



Increased Student Motivation and Learning Outcomes Using the Grade 4 Problem Based Learning Model

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Abstract. Based on the formulation of the problem above, the goal to be achieved in this study is to find out the increase in learning outcomes through students' learning motivation using the PBL (Problem Based Learning) learning model in learning Science Chapter 8 Class 4 at SD Negeri 2 Babakanmulya. The approach used in this research is qualitative. The increase in science learning outcomes was known by the test results in Cycle I and Cycle II which showed an increase in the average score and percentage of classical completeness. In this study, referring to indicators of success, the value calculated is the percentage of classical completeness if student learning outcomes are $\geq 85\%$ of the total number of students in one class getting a score of ≥ 75 . The average score of students in chapter 8 "Building a Civilized Society" Topic A and Topic B in the initial conditions (pre-cycle) 72 with classical completeness of 77% (20 students) of 26 students who achieved a score of ≥ 75 (KKM score).

Keywords: Learning Outcomes, Problem Based Learning

INTRODUCTION

Learning outcomes are a reflection of a person's mastery of the subjects taught. High learning outcomes are a symbol of a student's success in their studies. Students who have high learning outcomes show that they have a high level of mastery ability, learning outcomes are a picture of the progress or development of students from the beginning of participating in the educational program until the time they end the educational program they take. While Purwanto said that learning outcomes are to measure the objectives of the lessons that have been taught or measure the ability of students after obtaining The learning experience of a particular subject is also against the subject programmed, and vice versa. So that learning outcomes can be known after students get learning experience and experience changes in behavior. With a change that occurs in students after experiencing a learning experience and that is called a learning outcome.

Wisudawati and Sulistiyowati (2015: 23) Science means science that studies the cause and effect of events that exist in nature. Natural Sciences (IPA) is one of the disciplines in

which it examines various natural science studies including physics, chemistry and biology. This science subject is very important because science discusses living things, life processes, nature and natural events that are closely related to everyday life. So, it cannot be denied if science teaching becomes a compulsory subject starting from elementary school (SD / MI) to high school. But so far there are still many students who have difficulty in understanding and following this lesson. Not a few of them think that science subjects are boring because there is too much scope of material they have to learn. Science learning as a medium for developing the potential of elementary school students should be based on the characteristics of children's psychology by providing fun to play and intellectual satisfaction for them in unraveling the mysteries, ins and outs and puzzles of natural phenomena around themselves, developing the potential contained in them, correcting their conceptions that are still wrong about natural phenomena, while equipping skills and building new concepts that must be mastered by students.

The success of science learning can be seen from the creativity of teachers using learning models applied in teaching appropriate and interesting science subjects. A conducive learning atmosphere occurs good interaction between teachers and students and students with students, so that learning objectives are achieved. According to Sutirman (2013: 22) the learning model is basically a form of learning illustrated from beginning to end which is presented typically by the teacher. The learning model is an alternative used by teachers to anticipate in knowledge transfer activities so that they are easily accepted by students, so that learning becomes meaningful. The learning model can be chosen by the teacher by paying attention to the characteristics of the learning material and the condition of students. The problem in this study is the lack of direct student involvement in the learning process, where students are only listeners and recorders of what the teacher conveys.

Based on motivation indicators that have not been achieved, it also affects the learning outcomes of students whose values are still below the predetermined KKM. Overcoming this, teachers must change the conventional learning process to be replaced with an appropriate active learning strategy, namely with a problem-based learning strategy in teaching science subjects. It is expected that students can develop courage and confidence in making decisions and solving problems as well as increasing the passion and motivation of learning students so as to get good and appropriate learning outcomes even above KKM for grade IV in science learning through dynamic new learning methods. Therefore, researchers are interested in conducting a study entitled "Efforts to improve learning

outcomes through student motivation using the PBL (Problem Based Learning) learning model in IPAS Chapter 8 Grade 4 learning at SD Negeri 2 Babakanmulya".

