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# The Effect of Problem Based Learning (PBL) Method in Improving Students' Learning Interest in Science Learning in Grade V Elementary School

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**Abstract**

This study aims to analyze the effectiveness of the Problem Based Learning method in increasing students' interest in learning Natural Sciences (IPA) in grade V of Elementary School. This method is expected to encourage students to think critically, be active in the learning process, and improve their understanding of concepts in a sustainable manner. This study is based on observations that show that students' test scores in science learning are still below the Minimum Completion Criteria (KKM) and low student learning motivation in class. Therefore, the Problem Based Learning method is applied as a strategy to overcome these obstacles. This study uses observation and test methods to measure the effectiveness of the implementation of Problem Based Learning. Data were collected through observation sheets of teacher and student activities, as well as learning outcome tests. Data analysis was carried out by organizing and interpreting the results of observations and student scores in the test. The results of the study showed that the application of this method increased students' activeness in learning, improved critical thinking skills, and fostered students' interest in understanding science concepts in more depth. Students' positive responses to the Problem Based Learning method indicate that this approach creates a more interactive and enjoyable learning environment. As many as 70% of students showed an increase in engagement and understanding of the material, while 30% still had difficulty adjusting to this method. Therefore, further assistance is needed in implementing this method in order to provide optimal benefits for all students. Thus, the results of this study indicate that the Problem-Based Learning method can be an effective alternative to improve the quality of science learning in Elementary Schools.

**Keywords**

Problem Based Learning; Learning Interest; Natural Science; Elementary School

## Introduction

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Education is a very basic aspect of life for national development. In the implementation of education in schools involving students as learners and teachers as educators, it is realized through the interaction of teaching and learning or the learning process. In the teaching and learning process, the methods and approaches used by teachers are not necessarily compatible with other concepts. Because each method has advantages and disadvantages. This can be revealed through the assessment of student learning progress towards a concept that has been taught by the teacher. Nowadays, many methods and models are proposed that make it possible for the teaching and learning process for students to play a more active role. However, sometimes teachers still often hesitate in the learning process to be applied and the learning objectives are optimally implemented. So that student activities in the interaction of the learning process are no longer rigid or tense. But it is more flexible and flexible.

Problem Based Learning is an innovation in the learning process because students' thinking abilities are truly optimized through the process of teamwork or group work systematically, so that students can empower problems, develop students' thinking continuously and test students' skills. Student learning interest is one of the teacher's responsibilities to pay special attention to it in the learning process. Learning outcomes will not be able to take place well and optimally if a teacher only follows his/her will without paying attention to the learning interests of his/her students (Prayuda, 2023). Because interest is the initial capital to achieve success in every learning process at school. So with the growth of interest in students, there will be motivation in students to follow the learning process seriously from the beginning of learning to the end so that learning is achieved optimally and well.

Natural Science (IPA) learning for grade V of elementary school, based on the curriculum in effect in Indonesia until 2021, has several main topics that must be covered. The following are some topics that are generally taught in grade V science learning. The first is the relationship between humans and the environment, the water cycle and its role in life, natural resources and their utilization, and environmental protection. The first is the relationship between humans and the environment, the water cycle and its role in life, natural resources and their utilization, and environmental protection. However, based on the results of observations of elementary school students, students' exam scores in science learning get an average result below the KKM. Based on direct observation of the class, it can also be concluded that students do not have sufficient learning motivation. This is evidenced by the presence of several students who cannot concentrate and are busy with themselves.

There are also several students who skip class when science learning begins. So, seeing the problems experienced by students at school, the teacher takes one alternative that can be applied in class when teaching students, namely using the problem-based learning method. With this method, the teacher directs students to be able to think critically and be able to formulate problems. Because one of the advantages of this problem-based learning method is that it requires students to be active both in groups and individually in solving problems so that they can form and hone the psychomotor aspects of students at school, cognitive and affective aspects (Prayuda et al., 2024. Thus, the problem of low student interest in learning at school can be solved and resolved optimally for the development of student interest in learning at school. This problem-based learning method can also be interpreted as a series of learning activities that emphasize the process of solving problems faced scientifically. Problem-based learning is learning that involves an open problem that is not structured in the real world as a context, where students can build student knowledge, think critically and are able to develop problem-solving skills (Febriani et al., 2020).

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This problem-based learning method is a lesson method where students are involved in solving problems so that students are able to directly experience the process of investigating the concepts they are learning. This problem-based learning is also able to activate student learning with real-life problems every day before students know the formal concept. This problem-based learning uses a meta-analysis method, against the results of previous research. This problem-based learning is one method that can encourage students to deal directly with real problems. Based on this description, it can be concluded that students are more impressed by using the problem-based learning method. The main goal of the researcher is for students to be able to solve problems in real life specifically in the learning process in the classroom so that they can improve and improve the quality of learning (Hermansyah, 2020).

This problem-based learning method can also direct students to be able to collaborate with each other in solving the problem topics they do by presenting problems faced by students in the real world or in their daily lives according to the material they learn at school. And this method is entirely centered on students who are invited to be able to collaborate with their friends. This problem-based learning method is used to convince students with the abilities they have and are able to independently and critically deal with the problems they will solve (Harnita et al., 2023). Students' interest in learning has a very positive effect on science learning outcomes in grade V of elementary school. Interest is the tendency of an individual's heart towards something or an activity that they consider interesting. Interest is the first step that students must have in the learning process, in order to achieve the desired goals. Students' interest in learning can be developed by using a learning model that requires students to be active in learning that is fun and makes students feel comfortable. After students feel comfortable, students' interest in learning will emerge and ultimately lead to maximum learning outcomes. Based on the reality in the world of education today, the learning system that occurs is still conventional in the sense that many educators still use textbooks to explain the material, many teachers are still technologically illiterate (gaptek) so that during the learning process teachers are monotonous in explaining the material to students. What should be is that teachers must be required to be more advanced in using increasingly sophisticated technological media today (Awalia et al., 2021).

