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THE IMPLEMENTATION OF THE PROBLEM-BASED LEARNING (PBL) MODEL TO IMPROVE STUDENTS' LEARNING OUTCOMES ON THE CONTINENT TOPIC IN GRADE VI OF SD NEGERI 007 BANGUN PURBA

Mutri Kusumawati[1*], Rinja Efendi[2]

[1,2] Elementary School Teacher Education Study Program, Rokania University, Jl. Raya Pasir Pengaraian, Km 15 Langkitin, 28554 Riau Province, Indonesia

*Corresponding Author: mutrikusuma01@gmail.com

Abstract: *: This study aims to improve students' learning outcomes on the topic of Continents through the implementation of the Problem-Based Learning (PBL) model in Grade VI of SD Negeri 007 Bangun Purba. The research employed a Classroom Action Research (CAR) design conducted in two cycles, each consisting of four stages: planning, implementation, observation, and reflection. The subjects were 28 students. Data were collected using learning outcome tests (pretest and posttest), teacher and student activity observation sheets, and documentation. Data analysis was carried out both quantitatively and qualitatively, with a minimum mastery criterion (KKM) of 75. The results showed a significant improvement in students' learning outcomes after the implementation of the PBL model. The average score increased from 65 with 53.6% mastery in the pre-cycle, to 75 with 71.4% mastery in the first cycle, and reached 83 with 89.3% mastery in the second cycle. In addition to cognitive improvement, students demonstrated better learning engagement, such as increased participation in group discussions, confidence in expressing opinions, and collaboration in solving problems. Therefore, the implementation of the Problem-Based Learning (PBL) model proved effective in improving students' learning outcomes and social skills in social studies at the elementary school level.*

Keywords: *Continents, Elementary School, Learning Outcomes, Problem-Based Learning, Social Studies.*

INTRODUCTION

Basic education holds a crucial position in laying the groundwork for students' overall development. It is during this formative stage that children begin to build essential knowledge, shape their character, and develop patterns of thinking that will influence their future learning. Beyond acquiring basic literacy and numeracy skills, students at the elementary level are expected to cultivate intellectual curiosity, moral values, and positive learning habits that support long-term academic growth.

In today's educational landscape, mastery of subject content alone is no longer sufficient. Students must also develop higher-order thinking skills, including the ability to analyze, evaluate, and solve problems effectively. Creativity, collaboration, communication skills, and social awareness are equally important, as these competencies enable learners to adapt to complex social and global challenges. When students are given opportunities to think critically, express ideas, and work cooperatively with peers, they become more confident and independent learners. However, in practice, Social Studies (IPS) learning at the elementary level often remains teacher-centered. Instruction is still dominated by lecturing, note-taking, and textbook-based explanations. Students tend to listen passively, memorize information, and complete assignments without fully understanding the concepts being studied. As a result, learning becomes less meaningful, students' curiosity is not optimally stimulated, and classroom interaction remains minimal. This condition contributes to relatively low learning outcomes and limited development of critical and analytical thinking skills.

One of the important topics in Grade VI Social Studies is the study of Continents. This material introduces students to global geographical structures, continental characteristics, natural and cultural diversity, as well as the relationship between geographical conditions and human life. Understanding continents is essential because it broadens students' global perspectives and helps them recognize interconnectedness between regions of the world.

Nevertheless, this topic is often perceived as difficult and abstract. The dominance of conventional teaching methods makes students struggle to visualize spatial concepts, compare continental characteristics, and relate the material to real-life contexts. Consequently, student participation decreases, motivation declines, and comprehension remains superficial.

To address these challenges, an innovative and student-centered learning approach is needed. One alternative that can be applied is the Problem-Based Learning (PBL) model. Problem-Based Learning is an instructional approach that begins with presenting students with real-world problems that require investigation and solution through collaborative discussion, inquiry, and information exploration. According to Hmelo-Silver (2019), PBL encourages students to construct their own knowledge by actively engaging in problem-solving processes. Barrows (2020) further emphasized that PBL enhances critical thinking, communication skills, and independent learning because students are positioned as active problem solvers rather than passive recipients of information.