LITERATURE

Rahmat (2014: 8) Education is a process that cannot be separated from humans who are the subjects and objects of the educational effort itself, because it includes 3 (three) basic aspects in humans. The importance of this education for society is illustrated by the role brought in educational activities in relation to one's development. Education is stated to directly encourage changes in one's abilities, as stated by Redja Mudyahardjo (1985: 70), that it can be said that the importance of education is to directly encourage changes in the quality of cognitive, affective, and psychomotor abilities, then improvement in the three kinds of areas is not just to improve, but an increase whose results can be used to further improve his standard of life as individuals, workers/professionals, citizens of society and citizens and creatures of God.

Motivation is a desire and it is very important for someone to do and carry out certain activities in terms of learning and working (Sulistiyawati, 2020). The characteristics of a student have motivation in him such as tenacious in facing difficulties, diligent in doing assignments, independent in learning, consistent with the opinions they have, happy in doing assignments and being able to find solutions to the problems they face. This is related to several previous research results where the relationship between student learning motivation during the pandemic obtained very varied results. The results of the research include student learning motivation decreased when learning was carried out online or online (Cahyani et al., 2020). Motivation is a set of drives that can make someone able to move to do activities they like so that if someone is interested then continue the activity and if not, then the activity is ignored or ignored (Ihsan, 2022). Widiarti (2018) added that learning motivation is a state contained in individuals in the form of a desire to achieve a certain goal or function in the learning process. Motivation has three functions in learning, including: 1. Reinforcement in learning; 2. Clarify learning objectives; and 3. Determine perseverance in learning. In line with what was expressed by (Uno, 2014) which also divides the function of motivation into three parts, including: 1. motivation as a trigger for the desire to do something like learning activities; 2. Motivation as a director means directing student activities to achieve desires such as the achievement of learning objectives; and 3. Motivation as a driver means to

determine the fast or slow of a job, such as the speed or duration of a student to achieve learning goals.

According to Sardiman (2012: 83) indicators of learning motivation include: (1) diligent in facing tasks; (2) tenacious in the face of adversity; (3) show interest in a variety of problems for adults; (4) prefer to work independently; (5) quickly get bored on routine tasks; (6) be able to defend his opinion; (7) it is not easy to let go of the things that are believed; (8) enjoy finding and solving problems. Based on the precycle that I have carried out before, students in grade 4 have not been able to meet the 8 indicators that I have set according to sardiman so I plan to conduct Classroom Action Research (PTK) in grade 4 elementary school which will be carried out for 2 cycles.

METHOD

The type of research used is in the form of Classroom Action Research (PTK). According to Pahleviannur (2022: 3) in his book argues that classroom action research is defined as one of the scientific activities carried out by a teacher in his own class, this is done through several stages including designing, implementing, observing, and reflecting on an action through several cycles carried out collaboratively and participatory, with the aim of improving or improving the quality of the learning process carried out in Class. As for the approach used in this study, it is qualitative. According to Mardawani (2020: 15) in his book suggests that this qualitative research has its own characteristics that distinguish it, which is only other types of research. The purpose of this qualitative research is to understand conditions in a context that leads to a detailed and in-depth description of situations and conditions that occur in the field.

According to Arikunto (Sulaiman, 2021: 15) in his journal said that research has several stages which are a cycle. In every cycle that is carried out must be in accordance with the changes to be achieved and this cycle will stop when students have achieved classical completeness. According to Kemmis and Mc Taggart, class action research is carried out in the form of a repeating cycle in which there are main activities, namely the planning stage, the implementation stage, the observation stage, and the reflection stage. The implementation of such action research can be described as follows:

