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Improving Learning Outcomes n Science Learning by Applying the Problem Based Learning Model using Power Point Media for Students in Elementary School

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ABSTRAK

Research Objective: This study aims to improve student learning outcomes in science learning with the Application of Problem Based Learning Model using power point media in class VI B at Public Elementary School 2 Way Lima.

Methodology: the classroom action research conducted consists of pre-cycle, cycle 1 and cycle ii, each improvement cycle includes the planning, implementation, evaluation and reflection stages. The subjects of this study were taken from class VI B students at Public Elementary School 2 Way Lima totaling 20 students. The data collection technique was a test.

Findings: Based on the research data, it shows that the application of the Problem Based Learning model using power point media can improve the learning outcomes of class VI B students at Public Elementary School 2 Way Lima. This can be shown by the completeness of learning outcomes in the pre-cycle 25%, cycle I 70% and cycle II 85%.

Novelty/Originality of this study: The novelty of this research is combining the Problem-Based Learning (PBL) approach with PowerPoint presentation media as an innovation in improving student learning outcomes in science learning.

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1. INTRODUCTION

Natural Sciences (IPA) is one of the main subjects in elementary school, the IPA learning process emphasizes providing direct experience that emphasizes a process, this happens when learning IPA is able to improve the thinking process of students through actions taken by students to achieve the expected goals [1]-[3]. Natural Sciences (IPA) in elementary school instills students' curiosity and is able to develop skills in understanding concepts, but learning IPA is not only looking for a way to solve the equation, but also describing learning IPA about a phenomenon [4], [5]. Learning IPA is expected so that students can recognize and utilize natural resources, without damaging nature itself so as not to harm other creatures. This demands that learning IPA in elementary school can take place properly.

In line with the development of education in Indonesia, it has resulted in the increasingly important role of IPA subject matter as one of the basic knowledge taught from elementary school to higher levels [6], [7]. In addition, the content of science lessons also has important values that can be applied in everyday life, as stated in the Regulation of the Minister of National Education No. 22 of 2006 concerning Content Standards for Elementary and Secondary Education Units, it is stated that the objectives of science learning are expected to be a vehicle for students to learn about themselves and the environment, as well as prospects for further development in applying it in everyday life.

The learning process emphasizes providing direct experience to develop competencies in order to explore and understand the environment scientifically. Science subjects are often considered memorization lessons. These poor teaching methods can be caused by teachers not having the motivation to teach, many do not even know how to teach science and they only have a little knowledge of science [8]. The weakness of science learning that is currently being taught is that it is still rote and does not provide students with the opportunity to observe, research natural phenomena which are then studied and concluded based on concepts that will eventually become principles, laws, and so on as science products [9]-[11].

Science learning in elementary school includes basic and integrated skills, finding and solving problems scientifically to produce science products, namely facts, concepts, generalizations, laws and new theories [12], [13]. However, students in learning science only as a product, memorizing concepts, theories and laws [14]-[16]. Many students get grades below standard, so that learning outcomes are not achieved or are not in accordance with expectations. Learning outcomes are a measure of the achievement of learning objectives which are used as a benchmark for the learning process obtained by students after going through learning activities [17]. Based on the results of observations in class VI B at Public Elementary School 2 Way Lima Lampung, several problems were found, including: there are situations where teachers do not maximize the application of media and learning models, many students are not used to problem-based learning where students must find solutions to a problem in learning materials.

The learning media in Public Elementary School 2 Way Lima is actually quite complete, but in its implementation it is not used optimally and the learning model used is still less than optimal so that it has an impact on student learning outcomes which are still below the KKM score, which is 75. Teachers are also still fixated on teacher books which makes teachers not adjust learning to class conditions. This condition has an impact on students who according to the results of student observations are less active and creative, and lack motivation in participating in learning.