In addition, research conducted by Sari and Utami (2021) demonstrated that the implementation of PBL in Social Studies significantly improves students' academic achievement and learning motivation. Nugroho (2022) also found that PBL strengthens social interaction and collaboration skills, as students work together to analyze problems and formulate solutions. Through structured group work and guided inquiry, students learn to respect different opinions, share responsibilities, and build collective understanding.

Preliminary observations conducted in Grade VI at SD Negeri 007 Bangun Purba revealed that the average student scores on the Continents topic were still below the Minimum Mastery Criteria (KKM). Classroom observations showed that students were relatively passive; many were reluctant to ask questions, rarely expressed opinions, and displayed low enthusiasm during lessons. Learning activities were dominated by teacher explanations, and only a small number of students actively participated in discussions. These conditions indicate the need for an instructional strategy that can increase student engagement, foster deeper conceptual understanding, and improve overall learning outcomes.

By implementing the Problem-Based Learning model, students are expected to become more active participants in the learning process. Through contextual problems related to continents—such as comparing living conditions across continents, analyzing climate differences, or discussing global environmental issues—students can connect abstract geographical concepts to real-life situations. This approach not only improves academic achievement but also develops essential 21st-century skills such as critical thinking, collaboration, communication, and problem-solving.

Based on the background described above, the research problems in this study are:

(1) How is the implementation of the Problem-Based Learning model on the Continents topic in Grade VI at SD Negeri 007 Bangun Purba?

(2) Can the implementation of PBL improve students' learning outcomes?

RESEARCH METHODOLOGY

This research applied a Classroom Action Research (CAR) design aimed at improving the quality of the teaching and learning process in a real classroom setting. The study was carried out in two cycles, with each cycle functioning as a systematic effort to implement improvements based on findings from the previous stage. Classroom Action Research was selected because it allows teachers to identify classroom problems, apply specific interventions, and evaluate their effectiveness in a reflective and cyclical manner.

Each cycle in this study consisted of four essential stages: (1) planning, (2) acting, (3) observing, and (4) reflecting. In the planning stage, the researcher prepared lesson plans based on the Problem-Based Learning (PBL) model, designed learning materials related to the Continents topic, developed student worksheets, and prepared assessment instruments and observation sheets. The planning phase was carefully structured to ensure that learning activities aligned with the objectives of improving both academic performance and student engagement.

The subjects of this study were all 28 sixth-grade students at SD Negeri 007 Bangun Purba, consisting of 14 boys and 14 girls, with the entire class selected because the research was conducted as classroom action research. The instruments used included a learning achievement test in the form of pretest and posttest to measure students' cognitive improvement on the Continents topic, observation sheets for assessing teacher and student activities during the implementation of the Problem-Based Learning (PBL) model, and documentation such as photos, field notes, and student score lists. The research procedure followed four stages: planning, action implementation, observation, and reflection. The planning stage involved preparing learning tools such as lesson plans, teaching materials, and evaluation instruments based on the PBL model. The action stage applied the core steps of PBL, including problem orientation, student organization, group investigation, development of results, and presentation. During the learning process, observations were conducted to record teacher and student activities and evaluate student engagement, after which the reflection stage analyzed weaknesses from the first cycle to make improvements in the next cycle. Data

were analyzed using both quantitative and qualitative approaches, with quantitative analysis applied to students' test results by calculating the mean score and mastery percentage, while qualitative analysis examined observation data and field notes to describe behavioral changes and student activeness during the PBL implementation. The Minimum Mastery Criteria (KKM) set by the school was 75, and a student was considered to have achieved mastery with a score of 75 or higher. Learning was considered successful if at least 85% of students reached this mastery level.

RESULTS AND DISCUSSION

This section contains research results and discussion. Research results are presented in the form of tables, pictures, figures, graphs, or descriptive descriptions. Analysis and interpretation of these results are required before they are discussed.

Results

This research was carried out through two cycles of classroom action, with the following results:

1. **Pre-Cycle**

   The pre-cycle stage was conducted to obtain an initial overview of students' learning outcomes and classroom conditions before the implementation of the Problem-Based Learning (PBL) model. This stage is important as a baseline to measure the effectiveness of the actions taken in the next cycles. The pre-cycle data were collected through an initial test and classroom observation during the teaching and learning process of the Continents topic in Grade VI.