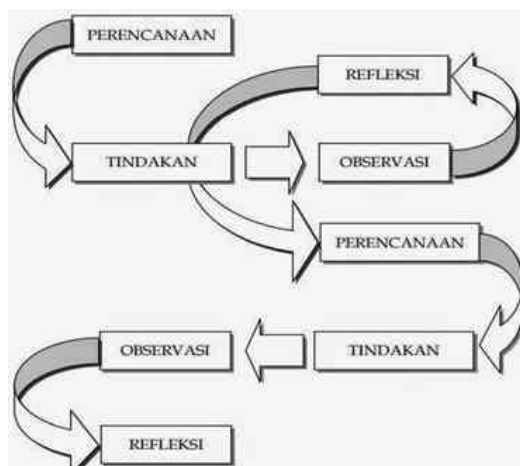


Figure 1. Classroom Action Research Phase

The subjects who will be targeted for researchers in carrying out class action assessments are grade IV students of SDN 2 Babakanmulya, Jalaksana District, Kuningan Regency for the 2022/2023 school year. With 26 students, men 9 students, women 17 students. The basis for consideration of subject choice is the need for research action on science learning Chapter 8 Class IV.

This class action research place is carried out at SDN 2 Babakanmulya which is located at JL. Major Idma Babakanmulya, Jalaksana District, Kuningan Regency, West Java 45554. As for the time of the research, it will be carried out from March to May 2023. The study will be conducted from March to May 2023. The stages of these activities include: the preparation stage consisting of: literature review, problem search, proposal preparation, implementation stage consisting of: action planning, action implementation, observation, evaluation, reflection, and completion stage consisting of: preparation of report framework, and report writing.

Data Collection Techniques are carried out through tests, observation, and documentation. Kartono (2017: 102) states that the form of the test used can be a description. The Description Test is a form of test consisting of one or several questions that demand certain answers from students or individual students based on their own opinions that are different from others. This description test is used to measure the completeness and improvement of student learning outcomes and student activity in the classroom which will have an impact on student KMM results. Observation is the process of taking data in research where researchers or observers see the research situation directly. This technique is used by researchers to determine student learning outcomes during science learning with the application of the *Problem Based Learning* (PBL)

learning model. In addition, researchers observed the learning process of students in the form of activeness and the results of answers when given questions. Documentation is the collection of data from research activities in the form of photos and videos of learning activities. The data obtained by researchers from this documentation can complement and even strengthen data from observations and tests conducted.

Data analysis is the process of analyzing data that has been collected to find out how successful research actions are for student learning improvement. Data obtained in Classroom Action Research (PTK), are generally analyzed through qualitative descriptive. Data analysis is carried out on each data collected, both quantitative data and qualitative data. Quantitative data in the form of student learning outcomes that can be analyzed descriptively using descriptive statistical analysis. In this study, the calculated value is the percentage of classical proficiency if student learning outcomes $\geq 85\%$ of the total number of students in one class get a score of ≥ 75 . Qualitative data is data in the form of information in the form of narratives that provide an overview of teacher skills and student activities in learning.

Table 1. Level of Learning Motivation

Percentage of Student Learning Motivation	Interprets
< 20,00	Very Low Motivation
21,00-40,00	Low Motivation
41,00-60,00	Enough Motivation
61,00-80,00	High Motivation
81,00-100	Very High Motivation

After the data was obtained, the researcher conducted a descriptive analysis of the level of learning motivation and student learning outcomes based on Table 1. Learning outcomes in descriptive analysis with guidelines on the criteria in Table 2.

Table 2. Learning Outcomes Assessment Category

Score	Criterion	Information
91-100	A	Excellent
81-90	B	Good
71-80	C	Moderate
61-70	D	Less
0-59	E	Less Than once

The study was conducted in 2 cycles. Cycle I will be carried out on Wednesday, April 5, 2023 using a problem-based learning model, while cycle II will be carried out on Monday, April 10, 2023, using a problem-based learning model.

DISCUSSION

This research was carried out in the form of classroom action research with two cycles which included measurement, measurement, measurement, motivation, and student learning outcomes before and after using the *problem-based learning* (PBL) model to improve student learning outcomes in the content of IPAS material Chapter 8 Topics A and B.

