



Implementation of Problem Based Learning Model to Improve Learning Outcomes at SD Negeri Lawe Bulan

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ABSTRACT

This classroom action research aims to improve the learning outcomes of fourth-grade students at SD Negeri Lawe Bulan in the topic of "Approaching Puberty" through the implementation of the Problem Based Learning (PBL) model. The study is motivated by the low academic performance observed in students, which fell below the Minimum Competency Standard. The conventional and monotonous learning methods were identified as contributing factors to students' lack of engagement and understanding, particularly in Islamic religious education, where concepts are often delivered as rote memorization. The research was conducted in two cycles, each consisting of planning, action, observation, and reflection. Data collection techniques included tests, observations, and documentation. The findings indicate that PBL significantly enhanced students' critical thinking, engagement, and learning outcomes. In Cycle I, the average student score was 77.92, while in Cycle II, it increased to 86.28. Student and teacher activities during learning also improved from "good" to "very good" qualifications. The PBL model, by incorporating real-life problems and collaborative learning, created a more meaningful learning experience and promoted students' active participation. This approach helped students better understand the physical and emotional changes associated with puberty and encouraged them to take responsibility for their learning. The results of this study demonstrate that PBL is an effective instructional model to foster deeper comprehension, critical thinking skills, and improved academic performance in religious education. It also supports the development of independent, creative, and responsible learners.

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Introduction

Education is the cornerstone of national development and plays a critical role in shaping a society that is intelligent, peaceful, and democratic. In the 21st century, education is not only about transferring knowledge, but also about developing character, critical thinking, and problem-solving skills among learners. According to Indonesian Law No. 20 of 2003 on the National Education System, the aim of national education is to develop

the potential of learners to become individuals who are faithful, pious, of noble character, healthy, knowledgeable, capable, creative, independent, and responsible citizens. Hence, education must be designed to fulfill not only academic goals but also the moral and social responsibilities of students.

In the context of elementary education, the learning process must be adjusted to meet the developmental stages and needs of children. Particularly for fourth-grade students, who begin to develop more advanced cognitive abilities, educators are expected to implement learning strategies that encourage active engagement and critical thinking. Unfortunately, in many schools, including SD Negeri Lawe Bulan, learning is often still conducted through traditional methods that rely heavily on rote memorization and teacher-centered instruction. This method limits students' curiosity, creativity, and understanding, especially in abstract or sensitive subjects such as Islamic religious education.

One of the critical topics in Islamic education for fourth-grade students is "Entering the Age of Puberty." This subject is not only biological in nature but also carries deep psychological and spiritual implications. However, discussing this topic in the classroom often faces cultural and emotional barriers. Many families and even educators hesitate to openly address puberty-related issues, leaving students uninformed and unprepared to navigate this critical stage of their lives. This creates a gap between what students need to know and what they are actually taught.

Preliminary observations and test results at SD Negeri Lawe Bulan revealed that students' learning outcomes in this topic were below the Minimum Competency Standard of 70. This underachievement is not solely due to students' abilities, but also reflects the lack of effective pedagogical strategies tailored to the subject matter. Many students struggle to retain knowledge when it is delivered only through memorization. They need contextualized learning that connects new concepts to real-life experiences and encourages meaningful understanding.

Problem Based Learning (PBL) emerges as a promising solution to address these challenges. PBL is a student-centered instructional model that uses real-world problems as the starting point for learning. It encourages students to explore, investigate, and solve problems through inquiry, collaboration, and reflection. This model shifts the role of the teacher from a dispenser of knowledge to a facilitator of learning, allowing students to take greater ownership of their education.

PBL has been proven to increase student motivation, deepen conceptual understanding, and enhance critical thinking skills. By engaging students in problem-solving activities that are relevant to their lives, PBL fosters active participation and cognitive engagement. For the topic of puberty, where emotional, social, and religious

aspects intersect, PBL offers a respectful yet informative way to guide students through discussions and discoveries.

The selection of the PBL model in this study is grounded in its suitability for the characteristics of fourth-grade learners. At this developmental stage, students begin to exhibit more independent thought, curiosity, and social awareness. They are capable of engaging in meaningful discussions, making decisions, and reflecting on personal experiences. The learning environment at SD Negeri Lawe Bulan, which is conducive and supportive, also provides a solid foundation for implementing innovative learning strategies such as PBL.

This research was conducted using the Classroom Action Research (CAR) approach, which allows for the systematic observation, reflection, and improvement of teaching practices within a real classroom setting. The main objective is to improve students' learning outcomes in the topic of puberty through the application of PBL. The research is carried out in two cycles, each consisting of planning, action, observation, and reflection, ensuring a continuous process of enhancement and adaptation.

