

APPLICATION OF THE PROBLEM BASED LEARNING (PBL) LEARNING MODEL TO IMPROVE SCIENCE LEARNING OUTCOMES IN CLASS V OF PRIMARY SCHOOL

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ABSTRACT

The purpose of this research is to improve student learning outcomes in science subjects for fifth grade students at SD Inpres Kinilow. Problem Based Learning is the interaction between stimulus and response, a relationship between two directions, namely students and the environment. The environment provides input to students in the form of help and problems. This study used the classroom action research (CAR) method, with four stages: planning, action, observation and reflection which were applied in cycle II. The data collection techniques used in this study were observation and test techniques. Data collection and Observation Techniques using Observational Instruments. While the test by giving a number of questions or evaluation. The results in cycle I obtained student learning outcomes with a percentage of 62.1% of the total 7 students, only 1 person was successful and 6 other students were unsuccessful. Thus, after correcting the shortcomings in cycle I, the research in cycle II obtained learning results from the number of 7 students, 6 students were successful and only 1 student was unsuccessful with a percentage of 92.1% or can be said to be successful based on the results. research and discussion in class V SD Inpres Kinilow it can be concluded that; Application of the Problem Based Learning learning model to improve science learning outcomes about heat transfer around us in class V of SD Inpres Kinilow with achievements in cycle I 62.1% and cycle II 92.1%. 1% of the 7 students, only 1 person is successful and 6 other students are not successful. thus after correcting the deficiencies in cycle I, the research in cycle II obtained learning outcomes from the number of students 7 people 6 students were successful and only 1 student was unsuccessful with a percentage of 92.1% or it can be said to be successful based on the results research and discussion in class V SD Inpres Kinilow it can be concluded that; Application of the Problem Based Learning learning model to improve Science learning outcomes about Heat Transfer Around Us in Class V SD Inpres Kinilow with Achievements of Cycle I 62.1% and Cycle II 92.1%. 1% of the total number of students was 7 people, only 1 person was successful and the other 6 students were unsuccessful. Thus, after correcting the shortcomings in cycle I, the research in cycle II obtained learning results from the number of 7 students, 6 students were successful and only 1 student was unsuccessful with a percentage of 92.1% or can be said to be successful based on the results. research and discussion in class V SD Inpres Kinilow, it can be concluded that; Application of the Problem Based Learning learning model to improve science learning outcomes about heat transfer around us in class V of SD Inpres Kinilow with achievements in cycle I 62.1% and cycle II 92.1%. thus after correcting the deficiencies in cycle I, the research in cycle II obtained learning outcomes from the number of students 7 people 6 students were successful and only 1 student was unsuccessful with a percentage of 92.1% or it can be said to be successful based on the results research and discussion in class V SD Inpres Kinilow, it can be concluded that; Application of the Problem Based Learning learning model to improve Science learning outcomes about Heat Transfer Around Us in Class V SD Inpres Kinilow with Achievements of Cycle I 62.1% and Cycle II 92.1%. Thus, after correcting the shortcomings in cycle I, research in cycle II obtained learning results from the number of 7 students, 6 students were successful and only 1 student was unsuccessful with a percentage of 92.1% or can be said to be successful based on the results. research and discussion in class V SD Inpres Kinilow, it can be concluded that; Application of the Problem Based Learning learning model to improve science learning outcomes about heat transfer around us in class V of SD Inpres Kinilow with achievements in cycle I 62.1% and cycle II 92.1%. 1% or it can be said to be successful based on the results of research and discussion in class V SD Inpres Kinilow, it can be concluded that; Application of the Problem Based Learning learning model to improve Science learning outcomes about Heat Transfer Around Us in Class V SD Inpres Kinilow with Achievements of Cycle I 62.1% and Cycle II 92.1%. 1% or it can be said to be successful

based on the results of research and discussion in class V SD Inpres Kinilow, it can be concluded that; Application of the Problem Based Learning learning model to improve Science learning outcomes about Heat Transfer Around Us in Class V SD Inpres Kinilow with Achievements of Cycle I 62.1% and Cycle II 92.1%.

Keywords: problem based learning, Learning outcomes,

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1. INTRODUCTION

Education for us is to prepare humans to solve life's problems in the present and in the future (Djumali et al 2014:11). Education is a very important factor and is needed by everyone. Therefore, educational actors always try to develop the quality of education to achieve the goals of education itself.

Meanwhile, according to Trahati (2015: 11), Education is an activity carried out by humans consciously and programmed to build a good personality and develop the abilities or talents that exist in individual humans in order to achieve certain goals or targets in life. Educational success is largely determined by learning activities (Muhsam, et al. 2021).

