faculty of Economics Universitas Negeri Malang

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Abstract : The research was classroom action research. This paper aims to improve student’s critical thinking skill with problem-based learning. This research did in The Accounting Department in Universitas Negeri Malang. The subject in this action research was offering HH as many as 40 students who were taking of Management Accounting course. The data was taken from the student population in S1 Accounting program. The data techniques in this research were observation, interview, and documentation. Data analysis techniques were using qualitative analysis, including data reduction, data display, and verification. The result of data analysis known that action research by using problem-based learning lasted for three cycles, each cycle consists of four meeting. Implementation of problem-based learning can improve students' critical thinking skill with special cases in the learning process.

1 INTRODUCTION

Along with the times, students are not only required to have cognitive abilities, but also critical thinking skills. Therefore, students need to build these critical thinking abilities, especially for prospective accountants who later in the world of work must be able to make decisions in carrying out their work. Lecturers as educators must be able to find out what learning solutions are suitable for building students’ abilities, especially critical thinking skills. In the accounting department, students must be educated to be an accountant candidate who is able to make the right decisions, one of which is through critical thinking.

Based on preliminary studies made by researchers on students majoring in accounting at the Faculty of Economics, Malang State University, showed that learning Management Accounting still tends to be a teacher center so that students are less active in learning, so they cannot build abilities other than cognitive. When lecturers explain in the classroom, students tend to pay less attention, speak for themselves, and some even sleepy. So that the results of the cognitive evaluation and other abilities are less satisfying. Teacher center learning allows students to not pay attention when the lecturer explains and does not do scientific activities in the classroom. Thus, all this time students do not show their critical thinking skills in learning Management Accounting.

After conducting preliminary studies, the researcher will provide treatment for students majoring in accounting in the Management Accounting course. The course requires students' critical thinking skills, so it will be useful for students to graduate or become accountants later. Based on these problems, the researchers decided to use a problem-based learning model in management accounting learning that would be able to build critical thinking skills of students majoring in accounting at the Faculty of Economics, Universitas Negeri Malang.

2 LITERATURE REVIEW

2.1 Problem-Based Learning

Problem-based learning is a method that can be used to identify students who learn and understand problems, and learn (teaching and 1996, n.d.) (Duch, 1996). Problem-based learning is based on research results (H. Barrows and Tamblyn, 1980), and (Barret and Moore, 2011) and was first applied in the 60s. Problem-based learning is learning to create an
active, collaborative and authentic learning environment for students. Problem-based learning encourages participants to engage in activities that cause problems, collect data, and analyze data.

According to (Chen, Lin, and Chang, 2011) problem-based learning is an instructional method in which students learn by inspiration, group thinking, and using related information. To solve problems in either real or hypothetical problems, students are trained to synthesize their prior knowledge and skills to apply them to the problem. Whereas according to (Yeo, 2007) the problem of participant's absent learning increased capacity and propensity to learn through the interplay of adaptive and generative learning. In line with Chen and Yeo, (Beaumont, Owens, Barret-Baxendale, and Norton, 2008) suggests that “The learning that results from working toward the understanding of a problem. The problem is encountered first in the learning process.”

Characteristics of problem-based learning according to the theory developed (H. S. Barrows, 1996):

1. Learning is student-centered
   The learning process in problem-based learning focuses more on students as students. Thus, problem-based learning is also supported by the constructivist theory where students are expected to develop their own knowledge.

2. Authentic problem form the organizing focus for learning
   The problem presented to students is an authentic problem so that students can easily understand the problem.

3. New information is acquired through self directed learning
   In the problem-solving process, students may not know and understand all the prerequisite knowledge, so that students try to find their own through the source, either from books or other information.

4. Learning occurs in small groups
   In order for the scientific interaction to occur and exchange ideas in an effort to build collaborative knowledge, problem-based learning is carried out in small groups. The group that is made demands a clear division of tasks and goal setting.

5. Teachers act as facilitators
   In the implementation of problem-based learning, the teacher only acts as a facilitator. However, the teacher must always monitor student activities and encourage students to achieve the goals to be achieved.

(Barret and Moore, 2011) describes the stages of problem-based learning as follows:

1. Students are given problems by the teacher (or problems obtained from the experience of the students themselves).
2. Students conduct discussions in small groups and do the following:
   a. Clarify the problem
   b. Identify problems
   c. Exchange ideas based on knowledge
   d. Establish the things needed to solve the problem
   e. Establish the things that must be done to solve the problem
3. Students conduct studies independently related to problems that must be resolved. They can do this by searching for resources in libraries, databases, the internet, personal sources or conducting observations.
4. Students return to the original problem-based learning group to exchange information, learn peers, and work on solving problems.
5. Students present the solutions they find.
6. Students assisted by the teacher do an evaluation related to all learning activities. This includes the extent to which the knowledge gained by the students and the role of each student in the group.

Table 1: Strengths and Weaknesses of Problem Based Learning

<table>
<thead>
<tr>
<th>No.</th>
<th>Strengths</th>
<th>Weakness</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Student-centered</td>
<td>Lecturers cannot fully &quot;patronize&quot;</td>
</tr>
<tr>
<td>2.</td>
<td>Active learning, developing knowledge, and retention and developing skills &quot;life-long learning&quot;</td>
<td>It takes a lot of time during the process</td>
</tr>
<tr>
<td>3.</td>
<td>Facilities from PBL are integrated with the curriculum</td>
<td>Students need to access the same library and computer simultaneously</td>
</tr>
<tr>
<td>4.</td>
<td>PBL is very pleasant for students and lecturers</td>
<td>Students may lack access to specific explanations from lecturers</td>
</tr>
</tbody>
</table>

Source: Adaptation from Wood (2003)

2.2 Critical Thinking

According to (Kurfiss, 1988) critical thinking is a rational response to questions that cannot be answered definitively and for all relevant information may not be available. This is defined as
an investigation whose purpose is to explore problems to conclusions that integrate all available information and therefore can be convincingly justified.

