

Analysis of Student Learning Motivation in IPAS Learning with a Problem Based Approach

Ardian Sukmana, Idam Ragil Widiyanto Atmojo, Chumdari

Universitas Sebelas Maret
idamragil@staff.uns.ac.id

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Abstract

Learning motivation is a crucial element that significantly influences students' active participation and academic achievement in Natural and Social Sciences (IPAS) at the elementary school level. This study aims to analyze the learning motivation of fifth-grade students in IPAS through the application of the Problem-Based Learning (PBL) model. A qualitative approach was used with a case study design involving 26 fifth-grade students at Pandanan Public Elementary School, where data were collected through questionnaires, observations, and interviews. Data were collected through motivation questionnaires, participatory observation, and in-depth interviews, and were then analyzed thematically using the Miles and Huberman model. The results of the study showed a significant increase in intrinsic motivation, where the number of students in the "Very High" motivation category rose sharply from 3 to 12, and the "Low" motivation category disappeared. The implementation of PBL also proved to change students' perceptions of IPAS from mere memorization to problem-solving-based learning that is more relevant and engaging. Overall, the Problem-Based Learning model proved effective and had a positive impact on improving students' learning motivation, engagement, and the quality of their learning experiences in the IPAS subject.
Keyword: Learning Motivation, IPAS, Problem-Based Learning.

Abstract

Motivasi belajar merupakan elemen penting yang secara signifikan mempengaruhi partisipasi aktif siswa dan prestasi akademik dalam Ilmu Pengetahuan Alam dan Sosial (IPAS) di tingkat sekolah dasar. Penelitian ini bertujuan untuk menganalisis motivasi belajar siswa kelas lima dalam IPAS melalui penerapan model Pembelajaran Berbasis Masalah (PBL). Pendekatan kualitatif digunakan dengan desain studi kasus yang melibatkan 26 siswa kelas lima di SD Negeri Pandanan, di mana data dikumpulkan melalui kuesioner, observasi, dan wawancara. Data dikumpulkan melalui kuesioner motivasi, observasi partisipatif, dan wawancara mendalam, kemudian dianalisis secara tematik menggunakan model Miles dan Huberman. Hasil penelitian menunjukkan peningkatan yang signifikan pada motivasi intrinsik, di mana jumlah siswa dalam kategori motivasi "Sangat Tinggi" meningkat tajam dari 3 menjadi 12, dan kategori motivasi "Rendah" menghilang. Penerapan PBL juga terbukti mengubah persepsi siswa terhadap IPAS dari sekadar menghafal menjadi pembelajaran berbasis pemecahan masalah yang lebih relevan dan menarik. Secara keseluruhan, model Pembelajaran Berbasis Masalah terbukti efektif dan berdampak positif dalam meningkatkan motivasi belajar, keterlibatan, dan kualitas pengalaman belajar siswa dalam mata pelajaran IPAS.
Keyword: Learning Motivation, IPAS, Problem-Based Learning.



INTRODUCTION

Basic education plays a fundamental role in shaping students' academic, social, and character abilities. At this level, students begin to build the foundations of thinking skills, problem-solving skills, and independent learning abilities that will influence the learning process at the next level. One subject that is particularly strategic in developing these abilities is Natural and Social Sciences (IPAS). This subject integrates concepts from natural sciences and social sciences so that learning can provide meaningful, contextual experiences that are relevant to students' lives. Unfortunately, in practice, many students show low motivation to learn IPAS.

Learning motivation is an important determinant of learning success because it influences the emergence of interest, effort, and perseverance in students during the learning process (Herlina, 2022). Students with low motivation tend to be passive, less involved, and give up more quickly when faced with challenging tasks. Based on initial observations and interviews with fifth-grade teachers at Pandanan Public Elementary School in Wonosari District, it was found that most students did not participate in discussions, were reluctant to ask questions, and showed little interest in science and technology subjects. This condition indicates that the learning methods used have not fully encouraged active student participation.