By implementing PBL, the study aims not only to raise test scores but also to nurture a deeper understanding of the physical and emotional transitions during puberty. The model also promotes collaborative learning, where students can share and validate their experiences in a respectful, guided environment. Through this approach, students can develop both academic knowledge and life skills that will serve them beyond the classroom.

In conclusion, this research seeks to contribute to the broader discourse on effective pedagogical practices in religious education. It underscores the importance of learner-centered approaches in sensitive and complex topics. The outcomes are expected to provide valuable insights for teachers, curriculum developers, and education policymakers in designing instructional strategies that are relevant, engaging, and impactful for elementary school students.

Methods

This study employs a Classroom Action Research (CAR) design, which is widely used by educators to improve the quality of teaching and learning practices in real classroom settings. The objective of this research is to enhance students' learning outcomes through the implementation of the Problem Based Learning (PBL) model. CAR is chosen because it allows for a cyclic process of planning, acting, observing, and reflecting—providing continuous improvement throughout the study.

The research was conducted at SD Negeri Lawe Bulan, specifically involving fourth-grade students as the subjects of the study. A total of 19 students participated, selected through purposive sampling based on their enrollment in the class during the academic

year when the study was conducted. The sample was intentionally chosen to ensure consistency in the learning environment and allow for focused intervention and evaluation.

The study was carried out in two cycles, each of which included four stages: (1) planning, (2) action, (3) observation, and (4) reflection. These stages were designed to evaluate the effectiveness of the PBL model in improving students' understanding of the topic "Entering the Age of Puberty," a part of the Islamic Religious Education curriculum. The researcher acted as the main instructor during the implementation, with support from a peer teacher as an observer.

In the planning stage, the researcher developed a detailed lesson plan incorporating the principles of Problem Based Learning. This included the formulation of relevant, real-life problems as learning stimuli, development of learning materials, and design of evaluation tools such as observation checklists, quizzes, and reflective worksheets. The learning scenario was designed to foster collaborative learning, critical thinking, and active student engagement.

During the action stage, the lesson plan was implemented in the classroom. Students were introduced to a contextual problem related to the signs and responsibilities of reaching puberty. They were then guided to work in groups, discuss the issues, gather information from various sources, and propose solutions. The teacher facilitated the learning process by providing guidance without directly delivering the answers, encouraging students to explore ideas independently.

The observation stage involved collecting data on both student and teacher performance. A structured observation sheet was used to assess student engagement, collaboration, problem-solving abilities, and participation in group discussions. Additionally, teacher performance was also observed to evaluate adherence to the PBL model and effectiveness in facilitating student learning. This data provided valuable insights into how the intervention was functioning in practice.

In the reflection stage, the researcher and observer analyzed the data obtained during observation. This stage was critical for identifying strengths and weaknesses in the implementation process. Based on the reflection, modifications were made for the next cycle to improve the effectiveness of the intervention. This iterative process ensured that each cycle was more refined and aligned with the research objectives.

The research focused on two main variables: the independent variable, which was the implementation of the Problem Based Learning model, and the dependent variable, which was students' learning outcomes related to the concept of puberty. Learning outcomes were measured using both qualitative and quantitative data collection methods to ensure a comprehensive understanding of the intervention's impact.

Qualitative data included descriptive accounts of classroom interactions, student behavior, and group discussions. These were obtained through classroom observation and reflective journals. Quantitative data were collected through pre-tests and post-tests, assessing students' knowledge and understanding of the subject matter before and after each intervention cycle.

Instruments used for data collection included observation checklists, test items, field notes, and documentation of student work. The tests were used to evaluate students' knowledge acquisition, while the observation sheets helped monitor student participation, interaction, and critical thinking skills during the learning process. All data collected were analyzed to determine whether the objectives of each cycle were achieved.

Data analysis involved both descriptive statistics and qualitative interpretation. Test scores were used to calculate class averages and measure improvements between cycles. The qualitative data from observation and reflection were used to interpret the learning dynamics and student engagement, providing context for the test results.

Ethical considerations were also taken into account in this study. Students' participation was based on the principle of voluntary involvement, and parental consent was obtained. All students were treated equally during the research process, and their performance was assessed fairly and objectively. Data confidentiality was maintained throughout the study. In summary, this classroom action research provided a structured yet flexible approach to evaluate the use of Problem Based Learning in teaching a sensitive and complex topic. Through its cyclical and reflective nature, the methodology not only assessed the effectiveness of PBL but also served as a tool for continuous professional development for the teacher-researcher.

