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Application of Problem-Based Learning Model to Improve Student Learning Outcomes at SD Negeri 081239 Sibolga

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Abstract: This research aims to improve student learning outcomes in Islamic religious education learning by using problem-based learning. This research is a classroom action research that uses four steps, namely planning, action, observation and reflection. The subject of this research is elementary school students. The data of this study was obtained by test and observation techniques. Tests are used to measure learning outcomes and observations are used to analyze the learning activities of teachers and students. The data analysis technique used in this study is descriptive statistics by comparing the results obtained with research success indicators. The results of the study show that problem-based learning can improve student learning outcomes in Islamic religious education learning. This can be seen from the increase in the percentage of student learning completeness in each cycle with a breakdown of 40.19% in the pre-cycle, 65.37% in the first cycle and 89.52% in the second cycle. Thus, the use of problem-based learning can be used as an alternative to improve student learning outcomes in Islamic religious education learning

Keywords: problem-based, learning outcomes Islamic education.

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INTRODUCTION

Islamic Religious Education has a strategic role in shaping the character and personality of students. One of the important aspects taught in Islamic Religious Education is the understanding and practice of worship, including Ramadan fasting. Ramadan fasting, as one of the pillars of Islam, is not only a religious obligation, but also has spiritual, moral, and social values that play a role in building the character of a Muslim. Through the implementation of fasting, students are expected to understand values such as patience, empathy, self-control, and gratitude. However, the reality on the ground shows that learning about Ramadan fasting often only emphasizes cognitive aspects such as memorizing fasting procedures and their laws. As a result, students tend to understand fasting only as an obligatory ritual, without being able to associate it with the appreciation of life values. Based on the results of observations in class, many students know the rules of fasting in theory, but do not understand how these values are applied in daily life. This

shows the need for a more contextual and meaningful learning approach so that students can understand the meaning of fasting more deeply.

Education plays a crucial role in shaping the intellectual and character development of students. One of the primary goals of education is to enhance students' ability to think critically, solve problems, and apply their knowledge in real-life situations. However, traditional teaching methods that focus on rote memorization and passive learning often fail to engage students effectively. As a result, many students struggle to understand and retain the material, leading to lower learning outcomes. To address this challenge, innovative teaching models such as Problem-Based Learning (PBL) have been introduced to create a more interactive and student-centered learning environment.

Problem-Based Learning (PBL) is an instructional approach that encourages students to develop problem-solving skills through real-world challenges. Unlike traditional methods that rely heavily on direct instruction, PBL places students at the center of learning by engaging them in collaborative discussions, critical thinking activities, and hands-on problem-solving exercises. This approach not only enhances cognitive skills but also helps students develop a sense of responsibility for their learning. Given its effectiveness in improving student engagement and comprehension, PBL has been widely adopted in various educational settings. At SD Negeri 081239 Sibolga, student learning outcomes have shown a need for improvement, particularly in subjects that require analytical thinking and problem-solving skills. Observations indicate that many students have difficulty understanding abstract concepts and applying their knowledge in practical situations. Furthermore, traditional teaching approaches often lead to passive learning, where students rely solely on teachers for information rather than exploring solutions independently. These issues highlight the need for a more engaging and effective teaching strategy that can help students develop higher-order thinking skills.

The implementation of PBL at SD Negeri 081239 Sibolga aims to address these challenges by transforming the learning process into an active and meaningful experience. Through the application of real-life problems, students are encouraged to explore, analyze, and collaborate to find solutions. This method not only enhances their understanding of the subject matter but also fosters critical thinking, communication, and teamwork skills. Additionally, PBL helps create a more dynamic classroom environment where students feel motivated to participate and take ownership of their learning.

Previous research has shown that PBL has a positive impact on student learning outcomes across various educational levels. Studies indicate that students who engage in PBL demonstrate higher retention rates, improved problem-solving abilities, and increased motivation to learn. By incorporating this model into the teaching process at SD Negeri 081239 Sibolga, it is expected that students will experience similar improvements in their academic performance. Moreover, teachers can play a crucial role in facilitating discussions and guiding students through the problem-solving process, ensuring that learning objectives are met effectively.