Current learning practices are not yet as expected. Sometimes, they still use methods that are not in line with the current curriculum and are still teacher-centered, dominated by lectures and assignments. These methods do not provide enough space for students to build understanding through direct experience or authentic problem discovery. Research by Fitri et al. (2024) confirms that traditional learning approaches often fail to foster curiosity and intrinsic motivation in students. In fact, IPAS learning requires investigative activities, environmental exploration, and higher-order thinking processes to understand natural and social concepts in an integrated manner.

One learning model that is believed to be able to increase student motivation is Problem Based Learning (PBL). PBL positions students as the center of learning, where the learning process begins with real problems that are relevant to everyday life (Utami et al., 2024). In this model, students do not just receive information, but they are actively involved in identifying problems, exploring information, discussing, and finding solutions independently or collaboratively. These activities touch on aspects of intrinsic motivation, such as the need for achievement, curiosity, and independence in learning (Arifin et al., 2024).

A number of studies show that PBL is effective in increasing learning motivation and learning outcomes in various subjects, especially basic science and mathematics (Arifah et al., 2023; Yazmini, 2021; Laila, 2023). Triandika et al. (2023) also stated that PBL has a positive effect on students' critical thinking skills and motivation because this model involves students in a structured investigation process. Furthermore, research by Meilasari et al. (2020) confirmed that PBL provides meaningful learning experiences so that students are better able to relate IPAS concepts to real-life situations.

Increased learning motivation through PBL also has a direct impact on improving learning outcomes. Siregar (2024) states that motivation is the main driving factor in achieving literacy and numeracy competencies in elementary schools. Similarly, Rahman (2024) found that PBL makes students more motivated to complete tasks and more confident in the learning process. This shows a close relationship between motivation, student engagement, and improved learning outcomes in IPAS learning.

Grade V of Pandanan Public Elementary School in Wonosari District was chosen as the research location because this Area IV faces real challenges in terms of low learning motivation in science learning. At the KKG Forum, several teachers stated that students were less enthusiastic when faced with material that required conceptual understanding and problem solving. In addition, no previous research has been

conducted on the implementation of PBL in science learning in Grade V of Pandanan State Elementary School, Wonosari District, so this research has novelty value. This research is expected to not only provide empirical evidence regarding the effect of PBL on learning motivation but also serve as a basis for developing more effective and student-oriented science learning strategies.

This study focuses on the research question of whether the implementation of the Problem-Based Learning (PBL) model can enhance fifth-grade students' motivation in the IPAS subject at Pandanan Public Elementary School, Wonosari District. In line with this issue, this study aims to conduct an in-depth analysis of the effectiveness of the PBL model in enhancing students' learning motivation and to provide empirical evidence that is useful for teachers and schools in developing more student-centered IPAS teaching practices.

LITERATURE REVIEW

Learning Motivation

Learning motivation is a psychological condition that encourages students to engage in learning activities, maintain interest, and achieve learning objectives. Herlina (2022) explains that learning motivation acts as the main driver that determines the extent to which students are involved and make efforts in the learning process. Students with high motivation tend to exhibit active, enthusiastic behavior and have a strong desire to achieve. Conversely, low motivation causes students to be passive, easily bored, and less involved in learning. Learning motivation consists of two main categories:

1. Motivation

Intrinsic motivation comes from within the student, such as curiosity, interest in the subject, or the desire to understand something deeply. Fitri et al. (2024) emphasize that intrinsic motivation is an important foundation in promoting long-term learning success because it does not depend on external rewards.

2. Extrinsic Motivation

Extrinsic motivation arises from external factors, such as rewards, praise, grades, and the influence of teachers. Rahman (2024) shows that extrinsic motivation can trigger active learning behavior, although it is more temporary in nature than intrinsic motivation.

Learning motivation is influenced by several factors, including:

1. Learning environment and teaching methods: Interactive learning methods can increase student engagement (Arifin et al., 2024).
2. Students' emotional and cognitive conditions: Students will be more motivated when they feel confident and capable of completing tasks.
3. Relevance of subject matter: Siregar (2024) states that learning that is related to real-life contexts can increase motivation.
4. Social interaction: Discussions and collaboration among students support the emergence of social motivation.

