



IMPROVEMENT OF STUDENT LEARNING ACTIVITY AND LEARNING ACHIEVEMENT USING THE PROBLEM-BASED LEARNING MODEL

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ABSTRACT

The research aims to improve the aspects of student learning activity and learning achievement using a problem-based learning model. This research is a collaborative Classroom Action Research (PTK). The subjects of this study are all grade IV students of SD Negeri 1 Dwuhan Kulon. The research was conducted in three cycles. During the learning process, observation of learning activity is carried out and at the end of each cycle, a test is carried out to determine the student's learning achievement. The data collection technique in this study uses tests, observation sheets, and documentation. The analysis of the research data consisted of the results of the learning achievement test, the observation of learning activity, and the improvement of both in each cycle. Presentation of data analysis in the form of graphs or diagrams. The results of the research obtained for the aspect of student learning activity in the first cycle reached a percentage of 57.89% with the category of quite good, the second cycle increased to 78.95% of the good category, and increased again in the third cycle of 89.47% of the very good category. The aspect of learning achievement increased each cycle by 53%, 73.3%, and 93.3%, respectively. It is concluded that the problem-based learning model can increase student learning activity and learning achievement appropriately.

Keywords: Active Learning, Learning Achievement, Problem-Based Learning.

INTRODUCTION

Learning in the classroom requires effort to achieve learning goals. One of the important aspects that supports learning is active learning (Putri et al., 2019). The effort made by students to achieve a target in learning is called active learning. In its implementation, active learning is shown by the involvement of students in every process, both in their relationship with teachers or other friends so that they can explore all the potential they have to solve a problem (Winarti, 2013). Students are given the flexibility to explore all their potential knowledge, find the right solutions, and apply them in solving problems. This opportunity is obtained by students so that they can build activeness in learning (Majid, 2014). The student's learning activity makes learning more-lively and dynamic so that both individual and group activities can be achieved properly (Wibowo, 2016). Indicators that can be used to identify active learning include teachers' attention to students, cooperation between friends, involvement in problem solving, readiness to learn, and exchange of ideas or opinions (Putri et al., 2019; Hasanah & Himami, 2021). In addition, according to Ramlah et al. (2015) explained that activeness has an important role in student learning achievement. This

proves the important role and position of active learning in realizing good student learning achievements.

Student learning achievement is an important variable in the learning process so special attention is needed. Learning achievement is defined as a measure used to determine the level of success of students in participating in a teaching and learning activity (Muhibbin Syah, 2011). Learning achievement can be seen periodically from time to time, changes can be known from the average score obtained during the learning process (Latipah, 2010). The average score obtained can be used to find out the extent to which students understand information and solve problems appropriately. According to Marpaung (2015) several factors that affect learning achievement both from the inside and outside include physical, psychological, cultural, social, physical environment, and spiritual environment. If the student's learning achievement increases, it can be said that the learning provided by the teacher is successful and the student is able to receive knowledge and apply it in problems. However, if the student's learning achievement is not good, there needs to be an effort made by the teacher to improve and improve the student's learning achievement. One of them is the use of innovative learning models.

The problem-based learning (PBL) model encourages students to develop active learning, creativity, and teamwork skills. Therefore, this classroom action research will be carried out with the aim of increasing student learning activity and learning achievement through the application of the PBL model. Based on the results of observations that have been made by students in grade IV, there is still a low level of learning activity and the learning achievement of students is still low. By integrating the PBL model in the learning process, it is hoped that students will not only understand the concept of the material but also be able to actively apply it in the classroom and solve problems. The PBL model can encourage students to think scientifically according to procedures so that they are able to increase their learning activity in exploring their materials and talents, solving a problem faced so that it has implications for improving learning achievement (Pamungkas et al., 2018; Setyawati et al., 2019). Through this classroom action research, it is hoped that empirical evidence will be found about the effectiveness of the problem-based learning model in increasing student learning activity and learning achievement. The results of this study can make a positive contribution to educational practices in grade IV and can be used as a basis for the development of more innovative and adaptive learning methods in the future.

Based on the existing background, the focus of this research is to improve the learning activity and learning achievement of students of photosynthesis materials using a problem-based learning approach. On this basis, this classroom action research is expected to be able to increase student learning activity and learning achievement in grade IV students using the PBL model.

RESEARCH METHODS

This research is a collaborative Classroom Action Research (PTK). This research was carried out in three cycles. The cycle stages in this research that will be carried out according to Saur (2014) consist of planning, acting, observing, and reflecting. This research was carried out at SD N 1 Dawuhan Kulon on August 1, 2023 – August 7, 2023. The subjects in this study are grade IV

students of SD N 1 Dawuhan Kulon for the 2023/2024 school year which totals 15 students, consisting of 8 male students and 7 female students. This research was carried out on photosynthesis materials.