Currently, schools in Indonesia have implemented the 2013 curriculum which requires students to understand the material taught by combining each subject so that it can improve students' thinking patterns and learning outcomes. The implementation of the 2013 curriculum has an influence on students in character formation, activeness, learning processes, creativity and mindset. The development of the curriculum implemented in schools shows that natural science education programs have become part of the curriculum discourse of the Indonesian education system. Natural science education is a branch of knowledge that is really needed by children to be able to develop their potential both in the school environment, family environment, community environment, nation and state.

The process of teaching and learning natural sciences places more emphasis on processing skills, so that students can find facts, build concepts, theories, and scientific attitudes of students themselves which ultimately have a positive effect on educational processes or educational products (Trianto 2014: 143). Natural science education in elementary schools should open opportunities to foster students' curiosity scientifically. This will help them develop their ability to ask questions and seek answers to natural phenomena. The achievement of the best learning outcomes by students is the hope of all parties.

But in reality not all students achieve the results as expected. The level of learning mastery in studying natural science can be seen from the learning outcomes of students. Mastery of concepts and skills regarding material in natural science learning is lacking, resulting in low grades obtained. This lack of mastery of natural science concepts is caused by students' difficulties in responding to the learning given by their teachers. Some of the findings indicate that the causes of students' natural science learning difficulties are that the material is too dense, it seems that students inevitably have to memorize the material, limited learning media, students seem to have difficulty understanding material without the availability of media, teachers who tend to dominate learning,

One of the main problems in learning natural sciences in formal education today is the low absorption of students to understand, formulate and analyze the problems they face. In the process of learning natural sciences in class V, out of 7 students, only 1 person achieved completeness and 6 students who had not yet achieved completeness. This clearly does not meet graduation standards and it can be said that the learning outcomes in this class are not optimal and need to be improved.

Based on these problems, teachers are required to be able to choose a learning model that can motivate each student to be actively involved in their learning experience (Hakiki, M., & Fadli, R. 2021). One alternative learning

model that allows the development of students' thinking skills (reasoning, communication, and connections) in solving problems is Problem Based Learning (PBL). PBL can be interpreted as activity design. The Problem Based Learning learning model is a learning model that is ideally applied in science learning (Safrida, 2020).

Cahyo (2013: 283), problem-based learning (PBL) is a learning model based on the principle of using problems as a starting point for the acquisition and integration of new knowledge. Using the Problem Based Learning (PBL) model students can think critically to solve a problem and can gain new knowledge. So with the Problem Based Learning (PBL) model students will be faced with problems in the learning process thus it will make students active because they feel challenged to work together to hone problem solving skills by collecting and analyzing data in order to solve problems and find solutions.

Based on the above observations, the authors conducted research with the title "Implementation of the Problem Based Learning (PBL) Learning Model to Improve Learning Outcomes in Natural Science Subjects for Class V Students at SD Inpres Kinilow".

2. RESEARCH METHODS

This research was carried out at Inpres Kinilow Elementary School in the second semester of the school year 2022/2023. The research subjects were all fifth grade students, in SD Inpres Kinilow as many as 7 students, 3 boys and 4 girls.

This research design uses a classroom action research model using the Kemmis and Mc Taggart research design. The Kemmis and Mc Taggart model is a development of Kurt Lewin's PTK model which was developed (Rustiyarso & Wijaya, 2020). The research design consists of four stages, namely planning, action, observation, and reflection (Sani et al, 2020).

This research was carried out in two cycles, on the material of heat transfer around us, by applying the PBL learning model. Data on student learning outcomes is collected by providing a number of questions in writing to all students using Student Worksheets (LKS).

After the data is collected, an analysis of student learning outcomes is carried out individually and classically as well as analysis of observation sheet data. The instruments used in this research were observation sheets, worksheets, questions and Learning Implementation Plans (RPP).

3. RESEARCH RESULTS AND DISCUSSION

3.1. Research result

The test results in cycle I, the total score obtained by students individually was 62.1%, while classically there were 6 students who had not completed their learning outcomes, and only 1 student completed. The learning completeness category of students in individual and classical learning is 75% so that the learning completeness of students in individual and classical learning is if it reaches 75% so that the learning completeness of students in cycle I has not been achieved. The increase in student learning outcomes individually can be seen in Table 1.