The solution offered to solve the problem in order to improve learning outcomes is to use a creative learning model for students so that learning is not boring. One of them is the problem based learning (PBL) learning model. This PBL learning model is one of the learning models in contextual learning strategies using real-world problems as a learning context for students [18]-[20]. The problem based learning model is important to apply during classroom learning with a problem solving process that is implemented in the formation of student skills in solving problems, critical thinking and the formation of new knowledge [21], [22].

In the research that will be conducted, there is a novelty, namely the problem based learning model will be combined with power point media as a support for the successful implementation of the problem based learning model. The use of power point media in learning is expected to be able to help students to be more skilled in solving problems by finding solutions [23], [24]. In various Powerpoint media presentations, researchers are interested in the use of interactive Powerpoint media containing learning materials, learning videos and quizzes that are packaged as attractively as possible [25], [26]. The media contains things that can make students' learning time easier. Students are trained to think big with interesting media that can improve their learning outcomes in the cognitive domain [27].

Based on the description above, as a researcher, it is important to conduct research on the above problems. Therefore, efforts to improve students' science learning outcomes were carried out by conducting Class Action Research with the title: "Improving Learning Outcomes in Science Learning with the Application of the Problem Based Learning Model using power point media for Class VI B Public Elementary School 2 Way Lima Students."

2. RESEARCH METHODS

This research is a classroom action research (CAR), which is a research conducted in the classroom to improve the learning process in the classroom, which aims to improve learning outcomes [28], [29]. In this study, the actions given are efforts to overcome problems in the learning process so that they can improve the learning outcomes of science content through learning using the Problem Based Learning learning model [30]. The research conducted using a problem based learning model assisted by power point media. The subjects of this classroom action research were class VI B students at Public Alementary Cchoo l2 Way Lima with a total of 20 students. The main concept of this action research according to Kemmis and Mc Taggart . there are three stages of action plans, including: planning, acting and observing, and reflecting [31]. The data collection technique in this study is the test technique.

The test technique used is the post-test in the pre-cycle, then cycle I and cycle II. Each cycle with one meeting in each cycle with a time allocation of 3 x 35 minutes. The test technique is used to obtain primary data on student learning outcomes using an instrument of 5 evaluation questions in the form of essay questions. Analysis of the data obtained is carried out by calculating the percentage of student learning completion. The completion in the pre-cycle reached 25% with an average value of 46.75, then in cycle II it reached 75% with an

average value of 78.75 and in cycle II it reached 85% with an average value of 85.75. This PTK was declared successful in achieving the success indicator of 85% of students achieving the KKM score, which is 75.

3. RESEARCH RESULTS

3.1 Pre-cycle

The pre-cycle is carried out before the implementation of cycle I and cycle II, the pre-cycle is held by collecting data related to strategies, methods or learning media that can be used in implementing science learning in class VI B Public Elementary School 2 Way Lima. The learning method used in the pre-cycle is the lecture method and group and individual assignments using power point media. There are obstacles in the learning process, namely students seem less focused in following the learning process, are not communicative and students are not used to learning in groups so that some students' learning outcomes have not yet reached the KKM (75) determined by the school. After obtaining data on student learning outcomes in science class VI B theme 1. Save Living Things subtheme 1. My Friend Plants in Learning 3 with a learning time allocation of 3 x 35 minutes in one meeting which means that there is a need for improvement in learning, in the cognitive aspect it is known that the average value of students is 46.75 out of 20 students, 15 students (75%) have not completed the KKM and 5 students (25%) who have been declared to have completed the KKM (75). Based on this, an alternative solution to the problem is to carry out improvements in learning through a problem based learning model assisted by power point media which is implemented in cycle I activities.

3.2 Cycle I

Cycle I is implemented in one meeting in the form of actions and observations. In the application of the problem based learning model with power point media, observers make maximum improvements through planning, preparing learning tools such as RPP, LKPD and Evaluation Sheets. In the material on how to reproduce plants vegetatively and its functions, theme 1. Save Living Things, theme 2. My Animal Friends in the 1st lesson with a time allocation of 3 x 35 in one meeting. In cycle I, it can be seen from the observation data, communicative, problem solving and student activity have increased. While the learning outcomes have not experienced a drastic increase from the pre-cycle cycle. In cycle I, the average student score was 78.75 out of 20 students, 14 students (70%) had not completed the KKM and 6 students (30%) were declared to have completed the KKM (75).