Motivation greatly influences learning outcomes. Triandika et al. (2023) emphasize that high motivation is associated with better critical thinking skills, especially in problem-based learning.

Problem-Based Learning (PBL) Model

Problem-Based Learning (PBL) is a learning model that uses authentic problems as a basis for student learning. In PBL, students are guided to find solutions through a process of investigation, discussion, and collaboration. Utami et al. (2024) emphasize that PBL focuses on developing critical thinking, problem-solving, and learning motivation skills. Several experts describe PBL as a learning approach that is:

1. Student-centered,
2. Based on real, relevant problems,

3. Requires students to work in small groups,
4. Emphasizes higher-order thinking processes.

Meilasari et al. (2020) added that PBL integrates scientific and social processes, making it very suitable for IPAS learning, which requires observation, investigation, and the application of concepts in real life.

According to various studies (Arifah et al., 2023; Agustina, 2025), the syntax of PBL generally includes:

1. Problem Orientation
Teachers present authentic problems that are relevant to students' lives.
2. Organization of Students in Learning Groups
Students are divided into small groups to examine the problem.
3. Independent and Group Investigation
Students gather information, discuss, and explore various sources.
4. Development and Presentation of Solutions
Students present their findings orally and in writing.
5. Analysis and Reflection
Groups reflect on the learning process and outcomes.

Various studies have shown that PBL has a number of advantages, including:

1. Increasing learning motivation (Arifin et al., 2024; Arifah et al., 2023).
2. Encouraging critical and creative thinking skills (Triandika et al., 2023).
3. Improving science/mathematics learning outcomes (Fitri et al., 2024; Pangestu et al., 2024).
4. Helping students connect lesson material with real-life experiences (Meilasari et al., 2020).
5. Improving collaborative and communication skills (Surya, 2025).

Although PBL has many advantages, its implementation is not without obstacles:

1. Limited learning time in elementary schools.
2. Teachers are not yet accustomed to managing problem-based discussions or projects (Rahman, 2024).
3. Students' readiness for independent learning varies.
4. Learning media and resources are sometimes inadequate.

At Pandanan Public Elementary School, based on initial observations, the main challenges are low student independence and a lack of variety in learning methods.

PBL and Student Motivation in IPAS Learning

Many studies show a close relationship between the application of PBL and increased student learning motivation in IPAS learning. Fitri et al. (2024) stated that PBL is able to foster interest and curiosity because students are directly involved in problem-solving activities. Similarly, Arifin et al. (2024) emphasized that PBL creates a more meaningful and enjoyable learning atmosphere, thereby increasing intrinsic motivation.

Research by Yazmini (2021) and Laila (2023) proves that students who participate in PBL learning show higher participation, ask more questions, and have greater confidence when solving IPAS problems. These findings are reinforced by Prasetiawan (2025), who states that PBL simultaneously increases motivation, confidence, and learning outcomes.

In the context of basic education, Siregar (2024) highlights that PBL helps students develop literacy and numeracy competencies because students are involved in processing information and simple data analysis. Therefore, PBL is considered highly relevant to be applied in IPAS learning in grade V at Pandanan Public Elementary School.

RESEARCH METHOD

This study employed a descriptive qualitative method aimed at identifying students' learning motivations, supporting factors, and inhibiting factors that emerged during the implementation of IPAS instruction using the Problem-Based Learning (PBL) model. The use of this qualitative method aligns with Sugiyono's (2019) view, who states that qualitative methods are used to study natural settings in order to obtain in-depth and meaningful data. Furthermore, this approach was chosen to comprehensively describe phenomena through data collection techniques such as interviews, observations, and document analysis to validly answer the research questions. This research was conducted in the odd semester of the 2025/2026 academic year with the main target being fifth-grade students at Pandanan Public Elementary School, Wonosari, Klaten.

The research subjects were determined using purposive sampling, namely the selection of informants who were considered to be most knowledgeable about the IPAS learning process with PBL. The research subjects included:

1. Fifth-grade students (main informants)
2. Fifth-grade teachers
3. Supporting documents in the form of lesson plans, worksheets, teacher notes, and learning outcomes.