   Based on the results of the initial test, the average student score was 65. Out of 28 students, only 15 students (53.6%) achieved the Minimum Mastery Criteria (KKM ≥ 75), while 13 students (46.4%) did not reach the expected standard. These results indicate that more than half of the students had not fully mastered the material. The overall class average being below the KKM reflects that students' understanding of the Continents topic was still relatively low. Many students experienced difficulties in identifying the characteristics of each continent, explaining geographical differences, and connecting geographical conditions with human activities.

   In addition to the quantitative data, qualitative observations during the learning process also revealed several important findings. The learning activities were still predominantly teacher-centered, with instruction largely delivered through lectures and textbook explanations. Students mostly listened to the teacher's explanation, took notes, and completed assignments individually. Opportunities for discussion, questioning, and interactive engagement were limited.

   Student participation in classroom discussions was minimal. Only a few students were willing to respond to questions or express their opinions, while the majority remained silent and passive. When given the opportunity to ask questions, most students hesitated or appeared unsure. Group interaction was not optimal, as students tended to rely on the more active members or waited for direct guidance from the teacher. This condition indicates that students were not yet accustomed to exploring information independently or engaging in collaborative problem-solving.

2. **Cycle I**

   Cycle I was conducted by implementing the Problem-Based Learning (PBL) model as an effort to improve students' understanding and classroom participation in learning the Continents topic. In this cycle, learning activities were designed to be more student-centered. The teacher began the lesson by presenting contextual problems related to continents, such as differences in climate, natural resources, and population characteristics across regions. Students were then divided into small groups to discuss the problems, gather relevant information, and present their findings.

   The results of Cycle I showed a positive improvement compared to the pre-cycle stage. The average student score increased from 65 to 75. Out of 28 students, 20 students (71.4%) achieved the Minimum Mastery Criteria (KKM ≥ 75), while 8 students (28.6%) still had not reached mastery. This improvement indicates that

the application of the PBL model had begun to produce a meaningful impact on students' academic achievement. The increase in both the class average and the percentage of mastery demonstrates that more students were able to understand the material better through active engagement in problem-solving activities.

In addition to the improvement in learning outcomes, classroom observations also showed positive changes in student activity. Students began to participate more actively in group discussions. Many students were involved in sharing ideas, reading reference materials, and working together to complete assigned tasks. Compared to the pre-cycle condition, classroom interaction became more dynamic, and the learning atmosphere was more engaging.

However, despite these improvements, several challenges were still observed. Some students remained passive during group discussions and tended to rely on more active peers. A few students showed hesitation and lacked confidence when asked to present their group's results or express their opinions in front of the class. Time management during discussions also needed improvement, as some groups required additional guidance to stay focused on the problem being discussed.

These findings indicate that while Cycle I demonstrated significant progress in both learning outcomes and student participation, the implementation of PBL had not yet reached optimal effectiveness. Therefore, further refinement and improvement in instructional strategies were necessary in the next cycle. Emphasis would need to be placed on increasing student confidence, ensuring equal participation within groups, and providing more structured guidance to support students who were still less active.

3. **Cycle II**

The second cycle was implemented as an improvement phase based on the reflection results from Cycle I. Several refinements were made to optimize the implementation of the Problem-Based Learning (PBL) model. The teacher provided clearer guidance on group roles, encouraged equal participation among members, offered motivational support to less confident students, and improved time management during discussions. Contextual problems were also designed to be more structured and closely related to students' daily experiences to facilitate deeper understanding.

The results of Cycle II showed a significant improvement in student learning outcomes. The average student score increased to 83, which exceeded the Minimum Mastery Criteria (KKM ≥ 75). Out of 28 students, 25 students (89.3%) achieved mastery, while only 3 students (10.7%) had not yet reached the expected standard. This substantial increase demonstrates that the improvements made in the second cycle were effective in enhancing students' comprehension of the Continents material. The high percentage of mastery indicates that most students were able to understand concepts such as continental characteristics, geographical differences, and their relationship to human life more thoroughly.