Table 1. Learning outcomes of cycle I and cycle II individually

Cycle I		Cycle II	
Score	Percentage	Score	Percentage
435	62.1%	645	92.1%

Based on Table 1, it shows that the total score obtained by students in cycle II individually was 645 or 92.1%. The increase in student learning outcomes classically can be seen in Table 2.

Table 2. Cycle learning results II classic

Completeness		Cycle II
Learners		Percentage
Q	6	85.7%
TT	1	14.3%

Based on Table 2, it shows that the number of students who achieved complete learning

outcomes in cycle II was classically 6 students who completed it or 85.7%. The completeness category of students in individual and classical learning is up to 75%, with the KKM that has been determined but there is still one student who has not reached the KKM due to not being precise in answering test questions, unable to answer questions given by the teacher and lacking active in learning, so that the efforts made, the teacher provides remedial teaching.

While the learning activities of students in cycle I obtained less results, namely including the activeness of students discussing and presenting the results of the discussion, the percentage of student activity in cycle I obtained results of 62.1% including the less category.

3.2. Discussion

Based on the results of the research that has been done, an increase in student learning outcomes is obtained through the problem-based learning model in the fifth grade science lesson at SD Inpres Kinilow for the 2022-2023 academic year. The results of the study in cycle I, the performance of researchers in working on the Problem-Based Learning learning model is still not optimal as indicated by the learning outcomes obtained by students after participating in the learning process, namely only reaching 62.1% of the total 7 students only 1 student who reached the KKM while 6 students still did not reach the KKM. This is because other students tend to play with their friends and only expect certain students to answer or solve problems in the form of questions given to each group, students often play so they lack concentration, in this case students' attention to the material taught. So it needs to be continued in cycle II.

The results of this study in cycle II showed that the teacher's performance in applying the Problem Based Learning model had improved so that the student learning outcomes obtained were maximized, namely reaching 92.1%, namely out of 7 students, who had reached the KKM there were 6 students and participants educate only 1 person who has not reached the KKM. From the results of the implementation of the actions carried out for two cycles, it shows good progress. This can be seen from the increasing activity of students in the learning process and improving student learning outcomes. The researcher re-explained the material part of the researcher also paying attention to the activeness of students in the teaching and learning process until students showed their abilities and increased good results.

Furthermore, learning can run well and achieve learning objectives. And each student managed to answer every question and task given by the teacher properly and correctly. In this cycle, the activeness of the students in the group was also seen so that the research process was not continued in the next cycle.

Based on the evaluation results in science learning on theme 6 Heat and its transfer, sub-theme 2 Heat transfer around us, problem-based learning (PBM) for class V students at SD Inpres Kinilow experienced an increase in science learning outcomes. After knowing the comparison of each cycle, there was an increase in students' learning outcomes, so it was known that in cycle I there was 1 person who achieved learning completeness and 6 people who did not complete it, so that students had a class average of 62.1%. Meanwhile, the learning outcomes in cycle II were very good because of the 7 students who completed there were 6 students who achieved completeness and there was 1 student who did not complete with a class average of 92.1%.

This research is supported by several studies on PBL, that the Problem Based Learning learning model is a learning model that is ideally applied in science learning. With a fairly broad science topic and the design of assignments or sub-topics that lead to scientific method activities, it is hoped that students and their groups can contribute to each other based on daily experiences (Rusman, 2010). Apart from that, according to Sakdiah, et al (2016) stated that the application of the Problem Based Learning model is better compared to conventional learning models, the learning outcomes of students who have high learning motivation are better than students who have low learning motivation, and there is an interaction between the learning model and motivation to learn on student learning outcomes.

Based on the discussion above, it is clear that applying the Problem Based Learning (PBL) learning model can improve student learning outcomes.

4. CONCLUSION

Based on the results of research conducted on the application of the Problem Based Learning (PBL) learning model to improve science learning outcomes for fifth grade students at SD Inpres Kinilow, it was found that the learning outcomes of students in cycle II individually increased to 92.1%, while classical increased to 85.7% which is included in the very good category and the results of student learning activities have increased in cycle II, namely 92.1% in the very good category.

5. SUGGESTION

1. Based on the results of the research and conclusions above, the researcher has the following suggestions:
2. For school principals, it is suggested that school principals need to support with outreach and policies to other teachers, to encourage teachers to master this problem-based learning (PBL) technique, in order to improve teachers' abilities in the learning process.
3. For teachers, it is suggested that fifth grade teachers at SD Inpres Kinilow can apply the problem based learning (PBL) learning model in improving the learning process.
4. For students, students are expected to be more active and confident in the learning process.

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