

The Use of the Problem-Based Learning Model to Improve Students' Understanding in Islamic Education (PAI) Learning at Vocational High School (SMK)

Atikah Wulandari, Siti Fatimah

Institut Agama Islam Nahdlatul Ulama Kebumen.

Corresponding author*

atikahwulandariar073@gmail.com

Abstract: This study aims to describe students' understanding before and after the implementation of the Problem Based Learning (PBL) model as well as to identify the challenges and their solutions. The method used was Classroom Action Research (CAR) conducted in two cycles with 32 tenth-grade students of SMK Teknologi Informasi as the subjects. The research instruments consisted of observation sheets for teacher and student activities and comprehension tests administered at the end of each cycle. The results showed that before the implementation of PBL, the students' average score was only 67.3 with a mastery level of 56.25%. After applying PBL, there was an improvement in cycle I with an average score of 80.3 (87.5% mastery) and in cycle II with an average score of 84 (100% mastery). The challenges encountered were that some students were passive during discussions and there was limited time allocation. The solutions provided included intensive guidance, equal distribution of roles within groups, and more effective time management.

Keywords: Problem Based Learning, students' comprehension, Islamic Religious Education learning.

Introduction

Education plays an important role in shaping individuals to become knowledgeable and virtuous. In the context of Islamic Religious Education (PAI), the subject of Islamic economics, particularly banking, aims to equip students with insights into a financial system that is just, free from usury, and oriented toward the welfare (*maslahah*) of the community.¹

To enhance the effectiveness of learning economics, especially on the topic of *Bank for the People's Economy and Beneficial Business*, strategies are needed that can foster students' deep understanding. Teachers are not only required to deliver theoretical information but also to encourage students to think critically, reflectively, and innovatively. One approach that can be used

to design systematic and structured learning activities is Bloom's Taxonomy.

Bloom's Taxonomy in the cognitive domain divides thinking processes into six levels: remembering, understanding, applying, analyzing, evaluating, and creating.² In the context of sharia-based economics, such as the role of banks in community development, students need not only to understand the basic concepts of Islamic banking but also to be able to apply them in real situations, analyze their relevance to the principles of economic justice, and design business solutions that are beneficial for society.³ However, preliminary observations in grade X at SMK Teknologi Informasi Karangtanjung Alian revealed that students' understanding of the material *Bank*

² David R. Anderson, Lorin W. and Krathwohl, *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives* (New York: Longman, 2001).

³ Cindy E. Hmelo-Silver, "Problem-Based Learning: What and How Do Students Learn?," *Educational Psychology Review* 16, no. 3 (2004): 235–266, <https://doi.org/10.1023/B:EDPR.0000034022.16470.f3>.

¹ Antonio, Muhammad Syafii. *Islamic Banks: From Theory to Practice*. Jakarta: Gema Insani, 2001.

for the People's Economy and Beneficial Business was still low. The average score of students was only 60.2, with a mastery level of around 40%.

This problem arises because learning tends to be conventional, teacher-centered, and memorization-oriented, which makes students passive and less engaged in critical thinking. Therefore, a learning model is needed that can foster deep understanding, encourage active participation, and train students' analytical skills. One relevant model is Problem Based Learning (PBL), which emphasizes active student involvement in finding solutions to real problems. Several previous studies have demonstrated the effectiveness of PBL in improving students' conceptual understanding and learning outcomes. The novelty of this research lies in the application of PBL to the material *Bank for the People's Economy and Beneficial Business*, with an emphasis on integrating the values of *maslahah*. Through this approach, it is expected that learning will not only improve cognitive aspects but also shape attitudes and contextual understanding that are meaningful for students in their daily lives.

Method

This research is a Classroom Action Research (CAR) conducted in two cycles with the aim of improving students' understanding of the material *Bank for the People's Economy and Beneficial Business* through the implementation of the Problem Based Learning (PBL) model. CAR is a type of research carried out by teachers in their own classrooms with the purpose of improving or enhancing the quality of the learning process and outcomes.⁴

This research is reflective and cyclical, meaning that the teacher acts as a researcher who directly designs the actions, implements them, observes, and reflects on the learning activities to determine the extent to which the actions taken can address learning problems. The CAR procedure was implemented through four main stages: (1) planning, namely designing the actions to be carried out in learning; (2) acting, namely

implementing the learning according to the designed plan; (3) observing, namely monitoring and recording the process and results of the action; and (4) reflecting, namely analyzing the outcomes of the actions to identify successes and weaknesses, which then serve as the basis for improvement in the next cycle.⁵

This CAR was carried out collaboratively between the researcher and the classroom teacher through the stages of planning, action, observation, and reflection.⁶ The research instruments used included observation sheets of teacher and student activities as well as comprehension tests at the end of each cycle. The data were analyzed through the processes of condensation, presentation, and verification to obtain an overview of the improvement in students' understanding and the effectiveness of implementing the PBL model.