After observing the implementation of learning in class on Thursday, March 30, 2023, researchers compiled a learning design according to the learning syntax. Cycle I will be held on Wednesday, April 5, 2023 and cycle II will be held on Monday, April 10, 2023. The following are the results of the percentage of student success indicators in carrying out learning using the instrument lesson study observation sheet format:

Table 3. Indicators of Achievement of Motivation for Each Aspect of Motivation

Motivational Aspects	Percentage	Information
There is a desire and desire to succeed	92%	Very High Motivation
There are encouragement and learning needs of students	85%	Very High Motivation
Persevere in facing the task	90%	Very High Motivation
Tenacious in the face of adversity	80%	Very High Motivation
There are interesting activities in learning	81%	Very High Motivation
Happy to find and solve problems	80%	High Motivation

The table of analysis of these motivational aspects shows that learners have a very high motivation for their desire and desire to succeed. This can be seen from the resulting percentage of 92%. High motivation is shown by students in the aspect of encouragement and need to learn with a large percentage of 85%. Diligent in facing the given task and tenacious in facing difficulties sequentially shows very high motivation indicated by percentages of 90% and 80%. The existence of interesting activities in learning causes students to have very high motivation which is shown by a percentage of 81%. And high motivation is shown when students like to find and solve problems with a percentage of 80%. The acquisition of student learning outcomes in science learning Chapter 8 Topics A and B in general can be seen in the following table:

Table 4. Recapitulation of Learning Outcomes

Observed Aspects	Cycle I	Cycle II
Number of Students	26	26
Number of Values	1884	2089
KKM	76	76
Average rating	72,5	85
Lowest Value	60	76
Top Rated	80	89
Number of Students Complete	6	26
The Number of Students Has Not Been Completed	20	0

Average Completeness	Percentage	of	77%	100%
Category			Moderate	Excellent

Table 4 shows that in the first cycle the classical completeness obtained a percentage of 77% with an average grade of 72.7 which can be said to be sufficient. However, its classical completeness has not reached the predetermined standard. The composition is 6 students complete and 20 students incomplete. While in cycle II classical completeness reaches 100% with all students completed with an average score of 85.

Based on observations on pre-cycle activities, researchers plan according to gaps that have arisen. Research activities that have been carried out with collaborators for two cycles show the results of teachers' ability to plan and implement learning and the acquisition of learning outcomes in understanding the content of fractional number material. Researchers as grade II teachers conduct learning planning using the PBL model which has 5 learning syntax. This encourages researchers to elaborate learning steps by integrating the characteristics of students, the use of media and the achievement of learning objectives to make students actively involved in thinking mentally and physically. One of them is by accommodating the learning profile of students who are dominated by kinesthetics as much as 82% so that the percentage of activities is adjusted so that students are able to experience directly.

In the first cycle, researchers compile a plan with learning tools that contain the following aspects: completeness of minimum, essential and meaningful components, continuous, contextual, simple and supporting components using the Problem Based Learning (PBL) Model. In the application of PBL, researchers pay attention to the learning syntax of the predetermined model. The description is as follows: in phase 1 of student orientation to problems, researchers present contextual texts and videos by paying attention to conformity with the material Norms and Customs in My Area. This encourages value and meaningfulness in how to apply applicable norms and existing customs. In phase II organizing students to learn using LKPD with the content of instructions and materials that can help students solve the problems at hand. Because in the application of PBL, the teacher acts as a facilitator. In phase III guiding individual and group investigations, researchers use interactive media to construct students' understanding, namely by using learning videos. In phase IV develop and present the results of the work, namely by completing the LKPD and

presenting the process of solving the problem. Finally, in phase V analyze and evaluate the joint problem-solving process.

Researchers conducted research in grade 4 SDN 2 Babakanmulya on science learning Chapter 8 Topics A and B after observation or guided learning previously in Chapter 7 Topic C using the *Problem Based Learning (PBL)* learning model where the results still get many scores below KKM researchers feel that students get these results because learning motivation is still less visible from each learning process where participants Many students are daydreaming and cannot follow every learning process, so it attracts the attention of researchers to learn more about this. The achievement of student learning outcomes in the first cycle is to obtain a class average score of 72.5. As for the percentage, of the 26 students who have been completed in the first cycle, there are 6 students (23.10%) while 20 other students are still said to be incomplete (76.90%).