Data collection techniques included in-depth interviews, direct observation, and documentation study. The research instruments were:

1. Semi-structured interview guides used to explore learning motivation, experiences of participating in PBL, as well as supporting and inhibiting factors.
2. Observation sheets to observe student activities during the problem-based IPAS learning process.
3. Documentation in the form of activity photos, lesson plans, and teacher reflection notes.

This study employs the Miles and Huberman data analysis model, in which analysis is conducted interactively and continues on an ongoing basis until completion. In line with the theory proposed by Moleong (2018), the analysis process in qualitative research aims to arrange the data and organize it into patterns, categories, and basic units of description. The stages of data analysis in this study include data collection, data reduction to sort relevant information, presentation of data in the form of narrative descriptions, and drawing conclusions to provide a final explanation of the observed phenomena.

The stages of data analysis are as follows.

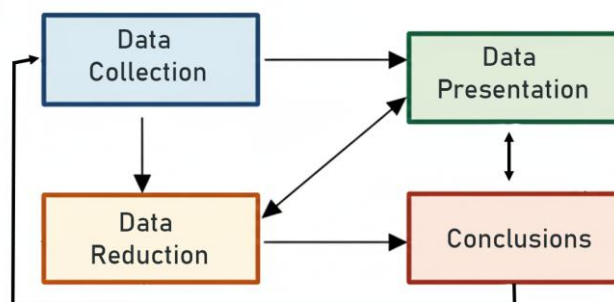


Figure 1. Data Analysis Chart According to Miles & Huberman

This research was conducted in four stages, namely data collection, data reduction, data presentation, and conclusion drawing. In the data collection stage, information was sought in the field to answer research questions, with data validity and

data collector qualifications being very important to ensure the quality of the data obtained. Next, in the data reduction stage, data was sorted to determine relevant and meaningful information and other important aspects in line with the research needs. The data presentation stage involved structuring the information to enable conclusions to be drawn and actions to be taken based on the data, which was presented in the form of a brief narrative description. Finally, in the conclusion drawing stage, researchers compile conclusions by providing explanations of the data collected through observation, interviews, and documentation.

RESEARCH RESULTS AND DISCUSSION

This study was conducted in the fifth grade of Pandanan Public Elementary School, involving 26 students as the main subjects to analyze the impact of implementing the Problem-Based Learning (PBL) model on their learning motivation. Data were collected through motivation questionnaires, participatory observation, and in-depth interviews to obtain a comprehensive picture of changes in student learning behavior. Before the implementation of PBL, initial observations showed that most of the 26 students tended to be passive, did not participate much in discussions, and had low interest in science and technology subjects because learning was still teacher-centered. However, after the implementation of the problem-based model, there was a significant shift in student engagement in the classroom.

The increase in student learning motivation after the implementation of PBL can be clearly seen by comparing the data before and after the intervention. Of the total 26 students, the number of students in the “Very High” motivation category increased rapidly, while the “Low” category was completely eliminated. The following is a table showing the distribution of learning motivation among fifth-grade students:

Table 1. Level of Learning Motivation of Fifth Grade Students (N=26)

Motivation Category	Before PBL (Students)	After PBL (Students)	Percentage Increase
Very High	3	12	34.60%
High	7	10	11.50%
Medium	10	4	-23.00%
Low	6	0	-23.00%
Total	26	26	100%

This process of motivational change occurs because each syntax in the Problem-Based Learning approach is designed to trigger students’ curiosity and independence. In practice, teachers present authentic problems that are relevant to everyday life, which are then solved by students through group work and independent investigation. This activity has proven effective in building understanding through direct experience, rather than mere memorization. The following table shows the implementation of the PBL stages observed during the study:

Table 2. Implementation of Problem-Based Learning (PBL) Stages

PBL Stages	Activity 26 Fifth Grade Students	Observation Results
Problem Orientation	Students observe real-world problems presented by the teacher.	Student enthusiasm and curiosity increased.

