

Applying Problem-Based Learning for boosting the Primary Students Participation in Learning Science in Indonesia

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1. Abstract

This study aims to increase the learning activity of students in the content of science lessons through the Problem Based Learning model for fifth grade students of A primary school in Yogyakarta, Indonesia. This type of research is Classroom Action Research (PTK). This research was conducted in two cycles consisting of four stages each, namely: (1) planning, (2) implementation, (3) observation, and (4) reflection. The samples taken in this study were 13 students in class V. This research was carried out on April 14 to April 28, 2022 at SD Negeri 1 Depok. The research instrument used includes an observation sheet on student learning activities. The results of this study indicate that the learning activity of students in science learning in the first cycle is 55.22% and in the second cycle is 77.20% with a comparison percentage of 21.98%. Judging from these data, it can be said that the level of active learning of students in the fifth grade science material at a primary school in Yogyakarta, Indonesia has succeeded or there has been an increase in student learning activity using the Problem Based Learning (PBL) model in the fifth grade science material at A primary school in Yogyakarta, Indonesia.

Keywords: *Active learning; Problem Based Learning; Science*

2. Introduction

Historically, education in a broad sense has been implemented since humans were on this earth. Education has changed along with the intellectual development of humans. With the development of human civilization, content and form also developed, including the development of education. This is in line with human progress in thoughts and ideas about education.

In the learning process the teacher is a component that interacts directly with students. Teachers are a group of people from our own nation, who willingly and sincerely are willing and willing to surrender themselves to the needs of the people in matters of teaching and education, Ki Hajar Dewantara (2011: 9-10). The teacher has a very important role in creating an effective learning process. To create an effective learning process, of course, it is influenced by the environment around students. This is in line with Sugihartono, et al (2007: 126) who said that learning is an activity carried out to create an atmosphere or provide services so that students learn. And learning is a process of changing the behavior of individuals (students) to adapt to the environment. The environment for students at school is class, resources, media, infrastructure and teachers as learning managers. Teacher competence in organizing learning will affect the activity and learning outcomes of students. The activeness of students referred to in this research is all student activities carried out during the implementation of the learning process. To achieve this condition, it is necessary to have a facilitator, namely a teacher, who has the ability to create learning situations that involve students actively.

In the learning process, teachers are required to be able to involve students actively in the learning process. Efforts that can be taken by teachers include applying innovative

learning approaches, models or methods so that students do not feel bored and are interested in participating in learning. Learning is an activity that can foster students' understanding, creativity, activeness, thinking power, potential and interest. Learning activities are directed to activities that encourage students to learn actively both physically, socially and psychologically to understand concepts. Reciprocal two-way communication is highly desirable in an active learning process, in order to achieve optimal learning interactions.

An effective learning process leads to achieving maximum learning outcomes. One approach to the learning process is to use a variety of learning models. The author has a solution to the problems found regarding the learning activity of students who are low in science content by using the Problem Based Learning (PBL) learning model to improve the learning process of students. With the activity of students in groups, it is hoped that it can lead to interactions between students. Such circumstances are expected to increase the active learning of students during learning takes place.

PBL prepares students to think critically and analytically by using appropriate learning resources. The steps for the Problem Based Learning learning model are as follows: 1) Orientation of students to problems, 2) Organizing students for learning, 3) Guiding individual/group experiences, 4) Developing and presenting work, 5) Analyzing and evaluating the problem solving process . The problems posed to students are used to relate students' curiosity, analytical skills, and initiative to the subject matter.

Based on the background described above, the researcher raised the title "Increasing Science Learning Activeness Through the Application of the Problem Based Learning (PBL) Model for Class V Students at A primary school in Yogyakarta, Indonesia"

3. Methods

3.1. Participants and context

The learning process is carried out according to the schedule of lessons in Science in class V SD Negeri 1 Depok Panjatan Kulon Progo D.I Yogyakarta. c) Observation, observations are made during the learning process is ongoing. The things that are observed are learning activities, teacher and student activities, and student learning activeness during the implementation of learning takes place. d) Reflection.

3.2. Material

This research belongs to the type of Classroom Action Research (PTK) model of Suharsimi Arikunto. In this study, researchers made efforts to improve learning outcomes by applying the Problem Based Learning model. The procedure for this research includes planning, implementing actions, observing, and reflecting (Widihastrini, 2012: 30).

3.3. Data Collection and analysis

The description at this stage is carried out by planning, implementing, observing, and reflecting. a) Planning, the activities to be carried out at this stage are preparing the schedule for class V and preparing research instruments to be used. The research instrument was in the form of a Learning Implementation Plan (RPP) with a Problem Based Learning model, Student Activity Sheets (LKPD), research guidelines, and student activity observation sheets. b) Implementation, the implementation of the actions in the first cycle was carried out in two meetings. At this stage, researchers carry out science learning activities using the Problem Based Learning model. The researcher and the teacher analyzed the implementation of the action in cycle 1.

3.4. Ethical Considerations

This was done to find out what the advantages and disadvantages were observed in cycle 1, namely the active learning of students. The results of this reflection are used as material for planning learning in the next cycle. If the expected results have not been achieved, improvements will be made in cycle II until the indicator is reached.

3.5. Limitations to the Study

In collecting data, this study used several techniques including observation and documentation.

4. Results and Discussion

Classroom Action Research (CAR) consists of 2 cycles, namely cycle I and cycle II. Cycle I was held for 2 meetings, namely April 14 and 19 2022, while Cycle II was held on April 26 and 28 2022 which consisted of 2 meetings. Researchers use the Problem Based Learning (PBL) model.

The results of the students' active learning data were obtained by observation techniques with the help of a question instrument in the form of a point table totaling 7 points. This activity is carried out during the learning process by observing the behavior or activities of students while participating in learning.

From the table data above, it appears that there was an increase in the percentage of students' active learning at each meeting in cycle I. The average percentage for the overall activity from the first meeting and the second meeting was 55.22% included in the criteria of being quite active. The activity of the fifth grade students at SD Negeri 1 Depok when the Problem Based Learning (PBL) model was applied in cycle I in science learning

was quite active, so that in cycle I it did not meet the set standard of 75%. Therefore it is necessary to continue in cycle II.

there was an increase in the percentage of students' active learning at each meeting in cycle II. The average percentage for the overall activity of the first meeting and the second meeting of 77.20% is included in the active criteria. The activeness of class V students at SD Negeri 1 Depok when the Problem Based Learning (PBL) model was applied to cycle II in science learning was active, so that in cycle II it met the set success standard of 75%.

5. Conclusion

This research was carried out in 2 cycles, namely cycle I and cycle II using the Problem Based Learning (PBL) model. The implementation of the science learning process using the Problem Based Learning (PBL) model has increased. The researcher's conclusion is that the active learning of students during the science learning process has increased. The average overall active learning of students in cycle I was 55.22% in the criteria of being quite active, and in cycle II the average overall learning activity of students was obtained, namely 77.20% in active criteria.

Overall each cycle shows that students' active learning has increased, not only in mastery of science material, but behavior that is less active in learning decreases. Students' self-confidence also begins to increase so that it can help students gain a clearer understanding of the science material presented by researchers.

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