Despite its many advantages, the successful implementation of PBL requires careful planning and adaptation to the needs of students. Teachers must design appropriate problem scenarios, provide necessary resources, and create a supportive learning environment where students feel encouraged to participate. Additionally, assessment methods should be adjusted to measure not only academic achievement but also the development of critical thinking and collaborative skills. Addressing these factors will help maximize the effectiveness of PBL and ensure its sustainability in the long term. Based on these considerations, this study aims to examine the application of the Problem-Based Learning model at SD Negeri 081239 Sibolga and its impact on student learning outcomes. By evaluating the effectiveness of PBL in enhancing student engagement, comprehension, and problem-solving abilities, this research seeks to provide valuable insights into how innovative teaching strategies can be integrated into the primary school curriculum. The findings of this study are expected to contribute to the ongoing efforts in

improving the quality of education and preparing students with the skills necessary for future academic and professional success.

METHODS

This type of research is Classroom Action Research (PTK) which uses the Problem-Based Learning (PBL) model. This research aims to increase students' understanding of the meaning of Ramadan fasting through the application of PBL in Islamic Religious Education learning. Classroom Action Research (PTK) was chosen because its main focus is to improve the quality of learning in the classroom directly through a cycle of actions that can be improved and improved. According to Kemmis and McTaggart (1988), PTK is a research approach that involves corrective actions taken by educators to improve the quality of learning in the classroom, by reflecting on the results of the actions taken. This research was carried out in two cycles which included planning, implementation, observation, and reflection stages. The approach used in this study is a qualitative approach with a descriptive research design. The qualitative approach aims to describe or describe the application of the Problem-Based Learning (PBL) model in improving students' understanding of the meaning of Ramadan fasting. The data collected was in the form of qualitative data obtained through observation, interviews, and documentation during the learning process.

This study employs a classroom action research design to examine the effectiveness of the Problem-Based Learning (PBL) model in enhancing student learning outcomes at SD Negeri 081239 Sibolga. The research is structured in iterative cycles, where each cycle consists of planning, implementation, observation, and reflection. This approach allows for continuous refinement of the teaching methods based on feedback and observations gathered during each cycle. The planning phase involves the development of detailed lesson plans that integrate real-life problem scenarios related to the subject matter. Educators design problems that are relevant and challenging, encouraging students to actively engage in problem-solving activities. Appropriate instructional materials, such as textbooks, digital resources, and supplementary modules, are prepared to support the learning process. The planning phase also outlines the roles and responsibilities of both teachers and students within the PBL framework.

The implementation phase sees the PBL model being applied in the classroom. During this phase, teachers act as facilitators, guiding students through group discussions and collaborative problem-solving exercises. Students are organized into small groups, where they analyze the problem, discuss potential solutions, and present their findings to the class. This interactive process is intended to foster critical thinking, enhance communication skills, and promote active learning among students. Data collection in this study utilizes a mixed-methods approach that combines both qualitative and quantitative techniques. Qualitative data are gathered through classroom observations, student interviews, and analysis of group discussion recordings. These data provide insight into student engagement, behavior, and the dynamics of collaborative learning. Quantitative data are collected using pre-tests and post-tests, as well as questionnaires administered before and after the intervention, to measure changes in academic performance and understanding.

Data analysis is conducted by examining both qualitative and quantitative results to assess the impact of the PBL model on student learning outcomes. Qualitative data are analyzed thematically to identify recurring patterns and insights regarding student interaction and problem-solving skills. Quantitative data are statistically analyzed to determine the significance of changes in student performance between the pre-test and post-test assessments. The integration of these data sets offers a comprehensive view of the model's effectiveness. The instruments used for data collection include structured observation guides, interview protocols, and standardized test instruments that align with the curriculum objectives. Prior to implementation, these instruments are validated

through pilot testing and expert review to ensure their reliability and accuracy. Efforts are made to ensure that all data collection processes adhere to ethical standards, including obtaining informed consent from participants and ensuring the confidentiality of their responses.

Overall, this methodological approach is designed to systematically evaluate the impact of the Problem-Based Learning model on student achievement at SD Negeri 081239 Sibolga. The iterative nature of the research allows for ongoing improvements in teaching strategies, and the combination of qualitative and quantitative data provides robust evidence of the model's effectiveness. The findings from this study are expected to contribute valuable insights into innovative teaching practices that can enhance student learning and engagement in the classroom.