Learning Organization	Students share roles in small groups.	Active collaboration and communication were established.
Investigation	Students independently search for information and solutions.	Students showed perseverance in problem solving.
Presentation of Results	Students present their solutions to the class.	Improved self-confidence and speaking skills.
Analysis & Reflection	Students evaluate the problem-solving process.	Students are able to relate the material to the real world.

Based on the results of this study, the discussion shows that the application of PBL has a significant positive impact because this model places students at the center of learning. The increase in students' intrinsic motivation is reflected in their increased perseverance in completing complex IPAS tasks. This is in line with the theory that interactive methods and the relevance of material to real life can trigger greater interest and effort on the part of students. Thus, the involvement of 26 students during the learning process became more meaningful compared to the conventional methods previously applied.

Overall, these findings prove that Problem-Based Learning is effective in overcoming low learning motivation in IPAS subjects at Pandanan Public Elementary School. Despite challenges such as time constraints, the results of this study provide empirical evidence that changing the strategy from lecturing to problem solving can change students' perceptions of learning. This model not only improves academic achievement but also builds critical thinking skills and collaborative abilities that are fundamental for elementary school students.

The significant increase in student learning motivation from the "Low" category to "Very High" through this PBL model reinforces the theory proposed by Herlina (2022), that motivation is the primary driver determining student engagement and perseverance in the learning process. This finding demonstrates that when students are presented with authentic problems, their curiosity is naturally stimulated, which, according to Fitri et al. (2024), is a crucial foundation for long-term learning success as it does not rely solely on external rewards. This success also demonstrates that the shift in the teacher's role from information provider to facilitator can create a more dynamic learning environment that is responsive to students' cognitive needs.

The findings of this study are also consistent with previous research by Arifin et al. (2024) and Triandika et al. (2023), which found that PBL effectively enhances intrinsic motivation by engaging students in a structured inquiry process. Observations of 26 students who demonstrated increased self-confidence when presenting solutions indicate that social interaction in small groups fosters the development of social motivation and improved communication skills. This confirms the view of Meilasari et al. (2020) that meaningful learning experiences occur when students are able to connect IPAS concepts to real-life situations through discussion and collaboration.

More broadly, the effectiveness of PBL in addressing student passivity at Pandanan Public Elementary School supports the findings of Yazmini (2021) and Laila (2023), which demonstrate that students in PBL classes exhibit higher levels of participation compared to those in conventional classes. Although there are challenges in the form of time constraints, the results of this study affirm Siregar's (2024) assertion that motivation triggered by real-world problems is the primary driving factor in achieving competencies in elementary school. Thus, the integration of problem-based learning models into the IPAS curriculum has proven capable of transforming students' perceptions of material considered difficult into engaging challenges to be solved.

CONCLUSION AND RECOMMENDATIONS

Based on the results of the research and discussion, it can be concluded that the application of the Problem-Based Learning (PBL) model significantly increased the learning motivation of 26 fifth-grade students at Pandanan Public Elementary School in the subject of IPAS. This change can be seen from the drastic increase in the number of students in the “Very High” motivation category from 3 to 12 students, as well as the complete disappearance of the “Low” motivation category after the intervention was carried out. The implementation of PBL has succeeded in changing the learning patterns of students, which were previously passive and teacher-centered, to be more active, independent, and collaborative through solving real problems that are relevant to everyday life.

This increase in motivation was triggered by the effectiveness of each stage of PBL, from problem orientation to reflection, which directly encouraged students' intrinsic motivation in the form of curiosity and perseverance in completing complex tasks. The application of this model has proven to be able to shift students' perceptions of IPAS subjects, which were previously considered to be rote learning, to meaningful inquiry-based learning. By placing students at the center of learning, a higher quality of active engagement is created compared to the conventional learning methods or lectures that were previously applied.

As a suggestion, teachers are expected to continue developing creativity in presenting authentic contextual problems so that student motivation to learn is consistently maintained. Schools need to support the optimization of the PBL model by providing more adequate media and learning resources to overcome technical constraints and time limitations in the student investigation process. For future researchers, it is recommended to explore the influence of PBL on other variables such as critical thinking skills or cognitive learning outcomes more broadly to enrich findings on the quality of learning experiences at the elementary school level.

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