Results and Discussion

Pre-Cycle (Islamic Religious Education Learning before Using the PBL Model)

Before implementing the action in cycle I, the researcher conducted a pre-cycle to identify the students' initial level of understanding of the material *Bank for the People's Economy and Beneficial Business*. Based on the preliminary test administered to 32 tenth-grade students at SMK Teknologi Informasi Karangtanjung Alian, it was found that most students had not yet achieved the established Minimum Mastery Criterion (KKM), which was set at 70.

The results of the pre-cycle test showed that 18 students (56.25%) had achieved mastery, while 14 students (43.75%) had not. The highest score obtained was 82, while the lowest was 55, with a class average of 67.3. This indicated that students' understanding was still relatively low and had not yet met the success indicator of this research,

⁵ Darmadi, Rifai, Rositasari, and Haryati. 2024. "Analysis of the Implementation of Classroom Action Research (CAR) in Schools." *Maras: Journal of Education* 3, no. 2 (2024).

⁶ A. Azizah, "The Importance of Classroom Action Research for Teachers in Learning." *Auladuna: Journal of the Madrasah Ibtidaiyah Teacher Education Program* 3, no. 1 (2021): 15–22.

⁴ Ramadhan, Ali, and Ahmad Nadhira. 2022. "Classroom Action Research (CAR): An Alternative Solution to Learning Problems Based on Local Wisdom." *Al-Idarah Journal* 9, no. 2 (2022).

which was at least 85% of students achieving mastery. These findings showed that most students were still at the lower-order thinking levels (C1–C2), only able to recall and comprehend concepts simply, while higher-order thinking skills such as analyzing (C4), evaluating (C5), and creating (C6) had not yet developed optimally.

This condition is in line with the findings of Siti Fatimah's research on the application of PBL to the topic of *Munakahat*.⁷ Her study revealed that prior to the application of PBL, students' higher-order thinking skills were also still low. However, after implementing PBL, there was a significant improvement in aspects of C4, C5, and C6 in each cycle. This reinforces the notion that the PBL model is effective in Islamic Religious Education learning to address the problem of low student comprehension while simultaneously fostering the development of higher-order thinking skills. Thus, the implementation of PBL in this study was expected to yield similar results, namely increasing learning mastery as well as students' critical, analytical, and evaluative abilities.

Islamic Religious Education Learning after Using the PBL Model

Cycle I

In cycle I, the researcher collaborated with the Islamic Religious Education teacher to design learning activities using the Problem Based Learning (PBL) model. Preparations included developing the Teaching Module, Student Worksheets (LKPD), evaluation questions, proportional group formation (tutors and tutees), and observation sheets. The implementation was carried out on June 16, 2025, during two 45-minute sessions. The teacher acted as the instructor, while the researcher served as the observer. The lesson began with greetings, prayer, apperception, stating learning objectives, and group formation. During

the core activities, the teacher presented a contextual problem about the role of Islamic banks, after which students discussed the issue in groups with guidance from the teacher and researcher. Each group presented their discussion results, followed by a Q&A session and reinforcement of the material by the teacher. At the end of the lesson, students worked on evaluation questions to measure comprehension. The lesson concluded with a joint summary, prayer, and greetings. PBL was proven to encourage active participation, collaborative discussions, and deeper student understanding.

The results of cycle I showed an improvement in learning outcomes. The average score increased to 80.3 with 87.5% mastery (28 students mastered, 4 students did not). Teacher activity received an average score of 2.6 ("Good" category), although weaknesses remained in guiding group investigations. Student activity also improved compared to the pre-cycle, though several challenges persisted, such as the dominance of certain students in discussions, suboptimal time management, and some students remaining passive.

This finding is consistent with Mudzrika Fariana's research, which confirmed that the application of PBL improved both conceptual understanding and student engagement, with mastery rising from 72.73% in cycle I to 87.88% in cycle II. Thus, the findings of this study align with previous research emphasizing that PBL is an effective learning model to enhance comprehension, achievement, and the quality of student engagement in learning.⁸

Cycle II

In cycle I, the implementation of PBL proceeded fairly well and improved both student engagement and understanding, but challenges were still found, such as uneven student participation, dependence on high-achieving peers, and less

⁷ Siti Fatimah, Imam Subarkah, and Deta Muntaha, "Efforts to Improve Higher-Order Thinking Skills in Islamic Education Learning through the Problem-Based Learning (PBL) Model on the Marriage Contract Material." *KASTA: Journal of Social, Religious, Cultural and Applied Sciences* 1, no. 1 (2021): 75–82. <https://doi.org/10.58218/kasta.v1i1.69>.

⁸ Fariana, "Implementation of the Problem-Based Learning Model to Improve Conceptual Understanding and Student Activities."

effective time management. Reflection on these issues led to improvements in cycle II, including clearer role distribution, more intensive motivation, and stricter time management. In cycle II, which was conducted over two meetings, learning was designed more systematically in accordance with the PBL syntax. Students were divided into groups proportionally, considering both academic ability and emotional closeness. They were more active in discussions, able to gather information from various sources, and presented solutions in a structured manner. Group presentations and class discussions were more dynamic, reflecting increased participation, critical thinking, and comprehension of Islamic banking concepts.