Data collection techniques are an important step in research, so they require appropriate data collection techniques Firdaus (2018). The data collection techniques used in this study are in the form of written tests and observations. Written tests are conducted to obtain data on student learning achievement carried out in each cycle. The results of the written test are corrected based on the rubric of the assessment of improving student learning achievement that has been compiled by the researcher. Observation was carried out to obtain data on student learning activity that had been carried out in each cycle, observation was also carried out to obtain data on the implementation of learning using the PBL model. Observations are carried out by the researcher with the help of observers using observation sheets that have been prepared by the researcher. The observation sheet will be filled out by the observer through observation of teachers and students during learning activities.

The instruments used in this study are, (1) learning tools prepared based on the PBL model syntax, (2) evaluation question sheets to determine the learning achievement obtained, (3) observation sheets of student learning activity and observation sheets of the implementation of the PBL model. The data obtained were analyzed by quantitative techniques and descriptive analysis. Quantitative analysis was carried out by simple calculation to obtain student learning activity and learning achievement scores. Descriptive analysis consists of data exposure and drawing conclusions. In this study, the conclusion of the research results is presented in the form of a narrative. This research can be said to be successful if it has achieved a success indicator of 80% in the good category, with a minimum completeness criterion (KKM) of 72.

RESULTS AND DISCUSSION

The results of the observation of the implementation of learning on photosynthetic materials using the PBL model in cycles 1 to 3 are presented in the following table 3.

Table 3. Results of Observation of Learning Activity Using Problem-Based Learning Models Cycles 1, 2, and 3

| Aspects | | Cycle | | |
|----------|--------------|--------|--------|--------|
| | | 1 | 2 | 3 |
| Teachers | Presentase % | 85% | 90% | 95% |
| Students | Presentase % | 57,89% | 78,95% | 89,47% |

Based on table 3, it is known that teacher activities in learning photosynthetic material using the PBL model in the first cycle obtained a percentage of 85% with the category of very good and in the second cycle obtained a percentage of 90% and 95% obtained in the third cycle. This shows that the percentage of learning implementation using the PBL model in the category is very good, which means that the learning steps contained in the PBL syntax can be carried out in all. The implementation of the PBL model steps is important because in this approach there are activities that can foster student learning activity so as to help students achieve their learning achievements.

Based on the analysis of the data above, student activity in active learning also increased from the first cycle to the 3rd cycle, as can be seen from the results of the presentation of student activities in the first cycle obtained a percentage of 57.89%, the second cycle increased to 78.95%, and 89.47% in the third cycle. The PBL model can increase learning activity can be seen through the observation of student activities in the learning process. In line with the research of Lacuesta et al. (2009), Ramadhan (2021), and Harwati (2021) which prove the same thing that the problem-based learning model is able to increase student learning activity during teaching and learning activities. The PBL model is proven to significantly increase learning activity in each learning so that this can help students solve problems and obtain good results.

The results of observation of teacher and student activities in addition to using tables can also be presented, as well as the increase in teacher and student activities in the implementation of learning photosynthetic materials using the PBL model can be seen using the following histogram.

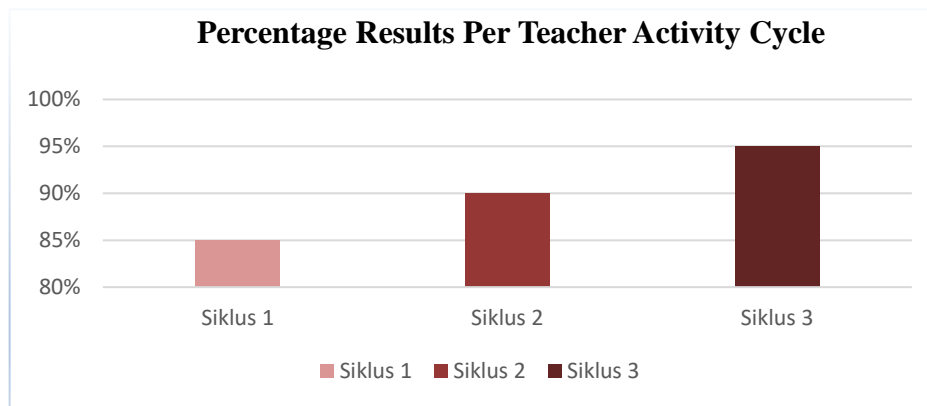


Figure 1. Percentage Results Per Teacher Activity Cycle

Figure 1 shows an increase in teacher activity in cycles 1 to 3. Based on the picture, there are several reminders. Teachers always apply the PBL model during learning. In addition, teachers also use video and image media as well as pop-up books related to learning materials. Students are happy and active in participating in learning activities with video media, pictures and pop-up books that have been provided by teachers. Teachers also involve students in solving problems in each task in learning and provide opportunities for students to convey their responses related to the problems in the material they are learning. This activity provides many opportunities for students to explore their knowledge and is proven to be able to increase student activity during classroom learning. In line with the research of Mumtaz and Latif (2017) which explains the positive impact of the problem-based learning model with the debate method in increasing student learning activity. The PBL model with the debate method is one of the active or student-centered learning strategies. The debate method will provide students with the opportunity to explore knowledge and use it in problem solving.