There are still many students who have not completed it because the scores obtained have not reached the expected KKM. However, there has been progress in cycle I even though it has not reached the KKM, there is progress because students are starting to get used to discussing in groups and are used to the power point media used by observers so that students can focus and understand the explanation of the learning material. The obstacles during the learning process in cycle I are that some students still do not dare and are not confident in expressing their opinions. From the results have not reached the success indicators that have been set, then the research will be continued in cycle II.

3.3 Cycle II

Cycle II is carried out in one meeting in the form of action and observation. In the application of the problem based learning model with power point media, the observer carries out the follow-up from cycle I through planning, preparing learning tools such as RPP, LKPD and Evaluation Sheets. In the material on the material on animal adaptation to the environment, theme 2. Unity and Difference, sub-theme 2. Working Together to Achieve Goals in the 3rd lesson with a time allocation of 3 x 35 in one meeting. In this cycle II, the increase in learning outcomes drastically improved which can be seen from the activeness, motivation and problem solving of students experiencing a good increase. In this cycle II, the average student score was 85.75 out of 20 students, 17 students (85%) had completed the KKM and 3 students (15%) were declared not to have completed the KKM (75). The maximum score of students in cycle II is 100, while the lowest is 40. Students are accustomed to conducting discussions, presenting discussion results by communicating well. Through the use of power point media plus the use of TTS games, students look enthusiastic, plus there are rewards given when students succeed in answering the TTS questions. The data on student learning outcomes in the pre-cycle, cycle I, and cycle II can be seen in table 2.

Table 1. Student learning outcome data in pre-cycle, cycle I, and cycle II

No	Student Name	Mark		
		Pra Siklus	Siklus I	Siklus II
1.	Muhammad Jarmanto	10	60	75
2.	Syed Faturrahman	10	60	40
3.	Cika Aulia	75	95	100

No	Student Name	Mark		
		Pra Siklus	Siklus I	Siklus II
4.	Rani Yunita Sari	10	75	90
5.	Akbar	40	75	80
6.	Aris Dinata	60	80	100
7.	Putri Maharani	100	100	100
8.	Alif Raja	100	100	100
9.	Rahmad Dewa	80	95	100
10.	Reisya Julaika	30	95	90
11.	Sarmila	10	60	60
12.	Bia Raka Saputra	55	80	100
13.	Syifa Salsabila	50	100	100
14.	M. Reza	50	75	90
15.	Naysila Ramadani	100	95	100
16.	Putri Aulia	20	70	90
17.	M. Januari	10	40	40
18.	Gusti Zulkarnain	45	70	90
19.	Gibran Hari Astaori	40	75	80
20.	Bagas Pradifta	40	75	90
KKM Value			75	
Average value		46,75	78,75	85,75
Number of students who completed KKM		5	14	17
Number of students who did not complete KKM		15	6	3
Percentage completed		25%	70%	85%
Percentage not completed		75%	30%	15%

Based on the research that has been conducted on students of class VI B at Public Elementary School 2 Way Lima in the pre-cycle, cycle I, and cycle II, this research was stopped in cycle II because it had reached the criteria for student learning completion in science learning. In the classroom action research (CAR) conducted on students of class VI at Public Elementary School 2 Way Lima. The stages of activities carried out in this study consisted of planning, implementing, observing, reflecting. The results of observations in the pre-cycle obtained several problems seen from the scores of students of class VI B in the science subject matter with an average student score of 46.75. Of the 20 students, only 5 students managed to achieve the KKM. From these problems, it became the basis for carrying out classroom action research (CAR) to improve the learning outcomes of science subject matter in students of class VI B Public Elementary School 2 Way Lima. In this study, a problem-based learning model was applied with the help of power point media to help students of class VI B at Public Elementary School 2 Way Lima in understanding the lesson and improving learning outcomes in the science subject matter. Classroom action research in cycle I obtained an average student score of 78.75. Student learning outcomes in cycle I were still relatively low. In cycle II, the average student score was 85.75, so the level of student learning outcomes in cycle II was relatively high. Student learning outcomes increased compared to data in cycle I.