The results showed more significant improvement: the students' average score reached 84, with the highest score being 98 and the lowest 75, and all students (100%) achieved mastery. Teacher activity increased with an average score of 3.8 (95%, "Very Good" category), while student activity also reached the "Very Good" category with a score of 82 (91.11%).

A comparison between cycles revealed a clear upward trend: from the pre-cycle to cycle I, the average score increased by 13 points, while from cycle I to cycle II it increased by 3.7 points. The percentage of mastery rose from 56.25% in the pre-cycle to 87.5% in cycle I, and finally reached 100% in cycle II. This is in line with Arends' findings that problem-based learning fosters critical and collaborative thinking skills while improving students' conceptual understanding. Challenges encountered during the PBL implementation included some students remaining passive, the dominance of higher-achieving students, and less optimal management of discussion time. However, these challenges were addressed through strategies such as clarifying group member roles, providing motivational support, and implementing more structured time management. With these improvements, the effectiveness of PBL increased in cycle II.

Overall, this study demonstrated that the application of the Problem Based Learning (PBL) model improved students' understanding of the material *Bank for the People's Economy and Beneficial*

Business. This was evidenced by the increase in average scores, classical mastery percentages, and student engagement during the learning process.

Challenges and Solutions in Implementing the PBL Model

The implementation of learning through the Problem Based Learning (PBL) model was conducted quite well, yet some challenges remained, such as students' lack of active participation, reliance on more capable peers, ineffective time management, and difficulties in understanding the problems, which required intensive guidance from the teacher. To overcome these challenges, improvements were made by clarifying the roles of each group member, motivating students to build confidence, and forming groups that considered not only academic distribution but also emotional closeness among students.

This is consistent with Deliani Lubis's research, which found that in the early stages of PBL implementation, teachers encountered difficulties in managing time and engaging passive students. Similarly, Mudzrika Fariana's research indicated that students' lack of readiness for independent learning and limited learning resources were the main obstacles in problem-based learning processes.⁹

Conclusion

Before the implementation of the Problem Based Learning (PBL) model, students' understanding was still relatively low, with an average score of 67.3, where only 18 students (56.25%) achieved mastery, while learning activities remained passive and teacher-centered. After the application of PBL, there was a significant improvement in students' comprehension. In Cycle I, the average score increased to 80.3, along with an improvement in the highest and lowest scores, although 14 students

⁹ Deliani Lubis, "The Application of the Problem-Based Learning Model to Improve Learning Outcomes in Islamic Education." *Classroom Action Research (CAR)* 2, no. 1 (2024): 48–53.

had not yet achieved mastery. However, in Cycle II, all students (100%) successfully reached the minimum mastery criterion, with an average score of 84, the highest score of 98, and the lowest score of 75, thus achieving the research target. The application of PBL proved effective in enhancing students' understanding of the material *Banks for People's Economy and Beneficial Business*. The challenges encountered included limited time, lack of student readiness in collaboration, and difficulties in problem comprehension, which were addressed through better time management, intensive guidance, and providing motivation so that students became more active and cooperative.

Conflict of Interest: The author declares that there are no conflicts of interest concerning the publication of this article.

References

- Azizah, A. "The Importance of Classroom Action Research for Teachers in Learning." *Auladuna: Journal of the Madrasah Ibtidaiyah Teacher Education Program* 3, no. 1 (2021): 15–22.
- Antonio, Muhammad Syafii. *Islamic Banks: From Theory to Practice*. Jakarta: Gema Insani, 2001.
- Hmelo-Silver, Cindy E. "Problem-Based Learning: What and How Do Students Learn?" *Educational Psychology Review* 16, no. 3 (2004): 235–266. <https://doi.org/10.1023/B:EDPR.0000034022.16470.f3>.
- Darmadi, Rifai, Rositasari, and Haryati. "Analysis of the Implementation of Classroom Action Research (CAR) in Schools." *Maras: Journal of Education* 3, no. 2 (2024).
- Anderson, David R., Lorin W., and Krathwohl. *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. New York: Longman, 2001.
- Lubis, Deliani. "The Application of the Problem-Based Learning Model to Improve Learning Outcomes in Islamic Education." *Classroom Action Research (CAR)* 2, no. 1 (2024): 48–53.
- Fariana, Mudzrika. "Implementation of the Problem-Based Learning Model to Improve Conceptual Understanding and Student Activities."
- Ramadhan, Ali, and Ahmad Nadhira. "Classroom Action Research (CAR): An Alternative Solution to Learning Problems Based on Local Wisdom." *Al-Idarah Journal* 9, no. 2 (2022).
- Fatimah, Siti, Imam Subarkah, and Deta Muntaha. "Efforts to Improve Higher-Order Thinking Skills in Islamic Education Learning through the Problem-Based Learning (PBL) Model on the Marriage Contract Material." *KASTA: Journal of Social, Religious, Cultural and Applied Sciences* 1, no. 1 (2021): 75–82. <https://doi.org/10.58218/kasta.v1i1.69>.
- Hanun, Yunda Assyuro, and Akhmad Asyari. "The Application of the Problem-Based Learning Model to Improve Student Learning Outcomes."

THIS PAGE INTENTIONALLY LEFT BLANK