Result

The implementation of the Problem Based Learning (PBL) model in this classroom action research was aimed at improving the learning outcomes of fourth-grade students at SD Negeri Lawe Bulan on the topic "Entering the Age of Puberty." The study was conducted in two cycles, each involving the stages of planning, action, observation, and reflection. The results of this study show a significant improvement in students' learning outcomes, classroom engagement, and critical thinking abilities.

In the first cycle, students were introduced to a real-life problem related to puberty and guided to explore the topic in groups. During the initial phase, students showed signs of confusion and hesitation, as they were not yet accustomed to solving problems independently. Despite this, they participated in group discussions and tried to understand the responsibilities that come with reaching puberty in the context of Islamic teachings.

Observation during Cycle I revealed that while some students were actively involved, others remained passive or relied heavily on more dominant peers in their groups. Teacher performance, however, was assessed as "good," with a score of 87.49%, indicating that the lesson had been delivered according to the principles of PBL. Student participation was recorded at 85.71%, which was classified as "good" but showed room for improvement.

The learning outcomes in Cycle I also reflected initial success. The average score of the class increased to 77.92, indicating an improvement from the baseline scores obtained before the intervention. However, this result was still slightly below the ideal threshold set by the teacher. As a result, adjustments were made in the next cycle to enhance student engagement and understanding.

Based on reflections from Cycle I, the teacher modified the lesson plan by increasing scaffolding support, improving the formulation of the problems presented, and encouraging more balanced group collaboration. Students were also provided with more visual aids and real-life examples to help them relate the topic to their own experiences.

Cycle II showed significant improvements across all indicators. Students were more confident and active during discussions. They asked questions, challenged each other's opinions respectfully, and demonstrated a better understanding of the concepts. This growth was also observed in their group presentations, which became more structured, relevant, and evidence-based.

The observer's evaluation of the teacher's performance in Cycle II improved to 93.82%, which was categorized as "very good." This indicated that the teaching strategy had been optimized, with more effective classroom management, time allocation, and facilitation of discussions. Student participation also increased to 92.85%, suggesting that nearly all students were fully engaged in the learning process.

Test results in Cycle II showed a notable increase in learning achievement. The class average rose to 86.28, surpassing the Minimum Competency Standard (70). This marked a substantial improvement compared to the pre-intervention phase and even Cycle I, confirming that the PBL model had a positive impact on students' academic performance.

Beyond the numerical data, qualitative observations revealed that students exhibited greater self-confidence and autonomy in their learning. They were able to identify the signs of puberty, explain the changes in both boys and girls, and understand their responsibilities as young Muslims. This deepened comprehension reflected not only in their test answers but also in their reflective writings and verbal responses.

The improvement in student behavior was another significant finding. Students were more respectful during group discussions and began to appreciate differing viewpoints. They demonstrated the ability to listen, respond constructively, and build on each other's ideas—key aspects of collaborative learning promoted by PBL. The classroom atmosphere also improved significantly. Learning became more dynamic, interactive, and enjoyable. Students looked forward to the next sessions, and the stigma surrounding discussions about puberty began to decrease. By providing a safe space for open dialogue, the PBL model helped students overcome their discomfort with the topic.

Moreover, students' critical thinking skills developed throughout the study. They were not only able to describe the signs of puberty but also relate them to their daily experiences and religious obligations. Their answers reflected analysis and reasoning rather than memorized facts, showing the higher-order thinking skills fostered by the PBL approach.

Teachers also reported personal growth as facilitators. The experience of guiding students through problem-solving activities enabled them to adopt more reflective teaching practices and foster deeper engagement with their students. This outcome is essential for sustaining long-term instructional improvement in the classroom.

The findings from both cycles of this classroom action research indicate that the Problem Based Learning model is highly effective in enhancing students' learning outcomes, especially on sensitive and contextual topics like puberty in Islamic education. It not only increased test scores but also improved student engagement, confidence, collaboration, and critical thinking.

Discussion

The results of this classroom action research clearly indicate that the implementation of the Problem Based Learning (PBL) model has a positive impact on students' learning outcomes in the topic "Entering the Age of Puberty." The improvement in average test scores—from 77.92 in Cycle I to 86.28 in Cycle II—demonstrates that the PBL model effectively enhances students' understanding of complex, sensitive subject matter. This finding aligns with the initial hypothesis, which stated that the use of PBL would significantly improve learning outcomes and student engagement.

