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DEVELOPING STUDENTS' CRITICAL THINKING WITH THE IMPLEMENTATION OF PROBLEM-BASED LEARNING ACTIVITIES

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Abstract

Activities in the implementation of the problem-based learning (PBL) model train students in finding information independently related to the problems obtained and train students to be able to solve the problems they face in order to develop students' thinking skills. The purpose of this study is to describe what activities can develop students' critical thinking skills in implementing the PBL model. The method used in this research is a case study in qualitative research by collecting data using self-observation (video recorder). The data collection technique used to obtain the data on the implementation of problem-based learning model in developing students' critical thinking by doing the activities in learning. The result showed that the activities in problem-based learning model can be implemented in developing students' critical thinking. This is supported by observational data from self-observation on students' activities and responses to the implementation of problem-based learning model.

INTRODUCTION

The ability to think critically is something that everyone needs to have in this era, especially in facing the future. In addition, critical thinking skills can help the sustainability of student learning development (Umam et al., 2022). In this context, it is students who need to be prepared to face the future as a new generation. Therefore, students need to get used to critical thinking starting with getting used to doing activities that can develop their ability to think critically.

Familiarizing students with activities that can develop critical thinking skills must also be carried out in learning activities. Therefore, teachers need to choose the right learning model to develop students' thinking skills. Based on the results of observations made, one of the learning models that can develop students' critical thinking skills with the activities in it is a problem-based learning model.

In implementing the problem-based learning (PBL) model, the teacher uses real-world problems as learning materials for students so that students are more interested and able to understand the problems presented by connecting information from previously acquired knowledge with the new information they have acquired (Chadziqoh, 2018). In the implementation, problem-based learning models usually use activities that can develop students' critical thinking skills.

The characteristics of problem-based learning, including: 1) learning is student-centered; 2) Authentic problems form the organizing focus for learning; 3) New information is acquired through self-directed learning; 4) Learning occurs in small groups; 5) Teachers act as facilitators (Barrow & Min Liu, 2005). From the characteristics of PBL, it can be seen it focuses on solving problems given by the teacher as a tutor and these problems are solved by students by conducting group discussions.

To find out the relationship between the PBL model and critical thinking skills, we also need to know the characteristics of critical thinking. According to Wijaya (2010) the characteristics of critical thinking include students to (be): 1) Good at detecting problems; 2) like to collect data for factual evidence; 3) able to interpret things; 4) able to make interpretations of understanding, definition, reasoning, and controversial issues; 5) able to list all possible consequences or alternative solutions to problems, ideas and situations; 6) able to draw conclusions from existing and selected data (Wijaya, 2010).

From the two characteristics above between the PBL model and critical thinking, it can be concluded that the relationship between the two is found in activities to develop critical thinking skills that can be familiarized with activities contained in problem-based learning models.

RESEARCH METHOD

This study does not try to measure students' critical thinking skills using standardized tests, but to explore the attempts teachers take in developing students' critical thinking skills through activities using problem-based learning models. As it is known that this research deals with how students enter into problem-based learning methods. Therefore, this study uses case studies in qualitative research methods. Qualitative research as a data collection using forms that can make participants provide opinions through text or images (Creswell 2012). A case study is an insensitive case study that can examine a group, a person’s research method is usually about the social sciences and human life (Twycross, 2018). This research aims to be able to conduct

intensive research on the case being studied in a case study to identify important factors, processes, and relationships within individuals, groups or institutions.

The process of data analysis is as follows: First, the data obtained from the results of self-observation (video recorder) are analyzed and described through the process of division into several themes that are adapted to the theory of problem-based learning and critical thinking. Second, the researchers summarize some of the findings and make the rest as the things to evaluate at the later stage. Finally, the researchers conclude the results of the research.

Participants in this research are students 8th grades in Junior High School at Cijeruk, Bogor who learn in the classroom using problem-based learning model. The activities recorded for research by researchers who also act as teachers/facilitators in classroom.