In line with the Kurfis, (Jackson, 2015) also argues that critical thinking can analyze the facts then make some ideas and maintain the idea then make comparisons. By making several comparisons we can draw conclusions and make a solution to the problem. (Halpern, 2014) explains that Critical thinking is sometimes taught as a specific skill through classroom instruction.

Critical thinking examines assumptions, discerns hidden values, evaluates evidence and assesses conclusions (Education and 2004, n.d.). (Warnick and Inch, 1994) explains that critical thinking as the ability to explore a problem, question, or situation; to integrate information about the issue under review and arrive at a solution to justify one’s position. In addition, according to (Moore, 2013) critical thinking is a form of rationality, with acquiring students a more relative, provisional view of knowledge and critiquing material on the basis of such knowledge. It relates to making judgments based on a practical and specialized knowledge that is linked to reliability, truthfulness, and usefulness (Moore, 2013).

4 FINDINGS AND DISCUSSION

Classroom action research that had been conducted consists of three cycles, where each cycle consists of planning, implementing, observing and reflecting. The first thing done in the first cycle is choosing the right method used in the classroom to improve students’ critical thinking skills. In the other side, the lecturers have to prepare teaching needs such as lecture units, observation sheets, and tools for documenting this class action research. The initial activities carried out in this case are apperception, the core activities are the implementation of problem-based learning, and the closing activities are lecturers evaluation of the student discussion results in problem-based learning. During the observation phase, every behavior that showed by the students will be explained especially how their attitude in expressing critical opinions. In the reflection stage, the discussion group should spread so that more critical students can share with students who tend to be passive. The opportunity to answer the discussion questions is given more to the passive group so that the passive and less critical groups are expected to be more comfortable to express their opinions with critical thinking. This statement in line with (Natale and Ricci, 2006) that critical thinking within teams will improve organizational performance. Based on the observations, cases or problems given at the time of the implementation of problem-based learning by lecturers tend to be simple, so the students can not express their critical thinking maximally. Based on the first cycle, it is necessary to do the second cycle to improve the management of learning that occurs in the first cycle.

After being implemented in the first cycle for four meetings and found to be unsatisfactory, the lecturer conducted the second cycle. The second cycle is the same with the first cycle where the stages are planning, observation, and reflecting phase. At the planning stage, the lecturer guides the students to form groups randomly so that all students can express their critical thoughts. Because if they...
choose for themselves, students who are less active will just be quiet or unable to express their critical thoughts. In the implementation step, there are beginning activities (apperception by the lecturers), and then core and closing activities. When conducting observations, the lecturer records and examines the students’ behavior when discussing problem-based learning. In the second cycle at the reflection phase, the lecturers found several problems in the class, where some students still tended to be less able to express their critical flow even though the cases given by the lecturers were more difficult. So, the third cycle is needed to overcome problems in the second cycle.

In the third cycle, basically the same as the previous cycles that consisting of the planning stage, implementing, observation, and reflecting stage. In the planning stage, the lecturer prepares a plan that has been revealed in the reflection of the second cycle to be stated in the lecture event unit in the third cycle. At the implementation stage, the lecturer conducts the initial activities in the form of apperception, the core activities are the implementation of problem-based learning, and closing activities. The observation stage explained every behavior that appears during the third cycle and what forms of critical thinking that arises during problem-based learning applied. In the reflection phase of the third cycle shows that the implementation of the lectures went smoothly and well. This can be seen from the observations of researchers and observers showing that when the student’s lecture activities take place in the classroom, they are enthusiastic and actively participating in the teaching and learning process and the crowded student conditions have been reduced far compared to the meetings at the beginning of learning. This shows that there is a stronger urge to learn to express their critical thinking, in other words, students’ critical thinking increases than before. So it can be concluded that problem-based learning can improve students’ critical thinking skills. Based on the analysis above, it can be concluded that the implementation of the third cycle does not need to be repeated to solve problems in the class.

Table 2: Observation results

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Case</th>
<th>The problem in the class</th>
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<tbody>
<tr>
<td>1</td>
<td></td>
<td>Students are not able to express their critical thinking in the learning process</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Students still have problems with critical thinking even though the cases given by lecturers are more difficult</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Students are not able to express their critical thinking in the learning process</td>
</tr>
</tbody>
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Resources: Class Observation

The implementation of classroom action research with problem-based learning that lasted for 3 cycles has produced several problems solving in the classroom that aims to improve students’ critical thinking skills. Problem-based learning was chosen because based on the steps, the case given by the lecturer can spur students to critical in class. The problem in increasing student critical thinking encourages problem-based learning to be used in this study. Sendada with what was expressed (Major, Savin-baden, and Major, n.d.) that problem-based learning can foster communication and skills interpersonal students to communicate the knowledge they get.

5 CONCLUSION

Referring to the classroom action research that has been done and the results of the discussion, it can be concluded that learning using problem-based learning can improve students’ ability to think critically with three cycles that have been done. In each cycle, the problem-based learning was taken from a reference source and managed to overcome the problems in the learning process in the classroom during the Management Accounting
course. In the implementation of problem-based learning, case variations are needed so that students can improve their critical thinking. Students who tend to be passive can finally express their critical opinions in the class. In the three cycles that have been carried out, the maximum results are found in the third cycle where the lecturer gives a variety of most difficult cases. And with problem-based learning, students can improve critical thinking skill maximally.

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**REFERENCES**