From a broader perspective, the improvement in student participation and classroom dynamics supports previous research on the benefits of PBL. Earlier studies, such as those by Irnawati et al. (2021), also found that the PBL model increases both teacher effectiveness and student activeness in the classroom. This study further reinforces those findings, particularly in the context of Islamic Religious Education, where learner-centered approaches are often underutilized.

The success of PBL in this study is largely attributed to its problem-oriented and inquiry-based structure. Students were no longer passive recipients of information but active participants in constructing knowledge. This shift is crucial when teaching abstract or socially sensitive topics, such as puberty, which require deeper understanding and personal reflection. Through collaborative discussions and problem-solving, students built not only cognitive understanding but also emotional maturity.

Moreover, the data show that PBL supports the development of critical thinking skills—another element of the working hypothesis. Students began to ask more meaningful questions, provide reasoned answers, and apply their knowledge to real-life contexts. These skills are essential for lifelong learning and cannot be developed through traditional rote memorization methods. The improvement in students' ability to articulate their ideas during group presentations further confirms the cognitive benefits of the model.

The study also highlights the role of the teacher as a facilitator rather than a lecturer. This transition was key to the success of the learning model. When the teacher stepped back and allowed students to lead discussions and explore solutions independently, students gained confidence and responsibility. This change in classroom dynamics not only improved academic performance but also created a more inclusive and democratic learning environment.

In addition, the findings underscore the importance of context in instructional design. The topic of puberty, often seen as taboo or uncomfortable to discuss, was handled effectively through PBL because the learning was framed around real-life issues that students could relate to. This approach allowed students to process the information in a safe and respectful space. Consequently, PBL not only improved knowledge retention but also promoted personal growth and character development.

The implications of these findings are substantial. First, they suggest that schools should consider integrating PBL across subjects, especially in areas where critical thinking, collaboration, and emotional intelligence are essential. Second, teacher training programs must emphasize learner-centered pedagogies like PBL to prepare future educators for diverse classroom challenges. Third, the study calls for a reassessment of how religious and moral education is taught in schools, advocating for methods that promote understanding rather than indoctrination.

Future research should explore the long-term impact of PBL on students' attitudes and behaviors, especially regarding sensitive topics such as gender, sexuality, and ethics. It would be valuable to conduct longitudinal studies to track how the early introduction of critical and reflective learning influences students' academic trajectories and personal development. Comparative studies between PBL and other active learning models, such as project-based learning or inquiry-based learning, could also provide deeper insights.

Furthermore, future studies might consider including a control group to strengthen the validity of the results. Expanding the research to include different grade levels, subjects, and school settings would also contribute to a more comprehensive understanding of the model's effectiveness. Additionally, qualitative data such as interviews with students, teachers, and parents could offer more nuanced perspectives on the impact of PBL on the learning environment and student well-being.

In conclusion, this research not only validates the effectiveness of the Problem Based Learning model in improving academic performance but also reveals its potential to transform classroom culture and student identity. By fostering critical inquiry, empathy, and collaboration, PBL prepares students not just for examinations, but for life. As education evolves to meet the challenges of the 21st century, pedagogical approaches like PBL will become increasingly essential in shaping learners who are thoughtful, capable, and morally grounded.

Conclusion

This classroom action research concludes that the implementation of the Problem Based Learning (PBL) model significantly improves student learning outcomes, especially in sensitive and conceptually challenging topics such as "Entering the Age of Puberty" in Islamic Religious Education. The research findings showed a consistent increase in student performance, critical thinking, and classroom engagement across two intervention cycles. The average test scores increased notably from 77.92 in Cycle I to 86.28 in Cycle II, surpassing the Minimum Competency Standard. The PBL model proved to be effective in creating an active, student-centered learning environment where learners engaged deeply with the subject matter. Students demonstrated greater participation, collaboration, and understanding, moving beyond rote memorization to meaningful learning. This model also empowered students to think critically, express their ideas, and reflect on personal and religious responsibilities in a respectful and open classroom setting. Furthermore, the study highlights the importance of the teacher's role as a facilitator who guides the learning process without dominating it. The shift from traditional teaching methods to problem-oriented learning helped foster independence, curiosity, and a sense of ownership among students. These are crucial attributes in nurturing lifelong learners. In a broader context, the findings of this study support the integration of learner-centered models like PBL into primary education curricula, particularly in subjects that require personal relevance and deeper moral understanding. The success of this model at SD Negeri Lawe Bulan suggests its potential applicability in various educational settings. Overall, this research reinforces the hypothesis that Problem Based Learning can enhance not only academic performance but also students' personal and social development. It calls for wider adoption of

innovative, inquiry-based approaches in schools and encourages further research to explore the long-term benefits of such pedagogical strategies.

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