FINDING AND DISCUSSION

From the findings during the research, the researcher found that in implementing the problem-based learning model there are activities that can be done to develop students' critical thinking skills. In the video taken by the researcher, it shows the stages of learning in the problem-based learning model, including: 1. Teachers invite students to prepare for learning before starting by preparing all learning needs such as stationery and self-readiness to learn; 2. After the student feels ready to learn, the teacher begins learning by giving an opening greeting and asking for student news and continues praying together before starting learning; 3. The teacher checks the attendance of students one by one; 4. Before starting the learning activities, teachers usually review the learning at the previous meeting to check their memory of the previous material; 5. Teachers group students in small groups; 6. Students are given problems by teachers in the form of learning materials about "Recount Text"; 7. Students have discussions in small groups. After that they do the following: clarifying the case of the problem given: learners reset the problem provided by seeking information from various sources whether the internet, books, or other sources; defining problems: learners will define the problems given after getting information from various sources obtained; exchanging thoughts based on the knowledge they have after resetting the given problem; establishing the things needed to solve the problem; setting out what to do to solve the problem. Then students solve problems with their group and make group presentations from the results of the discussions obtained.

Results from the presentation on "Recount Text" include: Definitions, characteristics, structure, and examples of Recount Text. After the presentations are completed. they conduct Q&A sessions. The audience as questioner and speaker as answered questions. Students are assisted by teacher to conduct evaluations related to all learning activities. This includes the extent of knowledge and understanding that has been gained by students as well as how each student plays his/her role in the group. The teacher is also giving the space for providing motivation to students to remain passionate in learning and studying. The learning is eventually ended by reading the prayer together.

From these learning stages, researchers found activities that can develop critical thinking skills in implementing problem-based learning models, including: First, students' conducting research on the problems given. The first activity that triggers students to develop

their critical thinking skills is to conduct research on a given problem. Problems are given by the teacher as a facilitator in learning using a problem-based learning model. The teacher gives a problem in the form of learning material that must be understood by students independently by conducting research, seeking information about the material/problem obtained.

Second, conduct discussions with group friends. The next activity that can develop students' critical thinking skills is to conduct group discussions. After doing research and looking for information, students conduct discussions and exchange ideas about the information obtained to get the results of the problems that have been solved.

Third, presenting the results of the research and discussion. The next activity that can also develop students' critical thinking skills in implementing problem-based learning models is to make presentations from the results of discussions about the problems that have been given and have been solved with the group. From doing these presentations they are trained to get used to presenting the results of their research, this is also the same as being responsible for the tasks that have been given.

Last, conducting questions and answers between students (audience with presenters). The last activity that can develop students' critical thinking skills in implementing the problem-based learning model is a question and answer session between speakers and audience. This question and answer session can be said as an activity that can trigger the development of students' critical thinking skills because they are encouraged to first understand the material explained and ask a question about what they want to know more deeply. Besides, they also explore what things make them still confused and they don't understand. This enables students as presenters to take charge in answering questions that also allows them to be more motivated to explain in more detail about the problems being discussed. Those activities are instances of learning activities that arise critical thoughts from students.

From the result, the researcher found that the implementation of the problem-based learning model can develop students' critical thinking skills. Based on observations made by researchers using self-observations taken with videos when learning in class which shows that students must be more active in learning activities so that they are accustomed to solving a problem that is being faced independently and this can improve their critical thinking skills. This is reinforced by the statement of Redhana (2013) which states that the problem-based learning model is able to develop students' critical thinking and problem-solving skills in all fields.

CONCLUSION

Based on the findings and discussion above, it can be concluded that problem-based learning model activities can be used in learning to develop students' critical thinking skills. With this problem-based learning model, students will get used to learning to solve their own problems by conducting research on the given problem, seeking information about the problems at hand, conducting discussions with friends to share information and solve problems together, and get results.

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