RESULTS

This study aims to determine the application of the Problem-Based Learning (PBL) model in improving student learning outcomes at SD Negeri 081239 Sibolga. The method used is a qualitative approach with a classroom action research design. The subject of the study is class V students with a total of 30 students consisting of 15 male students and 15 female students. The research was conducted in two cycles, with each cycle consisting of planning, implementation, observation, and reflection. In the first cycle, the application of the PBL model begins with the introduction of problems that are relevant to the subject matter being taught. The learning process begins by providing situations that trigger students' curiosity. Teachers provide problems that need to be solved, and students are organized in groups to discuss and find solutions to the problems. Each group then presented the results of their discussion to the class. The observation results showed that in the first cycle, students' enthusiasm in participating in learning increased. Students appear to be more active in participating in group discussions and more confident when expressing opinions. However, there are still some students who have difficulty analyzing problems and finding solutions independently. Based on the results of the reflection, the teacher made several improvements, including providing a more detailed explanation of the problem-solving steps and providing more varied teaching materials. In the second cycle, the implementation of the PBL model is carried out with the improvements that have been suggested. The learning process is more structured and supported by the use of more interactive learning media. Students are invited to solve more complex problems by involving various sources of information. In addition, teachers also provide more constructive feedback for each group, both in terms of material understanding and cooperation skills. The observation results in the second cycle showed a significant increase in student engagement. Most students are able to analyze problems well and work together in groups. They also showed an improvement in critical thinking and creative thinking skills in solving a given problem.

The final test results also showed a significant improvement, with a higher average score compared to the first cycle. The application of the PBL model has proven to be effective in improving student learning outcomes at SD Negeri 081239 Sibolga. This can be seen from the increase in student activity during learning and better test results at the end of the second cycle. Students not only gain a deeper understanding of the subject matter, but also develop critical thinking skills, creativity, and the ability to work together in a team. The application of this model also provides space for students to be more independent in finding solutions and exploring their knowledge further. Overall, the PBL model can be used as an alternative in improving the quality of learning in elementary schools. With a more contextual and problem-based approach, students can more easily relate lessons to real life, making learning more meaningful. However, to achieve optimal results, teachers need to prepare mature teaching materials and strategies and provide sufficient guidance to students during the learning process. This research also provides practical implications for teaching at SD Negeri 081239 Sibolga. The application of the PBL

model can help significantly improve the quality of learning and student learning outcomes. In addition, the application of this model can also improve social skills and collaboration between students, which are essential skills in daily life. Therefore, it is hoped that this research can be a reference for other teachers in implementing a more effective and fun learning model for students. In the future, further research is needed to explore various variations in the application of PBL models in various subjects and other levels of education. Research also needs to include a more in-depth analysis of the challenges faced by teachers in applying this model as well as strategies that can be used to overcome these obstacles. Thus the results of this study, which shows that the application of the PBL model can improve student learning outcomes at SD Negeri 081239 Sibolga and provide positive benefits for students' academic development and social skills.

The research aimed to assess the effectiveness of the Problem-Based Learning (PBL) model in improving student learning outcomes at SD Negeri 081239 Sibolga. The study was conducted over two cycles, with each cycle consisting of a planning phase, implementation phase, observation, and reflection. The data collected include both quantitative test scores and qualitative observations, providing a comprehensive view of the impact of PBL on student learning. Before the implementation of the PBL model, baseline data were collected through a pre-test administered to all participating students. The average pre-test score was 62 out of 100, and only 40 percent of the students met the minimum competency criteria. These results indicated that the students were struggling to fully grasp the material under traditional teaching methods. During the first cycle of implementation, the PBL model was introduced in the classroom. Students were organized into small groups and presented with real-life problems related to the curriculum. The initial observations during this cycle revealed that students were more engaged and willing to collaborate, although some groups faced challenges in managing discussions effectively.

Quantitative data from the first cycle showed an improvement in academic performance, with the average post-test score rising to 68. Approximately 55 percent of the students achieved scores above the minimum competency threshold, marking a notable improvement compared to the baseline data. Qualitative feedback collected from student interviews during Cycle 1 indicated that many students felt more motivated and confident in their ability to solve problems. They reported that working in groups allowed them to discuss different viewpoints and reinforced their understanding of the subject matter, leading to a more meaningful learning experience. Teachers observed a significant change in classroom dynamics during the first cycle. They noted that students were more proactive in asking questions and engaging in discussions, and there was a marked shift from passive listening to active participation. However, some challenges, such as uneven participation among group members, were also identified. In response to the issues observed during Cycle 1, several adjustments were made before the second cycle. Teachers provided additional guidance on group work and introduced structured roles to ensure that every student contributed to the discussions. Instructional materials were also revised to better align with the problem scenarios and learning objectives.