In addition to teacher activities, student activities can also be seen to increase using the following histogram.

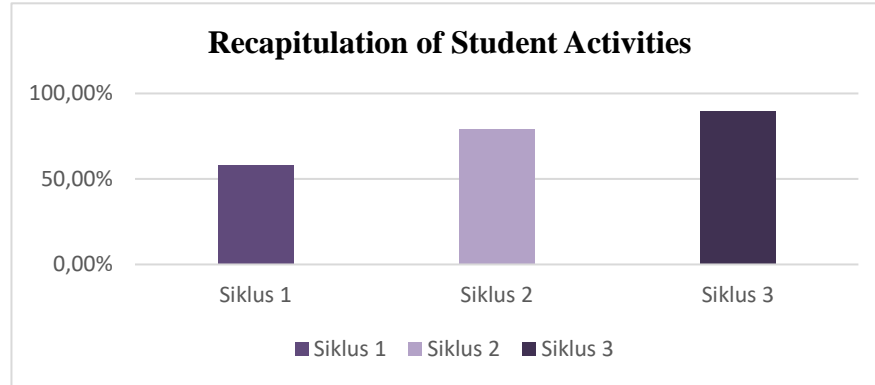


Figure 2. Percentage Results Per Student Activity Cycle

Based on figure 2, it shows that there is an increase in student learning activities from cycle 1 to cycle 3, data was obtained in cycle 1, namely 57.89% with sufficient criteria. Cycle 2 obtained data of 78.95 with good criteria and cycle 3 obtained data of 89.47% with very good criteria. The results of the evaluation test for improving student learning achievement in photosynthesis materials in cycle 1, cycle 2 and cycle 3 are used as a benchmark as whether or not there is an increase in student learning achievement.

The completeness of student learning achievement in cycles 1 to 3 can be seen from the results of the evaluation questions given at the end of each lesson. The results of this learning achievement can be seen in the following table 4:

Table 4. Student Learning Achievement Results

| No | Indicators | Cycle 1 | Cycle 2 | Cycle 3 |
|----|-------------------------------|---------|---------|---------|
| 1 | Number of students | 15 | 15 | 15 |
| 2 | KKM | 72 | 72 | 72 |
| 3 | Number of students completed | 8 | 11 | 14 |
| 4 | Incomplete number of students | 7 | 4 | 1 |
| 5 | Students do not show up | 0 | 0 | 0 |
| 6 | Grade point average | 65 | 77 | 87 |
| 7 | Presented | 53% | 73,3% | 93,3% |

Based on table 4, it shows that cycle 1 was obtained from 15 students with KKM 72, students who completed in this cycle as many as 8 children and incomplete 7 with an average score per meeting of 65. The percentage of completeness in cycle 1 is 53% while in cycle 2 out of 15 students with the same KKM, namely 60, there are 11 students who complete and there are 4 students who do not complete with an average score in cycle 2, which is 77. The percentage of completeness in cycle 2 was 73.3%. Cycle 3 showed the results that out of 15 students, who completed and 14 students did not complete with details of 1 student had an average score of 87 or a percentage of 93.3%.

Table 4 also provides information that there is an increase in the percentage of learning achievement in each cycle. Cycle 1 obtained percentages of 53% (quite good), 73.3% (good), and 93.3% (very good). In line with the research, Fertikawati et al. (2024) explained that the problem-based learning model can be used as a solution to improve student learning achievement. Research conducted by Janah et al. (2018) also explains the influence of the problem-based learning model on learning outcomes. The results showed that the PBL model had a positive and significant influence of 35% on student learning outcomes. It is also supported by the research of Anazifa (2016) which emphasizes that the problem-based learning model is proven to have an effect on improving learning achievement, especially in the cognitive aspect.

The increase in student learning achievement is also due to being able to understand the learning material and the use of the PBL model which is assisted by learning video media and pop-up books that have been prepared. This proves the importance of learning media in teaching and learning activities. In addition, students are able to show good learning activity so that they can solve a problem in learning both individually and in groups. Based on the analysis of the data from the results of the study, the application of the PBL model is proven to be able to increase student learning activity and learning achievement.

CONCLUSION

Based on the results of the research carried out, it can be concluded that (1) the implementation of the PBL model assisted by video media and pop-up books in its implementation can increase student learning activity from an average percentage of 57.89% in the first cycle and increase in the second cycle of 78.95% and increase again to 89.47% in the third cycle, (2) the implementation of the PBL model can improve student learning achievement in photosynthesis material in grade IV of SD Negeri 1 Dawuhan Kulon. This is evidenced by the increase in the average learning achievement score from the first cycle of 65, in the second cycle 77, and in the third cycle it increased to 87. Based on the results of the research, the suggestions that can be given by the researcher are as follows. First, good classroom management is needed in implementing the PBL model so that learning can take place properly. Second, the PBL model can be an alternative for teachers to be used in improving other cognitive and affective abilities, such as critical thinking skills and student learning motivation.

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