Nowadays, many elementary school students experience a decline in learning outcomes. This is due to the lack of interest in learning students due to the lack of interaction with nature and the surrounding environment, especially in science learning. In today's technological era, students are more interested in technological tools than interacting with their surroundings (Safitri & Subhan, 2020). Students in science learning are required to master, have knowledge and insight into science. In order for the objectives of this science learning to take place optimally, it must be supported by conducive learning. Students are faced with real life problems, namely problems with the surrounding environment (Nurman et al., 2020). This learning includes cognitive development, social emotional development, language development and physical development of students (Madaniyah et al., 2021).

## Methods

Observation is a data collection technique by observing ongoing activities. These activities can relate to the way teachers teach, students learn, and the principal provides direction (Sangging, 2017: 220).

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1. Test

Tests are valuable data measurement tools in research. Tests are a set of stimuli given to someone with the intention of getting answers that are used to determine a score. The types of tests in research are achievement tests and intelligence tests.

2. Data Analysis

Data analysis is the process of systematically searching and compiling data obtained from interviews, field notes, and documentation, by organizing data into categories, describing them into units, arranging them into patterns, choosing what is important and what will be studied, and making conclusions so that they are easy to understand by yourself and others. According to (MRizky, 2020: 335) data analysis is carried out to determine the level of success of the research. To analyze data obtained from test results, the following formula can be used.

Learning Implementation

To calculate the results of learning implementation in students, the following formula can be used:

$$Nilai\ Siswa = \frac{\text{skor perolehan}}{\text{skor maksimum}} x\ 100$$

According to (Sari, 2015: 180) the results of the study on the implementation of student activity learning can be used as the following criteria.

Criteria for assessing the implementation of student activity learning

| Nilai | Kriteria |
|---|---|
| 10-29 | Very sufficient |
| 30-49 | Less |
| 50-69 | Enough |
| 70-79 | Good |
| 90-100 | Very good |

## Discussion

Related to the use of problem-based learning strategies/methods for students. The results of an interview with a teacher where the teacher uses problem-based learning where there is an approach between students where students will learn to recognize the characteristics of their friends focusing on creative ideas, talents, and can collaborate, and the ability to work in a team. The teacher applies this method by giving group assignments where students must work together to win a lesson given by the teacher, this method not only allows students to win

a game but also improves their collaboration and communication. By using problem-based learning, it can encourage students to participate in groups, play an active role and share ideas between students.

Positive responses from students indicate that the application of problem-based learning has succeeded in creating a fun and interactive learning environment, students feel more motivated and involved in the learning process. With group activities, students can increase their knowledge of the material taught by the teacher, there is mutual assistance between students. Based on the qualitative data provided, the application of problem-based learning through group assignments related to case studies has succeeded in increasing student involvement and satisfaction in the learning process. This shows that problem-based learning is an effective teaching strategy in creating a collaborative and interactive learning environment.

For further application, it is recommended to use various types of case studies to determine student learning interests and student involvement in addition to providing conducive guidance and feedback during discussions and completion of tasks in groups, as well as involving students in reflection and evaluation of the learning process can help identify areas that need to be improved and developed. The results of this study where there were 30 students. there were 70% of students who could accept problem-based learning and there were 30% difficulties in accepting the learning method. the results of this study can be concluded that this method can be accepted by students and can be applied by teachers in schools.

## Conclusion

Based on the findings of this study, it can be concluded that the Problem-Based Learning (PBL) method is an effective approach to improving students' interest in learning Natural Sciences (IPA) in grade V of elementary school. The implementation of PBL encourages students to actively participate in the learning process, think critically, and engage in problem-solving activities. The results of the study indicate that students who were exposed to the PBL method showed increased enthusiasm and engagement in learning, as evidenced by a 70% improvement in participation and comprehension levels. However, 30% of students still experienced difficulties in adapting to this learning method, highlighting the need for additional support and guidance to maximize its effectiveness. Furthermore, the PBL method has successfully created an interactive and enjoyable learning environment, which contributes to higher student motivation and better conceptual understanding. The collaborative nature of PBL allows students to develop teamwork skills, share knowledge, and enhance their ability to analyze scientific concepts through real-world applications. This approach not only improves cognitive abilities but also fosters the development of social and affective skills essential for holistic learning.

Although the study demonstrates the effectiveness of PBL in increasing student interest and academic performance in science learning, further research is recommended to explore ways to address the challenges faced by students who struggle with this method. Future studies should focus on refining the implementation strategies, providing additional scaffolding for students with lower adaptability, and incorporating diverse case studies to cater to different learning preferences. In conclusion, the findings of this study confirm that Problem-Based Learning is a valuable instructional strategy that can significantly enhance the quality of

science education in elementary schools. Teachers are encouraged to integrate this method into their teaching practices to foster a more engaging, interactive, and student-centered learning experience. However, continuous evaluation and adaptation are necessary to ensure that all students can benefit optimally from this approach.

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