The second cycle of implementation saw the refined PBL model being applied in the classroom. Students were again grouped into small teams and given more clearly defined roles during discussions. This structured approach was aimed at promoting more balanced participation and enhancing the overall effectiveness of the learning process. Quantitative results from Cycle 2 demonstrated a significant improvement over Cycle 1. The average post-test score increased to 75 out of 100, and 70 percent of the students reached or exceeded the minimum competency criteria. This marked a considerable enhancement in academic performance, reflecting the positive impact of the revised PBL approach. Qualitative observations during Cycle 2 further confirmed the success of the intervention. Teachers reported that students were more confident and articulate when discussing complex problems. The increased interaction

among group members led to deeper analysis and a better understanding of the subject matter.

DISCUSSION

This study aims to analyze the application of the Problem-Based Learning (PBL) model in improving student learning outcomes at SD Negeri 081239 Sibolga. This learning model was chosen because of its focus that gives students the opportunity to actively engage in learning through real-world problem-solving that is relevant to their lives. The research subjects consisted of 30 students in class V which included 15 male students and 15 female students. The research was carried out in two cycles using the classroom action research method. In the first cycle, the teacher introduces problems that are in accordance with the subject matter being studied by the students. Students are divided into small groups to discuss the problem and find solutions together. In this cycle, the teacher acts as a facilitator who provides direction to students without directly giving answers to the problems they face. Observations in the first cycle showed that students seemed more interested and active in group discussions. However, some students still find it difficult to analyze and organize their ideas in solving problems. Based on the results of the reflection in the first cycle, the teacher makes improvements by clarifying the problem-solving procedure and providing additional examples relevant to the given problem.

In addition, teachers also increase the use of learning media such as pictures, diagrams, and additional information resources to help students understand problems better. In the second cycle, students are given a slightly more complex problem, which requires them to work harder in finding solutions and conducting analysis. The second cycle showed a significant increase in student engagement. They are better able to identify the steps that need to be taken in solving the problem and discuss more systematically. In addition, students also began to show improvement in critical and creative thinking skills. The use of more diverse learning media and more interactive activities turns out to make it easier for students to understand the concepts taught. The final test results in the second cycle showed a significant increase in learning outcomes. The average score of students in the second cycle is higher compared to the first cycle. This shows that the application of the PBL model has succeeded in improving students' understanding of the subject matter and improving their ability to solve problems independently. The application of the PBL model also shows that students are more enthusiastic and motivated in participating in learning. They do not just receive information from teachers, but are actively involved in finding solutions to the problems given.

This problem-based learning provides students with the opportunity to develop cooperation, communication, and other social skills. The application of the PBL model at SD Negeri 081239 Sibolga also has a positive impact on students' cognitive development. Students not only learn to solve problems, but also learn how to work together in groups, share ideas, and respect the opinions of others. This model also gives students the opportunity to learn in a more enjoyable and less monotonous way, as they are given the freedom to explore various sources of information. However, while the PBL model provides many benefits, the study also notes some of the challenges faced in its implementation. Some students find it difficult to collaborate with their peers, especially in organizing the ideas they have.

In addition, limited time is also an obstacle in completing each stage of problem solving properly. Therefore, there needs to be an effort to better prepare students in terms of time management and collaboration skills. Based on the results of this study, it can be concluded that the application of the PBL model can improve student learning outcomes at SD Negeri 081239 Sibolga. In addition to improving students' understanding of the subject matter, this model also helps students develop critical thinking, creative skills, and cooperative skills. Therefore, the PBL model can be an effective alternative in improving the quality of learning at the elementary school level. This research is expected to be a

reference for other teachers who want to apply the PBL model in their learning. In the future, further research needs to be conducted to test the application of the PBL model in various subjects and to address the challenges that may arise during implementation. With a more structured approach and careful preparation, the application of the PBL model can be more optimal in improving student learning outcomes in elementary school.

CONCLUSION

Based on the results of research conducted at SD Negeri 081239 Sibolga, it can be concluded that the application of the Problem-Based Learning (PBL) model is effective in improving student learning outcomes. The PBL model based on real problem-solving successfully improves students' active engagement, critical thinking skills, and social skills in working together. The implementation of PBL also showed a significant improvement in subject matter comprehension, which was reflected in better test results in the second cycle. Although there are several challenges in its implementation, such as difficulties in collaboration and time management, the implementation of this model has been proven to have a significant positive impact on student learning outcomes in primary schools. Therefore, PBL can be used as an effective learning alternative to improve the quality of education in elementary school.

REFERENCES

Arikunto, S. (2002). Prosedur Penelitian. Bandung: Rineka Cipta.

Dasopang, M. D., Lubis, A. H., & Dasopang, H. R. (2022). How do Millennial Parents Internalize Islamic Values in Their Early Childhood in the Digital Era? AL-ISHLAH: Jurnal Pendidikan, 14(1), 697–708.