Based on the results of this Classroom Action (CAR) study, it shows that the application of the problem based learning model assisted by power point media can improve student learning outcomes. The improvement obtained in this study is because this model can change passive learning conditions into active ones and requires students to be able to solve the problems given. Students are able to find the knowledge they learn themselves so that learning is easy to understand. Through the problem based learning model, students can be motivated and strengthen their own knowledge. This study is supported by other researchers that there is an increase in student learning outcomes through the application of the problem based learning model [32]-[34].

Other researchers also stated that the Problem Based Learning model can increase teacher teaching activities, student learning activities and student learning outcomes [35], [36]. Similar research also stated that the problem based learning model has an effect on the ability to solve geographic problems [37], [38]. Based on the research that has been conducted, it can be proven that after implementing the problem based learning model, it can improve the learning outcomes of class VI B students at Public Elementary School 2 Way Lima. The success obtained from this study is that students are able to think critically, and are able to work together actively between groups through their interactions with the learning environment designed by the learning facilitator (teacher). The problem-based learning model is a learning model that is centered on students in order to develop thinking skills, problem solving, and intellectual skills.

Relevant research from [39] supports the results of the study which states that there is an increase in learning outcomes through the application of the problem-based learning model. The similarity of the study is in

the implementation of the application of the problem-based learning model for problems in learning, the difference in the study is in the class level used as the research subject, namely class 3 in Agus' study. Student learning outcomes through the application of the Problem Based Learning model and research from [40] which shows that the application of the PBL learning model has an effect on improving student learning outcomes.

In this study, the implementation of learning by applying the Problem Based Learning model assisted by power point media can improve learning outcomes in class VI B students at Public Elementary School 2 Way Lima with pre-cycle material, namely how plants reproduce vegetatively and their functions on theme 1. Save Living Things, subtheme 1. My Friend Plants on Learning 3. Cycle I on the material on how animals reproduce vegetatively and their benefits, theme 2. Unity and Difference, subtheme 2. Working Together to Achieve Goals on learning 3. and cycle II, on the material on animal adaptation to the environment, theme 2. Unity and Difference, subtheme 2. Working Together to Achieve Goals on learning 3. The application of the Problem Based Learning model assisted by power point media meets the indicators, namely analyzing, evaluating, and creating by focusing on solving problems related to everyday life. Problem solving involves student activities in finding various sources of information in an effort to collect data to answer and solve the problems given. The Problem Based Learning learning model develops students' thinking and reasoning skills through a series of actions in discussions and implementation of the PBL model syntax in sequence. Therefore, the learning that is carried out is more meaningful because students build their own knowledge.

4. CONCLUSION

Based on classroom action research (CAR) conducted at Public Elementary School 2 Way Lima on class VI B students in the odd semester of the 2023/3024 academic year, it can be concluded that the application of problem based learning model learning assisted by power point media has increased which can be seen from the results of science learning in students. This can be seen from its completion in the pre-cycle reaching 25% with an average value of 46.75, then in cycle II reaching 75% with an average value of 78.75 and in cycle II reaching 85% with an average value of 85.75. So this research can be categorized as very good because there is an increase of 85%. Through the problem based learning model, students learn to gain knowledge and concepts that are essential from each learning material that students have previously had, students become more active in participating in the learning process, helping to increase students' self-confidence in learning. Based on the success of the research, the researcher provides suggestions to various parties, namely teachers, students and schools so that they are willing to understand the model and apply it in learning or research activities.

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