Classroom observations during Cycle II also revealed notable progress in student learning behavior. Students became much more active and enthusiastic during the learning process. Group discussions were more dynamic, with almost all members contributing ideas, asking questions, and responding to peers' opinions. Unlike in the previous cycle, participation was no longer dominated by only a few students. Instead, engagement became more evenly distributed across group members, reflecting stronger collaboration and shared responsibility.

Students also demonstrated greater confidence in expressing their opinions during presentations and class discussions. Many students voluntarily asked questions, provided arguments, and attempted to analyze the problems presented by the teacher. Their ability to solve contextual problems improved, indicating the development of critical thinking and analytical skills. The classroom atmosphere became more interactive, supportive, and conducive to meaningful learning.

Table 1. Recapitulation of Learning Outcomes

Learning Stage	Average Score	Number of Students Achieving Mastery	Percentage of Mastery (%)
Pre-Cycle	65	15	53,6%
Cycle I	75	20	71,4%
Cycle II	83	25	89,3%

Based on the data presented in the table, there is a clear and consistent improvement in students' learning outcomes from the pre-cycle stage to Cycle I and further to Cycle II. In the pre-cycle, the class average was still below the Minimum Mastery Criteria (KKM), and only slightly more than half of the students achieved mastery. After the implementation of the Problem-Based Learning (PBL) model in Cycle I, both the average score and the percentage of students achieving mastery increased significantly. This upward trend continued in Cycle II, where the class average exceeded the KKM and nearly all students successfully met the mastery criteria.

The gradual increase in scores reflects not only numerical improvement but also a meaningful enhancement in students' conceptual understanding. During the pre-cycle stage, students tended to rely heavily on memorization and teacher explanations. However, through the structured problem-solving activities in Cycles I and II, students were encouraged to actively explore information, engage in discussions, and connect concepts to real-life situations. This shift in the learning approach contributed to deeper comprehension of the Continents topic.

Furthermore, the steady rise in the percentage of mastery from one cycle to the next demonstrates the effectiveness of continuous reflection and improvement in instructional practice. Adjustments made after Cycle I—such as clearer group guidance, improved facilitation, and increased encouragement for student participation—played an important role in maximizing the benefits of PBL in Cycle II.

Discussion

The implementation of the Problem-Based Learning (PBL) model has been proven to significantly improve both learning outcomes and student engagement in Grade VI at SD Negeri 007 Bangun Purba. The research results showed a steady increase in students' average scores from 65 in the pre-cycle to 75 in Cycle I, and finally to 83 in Cycle II. This improvement reflects the success of PBL in fostering critical thinking, collaboration, and problem-solving skills. These findings are consistent with Khoiriyah & Husamah (2020), who emphasized that problem-based learning encourages students to think analytically and creatively as they are challenged to find solutions to real-world situations.

Through PBL, students were no longer positioned as passive recipients of information. Instead, they were encouraged to analyze problems, explore relevant information, discuss findings collaboratively, and present solutions. This process trained students to think critically, evaluate information, and connect geographical concepts to real-life contexts. The structured stages of identifying problems, gathering data, discussing alternatives, and drawing conclusions supported the development of higher-order thinking skills.

In addition to improving cognitive outcomes, PBL also strengthened collaboration and communication skills. Students learned to share responsibilities within groups, respect diverse opinions, and articulate their ideas more confidently. Classroom discussions became more interactive, and participation was more evenly distributed among students. This shift contributed to a more dynamic and student-centered learning environment.

These findings align with the study conducted by Khoiriyah and Husamah (2020), which highlighted that problem-based learning promotes analytical and creative thinking because students are challenged to solve authentic, contextual problems. When learners are confronted with real-world situations, they are motivated to seek solutions actively, which enhances both understanding and engagement. Therefore, the successful implementation of PBL in this study further reinforces its effectiveness as an instructional approach that integrates academic improvement with the development of essential 21st-century skills.