Looking at the results of exposure to success indicators, motivation and learning outcomes of the two cycles of independent practice that have been carried out, it can be seen that changes in the value of students have increased in the next cycle so that in other words, this research is said to be successful. With the indicators of learning motivation put forward by Uno and Sardiman, namely (1) There is a desire and desire to succeed; (2) There is encouragement and need in learning; (3) Diligent in facing the task; (4) Tenacious in the face of adversity; (5) There are interesting activities in learning and it can be seen from both cycles that students have fulfilled all the indicators that have been set so that student learning outcomes also increase. In this second cycle, there has been an increase in learning motivation in the learning process by being seen in table 2 about the achievement of student motivation indicators.

In the cycle of student learning outcomes experienced a significant increase in science subjects using the project-based learning model, the learning outcomes of these students can be seen in table 4 of the Learning Hail Recapitulation above regarding data on student learning outcomes in cycle I and cycle II. The number of students who are already in the complete category or who obtain scores above KKM in cycle II is 26 students (100%), so the learning results obtained in cycle II have proven that this research is successful, which means that with increased student learning motivation ultimately affects the learning outcomes of students.

Based on the results of Classroom Action Research (PTK) which was carried out as many as two cycles in the subjects of Social Natural Sciences (IPAS) in chapter 8 "Building

a Civilized Society" Topic A and Topic B, it can be concluded that the Problem Based Learning (PBL) model can improve learning outcomes in science learning in grade IV students of SDN 2 Babakanmulya, Jalaksana District, Kuningan Regency. The improvement in science learning outcomes is known by the test results in Cycle I and Cycle II which show an increase in the average score and percentage of completeness classically. In this study referring to success indicators, the calculated value is the percentage of classical completeness if student learning outcomes $\geq 85\%$ of the total number of students in one class get a score of ≥ 75 . The average score of students in chapter 8 "Building a Civilized Society" Topic A and Topic B in the initial condition (precycle) 72 with classical completeness of 77% (20 students) of 26 students who achieved a score of ≥ 75 (KKM score). Cycle I amounted to 72 with classical completeness of 77% (20 students) who achieved a score of ≥ 75 (KKM score). Cycle II is 80 with 100% classical completeness (26 students) which reaches a score of ≥ 75 (KKM score). Thus, in accordance with the success indicators, Classroom Action Research (PTK) through the Problem Based Learning (PBL) model style material in grade IV students of SDN 2 Babakanmulya, Jalaksana District, Kuningan Regency.

CONCLUSION

Based on the results of Classroom Action Research (PTK) which was carried out as many as two cycles in the subjects of Social Natural Sciences (IPAS) in chapter 8 "Building a Civilized Society" Topic A and Topic B, it can be concluded that the *Problem Based Learning* (PBL) model can improve learning outcomes in science learning in grade IV students of SDN 2 Babakanmulya, Jalaksana District, Kuningan Regency. The improvement in science learning outcomes is known by the test results in Cycle I and Cycle II which show an increase in the average score and percentage of completeness classically. In this study referring to success indicators, the calculated value is the percentage of classical completeness if student learning outcomes $\geq 85\%$ of the total number of students in one class get a score of ≥ 75 . The average score of students in chapter 8 "Building a Civilized Society" Topic A and Topic B in the initial condition (precycle) 72 with classical completeness of 77% (20 students) of 26 students who achieved a score of ≥ 75 (KKM score). Cycle I amounted to 72 with classical completeness of 77% (20 students) who achieved a score of ≥ 75 (KKM score). Cycle II is 80 with 100% classical completeness (26 students) which reaches a score of ≥ 75 (KKM score). Thus, in accordance with the success indicators,

Classroom Action Research (PTK) through *the Problem Based Learning* (PBL) model of Science Lessons Chapter 8 Topics A and B in grade IV students of SDN 2 Babakanmulya, Jalaksana District, Kuningan Regency.

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