From the perspective of constructivist learning theory, the PBL model is rooted in the ideas of Piaget and Vygotsky, who highlighted the importance of meaningful learning through students' active involvement in constructing their own knowledge (Slavin, 2020). In this context, the teacher no longer serves as the sole source of

information but acts as a facilitator who guides students to build understanding through discussion, exploration, and reflection (Hmelo-Silver, 2019). Vygotsky further emphasized that social interaction in small groups serves as an effective means for students to reach their *zone of proximal development* the area where their cognitive abilities advance through support from peers and teachers.

The increased learning activity observed during the implementation of PBL also demonstrates its ability to enhance students' intrinsic motivation. According to Deci & Ryan (2021), learning environments that emphasize autonomy, competence, and social connectedness promote internal motivation. In this study, students showed greater enthusiasm when facing real-life problems, engaging in discussions, and presenting their group results. These findings are consistent with Sari & Utami (2021) and Rahayu et al. (2022), who reported that PBL enhances motivation because students feel more in control of their own learning process.

The results of this research also support Barrows (2020), who argued that PBL is effective in developing higher-order thinking skills (HOTS). By engaging students with authentic problems, the model requires them to analyze, evaluate, and synthesize information critically. Studies by Nugroho (2022) and Putri & Arifin (2022) further demonstrated that PBL strengthens not only cognitive aspects but also social skills such as communication, empathy, and group responsibility.

Compared with traditional teaching strategies, Problem-Based Learning (PBL) offers a more dynamic and meaningful instructional approach by integrating subject matter with authentic, real-life contexts. In many conventional classrooms, instruction is largely teacher-centered, relying heavily on lectures, note-taking, and textbook-oriented explanations. This approach often reduces students' roles to passive listeners who receive and record information without actively processing or questioning it. As noted by Hosnan (2020), such practices limit opportunities for exploration, dialogue, and higher-order thinking.

When students are positioned merely as recipients of knowledge, the learning process tends to emphasize memorization rather than comprehension. Facts may be recalled for short-term assessment purposes, but deeper conceptual understanding is often lacking. Without opportunities to analyze, discuss, or apply knowledge in meaningful contexts, students may struggle to connect classroom content to real-world situations. This can reduce motivation and make learning feel abstract or disconnected from everyday life.

In contrast, PBL shifts the focus of learning from teacher-centered delivery to student-centered exploration. Through the presentation of contextual problems, students are encouraged to investigate issues, analyze information, and construct knowledge through collaborative discussion. Arends (2019) explains that in PBL environments, learners actively build their own understanding by engaging in inquiry and reflection rather than simply absorbing information. This transformation in roles—from passive listeners to active problem solvers—creates a more dynamic and meaningful learning experience.

Furthermore, by linking lesson content to real-life contexts, PBL helps students recognize the relevance of what they are learning. In Social Studies, for example, topics such as continents become more engaging when connected to global issues, environmental challenges, or cultural diversity. This contextualization enhances students' ability to apply concepts beyond the classroom and strengthens their analytical thinking skills.

Empirical evidence also supports these advantages. Research conducted by Lestari and Prasetyo (2023) in elementary schools found that the implementation of PBL in Social Studies significantly improves reflective thinking and fosters a stronger sense of responsibility for learning outcomes. Students become more aware of their role in the learning process, take greater initiative in completing tasks, and demonstrate improved problem-solving abilities.

Moreover, the application of PBL supports the development of 21st-century skills—critical thinking, communication, collaboration, and creativity (4Cs)—which are essential for modern education. As Yamin (2022) and Trianto (2020) noted, 21st-century learning strategies should promote active, collaborative, and contextual learning environments that prepare students to face global challenges. In this study, the implementation of PBL not only enhanced academic performance but also cultivated self-directed learning habits and teamwork—both of which are foundational elements in effective elementary education.

The application of PBL was effective in improving student learning outcomes. The steady increase from 65 in the pre-cycle to 83 in Cycle II indicates that students acquired a deeper understanding and were more engaged during learning activities. These findings reinforce the viewpoints of Khoiriyah & Husamah (2020) and Barrows (2020), stating that PBL enhances higher-order thinking through real-world problem-solving.

From a constructivist perspective, PBL facilitates meaningful learning by allowing students to construct knowledge through discussion, exploration, and collaboration (Slavin, 2020; Hmelo-Silver, 2019). Vygotsky's concept of social learning also aligns with the observed improvement in students' collaborative skills.

The increase in students' motivation and classroom participation across the cycles can be understood through the lens of Self-Determination Theory proposed by Deci and Ryan (2021). This theory highlights autonomy, competence, and relatedness as fundamental psychological needs that foster intrinsic motivation. In the implementation of Problem-Based Learning (PBL), students were given greater autonomy to explore information, discuss ideas, and construct their own understanding through problem-solving activities. This sense of ownership over the learning process encouraged students to become more responsible and engaged in completing tasks.

In addition, the structured problem-solving stages within PBL allowed students to gradually build competence. As they successfully analyzed problems, presented findings, and contributed to group discussions, students experienced a sense of achievement. This growing confidence strengthened their intrinsic motivation to participate more actively in subsequent learning activities. The collaborative nature of PBL also fulfilled the need for relatedness, as students worked together, exchanged opinions, and supported one another in reaching shared goals.

These findings are consistent with previous research conducted by Sari and Utami (2021) as well as Rahayu et al. (2022), which reported that the application of PBL significantly enhances student motivation, participation, and academic performance. The shift from teacher-dominated instruction to a more interactive and student-centered approach creates a classroom environment that is not only academically productive but also psychologically supportive. Students feel valued, heard, and capable, which contributes to a more positive learning atmosphere.

Moreover, the implementation of Problem-Based Learning (PBL) played an important role in fostering essential 21st-century skills, including critical thinking, creativity, communication, and collaboration (Trianto, 2020; Yamin, 2022). Through structured problem-solving activities, students were encouraged to analyze information, evaluate different perspectives, and propose logical solutions. This process strengthened their ability to think critically rather than simply accept information at face value.

Creativity was also nurtured as students explored various ways to approach and solve the problems presented. Instead of relying on a single correct answer, learners were given opportunities to generate ideas, compare alternatives, and present unique viewpoints. This open-ended exploration promoted flexible thinking and innovation within the learning process.

In terms of communication and collaboration, noticeable progress was observed throughout the research cycles. Students became more confident in expressing their opinions during discussions and presentations. They practiced articulating ideas clearly, responding to questions, and engaging in constructive dialogue with peers. Group activities required students to share responsibilities, listen to different perspectives, and work collectively toward common goals. As a result, teamwork skills improved, and classroom interaction became more balanced and inclusive.

CONCLUSION

Based on the comprehensive findings across all research cycles, the implementation of the Problem-Based Learning (PBL) model can be firmly concluded to have a significant and positive impact on students' learning outcomes in the Continents topic for Grade VI at SD Negeri 007 Bangun Purba. The consistent improvement in the class average score—from 65 in the pre-cycle to 75 in Cycle I, and ultimately rising to 83 in Cycle II—demonstrates clear and measurable academic advancement. This upward trend indicates not only improved performance on assessments but also stronger conceptual mastery of geographical content.

The substantial increase in the percentage of students achieving the Minimum Mastery Criteria (KKM ≥ 75) further strengthens this conclusion. Mastery levels rose from 53.6% in the pre-cycle to 71.4% in Cycle I, and reached 89.3% in Cycle II. This progression shows that nearly all students were able to meet the expected standards after experiencing structured, problem-oriented instruction. The data confirm that engaging students in analyzing real-world problems, collaborating in groups, and actively exploring information enhances both comprehension and long-term retention of Social Studies material.

Beyond improvements in cognitive performance, the influence of PBL was also evident in students' engagement and classroom dynamics. Throughout the cycles, students displayed increased participation in

discussions, greater confidence in presenting their ideas, and a stronger willingness to ask questions. Classroom interaction became more balanced, with contributions coming from a wider range of students rather than being dominated by a few individuals. This shift reflects a healthier and more inclusive learning environment.

Furthermore, the implementation of PBL supported the development of positive attitudes and essential social competencies. Through collaborative tasks, students practiced teamwork, accountability, respectful communication, and shared decision-making. These experiences nurtured responsibility and mutual respect while fostering independence in learning. Students gradually relied less on direct teacher instruction and became more proactive in seeking solutions.

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