Dasopang, M. D., Nasution, I. F. A., & Lubis, A. H. (2023). The Role of Religious and Cultural Education as A Resolution of Radicalism Conflict in Sibolga Community. HTS Theological Studies, 79(1), 1–7.

Fatimah, A., & Maryani, K. (2018). Visual Literasi Media Pembelajaran Buku Cerita Anak. Jurnal Inovasi Teknologi Pendidikan, 5(1), 61–69. https://doi.org/10.21831/jitp.v5i1.16212

Gogahu, D. G. S., & Prasetyo, T. (2020). Pengembangan Media Pembelajaran Berbasis E-Bookstory untuk Meningkatkan Literasi Membaca Siswa Sekolah Dasar. Jurnal Basicedu, 4(4), 1004–1015.

Hendrawati, S., Rosidin, U., & Astiani, S. (2020). Perilaku hidup bersih dan sehat (PHBS) siswa/siswi di sekolah menengah pertama negeri (SMPN). Jurnal Perawat Indonesia, 4(1), 295–307. https://doi.org/https://doi.org/10.32584/jpi.v4i1.454

Lubis, A. H. (2019). Upaya Peningkatan Hasil Belajar Siswa Sekolah Dasar melalui Model Cooperative Learning Tipe Numered Heads Together. FORUM PAEDAGOGIK, 11(2), 127–143.

Lubis, A. H. (2023). The Interactive Multimedia Based on Theo-Centric Approach as Learning Media during the Covid-19 Pandemic. JPI (Jurnal Pendidikan Indonesia), 12(2), 210–222.

Lubis, A. H., & Dasopang, M. D. (2020). Pengembangan Buku Cerita Bergambar Berbasis Augmented Reality untuk Mengakomodasi Generasi Z. Jurnal Pendidikan: Teori, Penelitian, Dan Pengembangan, 5(6), 780–791.

Lubis, A. H., Dasopang, M. D., Ramadhini, F., & Dalimunthe, E. M. (2022). Augmented Reality Pictorial Storybook: How does It Influence on Elementary School Mathematics

Anxiety? Premiere Educandum: Jurnal Pendidikan Dasar Dan Pembelajaran, 12(1), 41–53.

Lubis, A. H., & Wangid, M. N. (2019). Augmented Reality-assisted Pictorial Storybook: Media to Enhance Discipline Character of Primary School Students. Mimbar Sekolah Dasar, 6(1), 11–20. https://doi.org/10.17509/mimbar-sd.v6i1.16415

Lubis, A. H., Yusup, F., Dasopang, M. D., & Januariyansah, S. (2021). Effectivity of Interactive Multimedia with Theocentric Approach to the Analytical Thinking Skills of Elementary School Students in Science Learning. Premiere Educandum: Jurnal Pendidikan Dasar Dan Pembelajaran, 11(2), 215–226.

Manshur, U., & Ramdlani, M. (2019). Media audio visual dalam pembelajaran PAI. Al-Murabbi:Jurnal Pendidikan Agama Islam, 5(1), 1–8.

Mardhiyah, R. H., Aldriani, S. N. F., Chitta, F., & Zulfikar, M. R. (2021). Pentingnya Keterampilan Belajar di Abad 21 sebagai Tuntutan dalam Pengembangan Sumber Daya Manusia. Lectura: Jurnal Pendidikan, 12(1), 29–40.

Ningsih, Y. S., Mulia, M., & Lubis, A. H. (2023). Development of Picture Storybooks with TheoAnthropoEco Centric Approach for Elementary School Students. AL-ISHLAH: Jurnal Pendidikan, 15(2), 1888–1903.

Nurhidayah, I., Asifah, L., & Rosidin, U. (2021). Pengetahuan , Sikap dan Perilaku Hidup Bersih dan Sehat pada Siswa Sekolah Dasar. 13(1), 61–71. https://doi.org/10.32528/ijhs.v13i1.4864

Pebtiyanti, I., Ahmad, A., Dzaky, M., Fauziah, S. N., Rendi, & Puspitasari, P. (2023). Peran kurikulum merdeka dalam meningkatkan harmonisasi antara masyarakat dan sekolah. Jurnal Pacu Pendidikan Dasar, 3(1), 269–277. https://doi.org/https://doi.org/10.22021/pacu.v3i1.411

Rahman, A., Munandar, S. A., Fitriani, A., Karlina, Y., & Yumriani. (2022). Pengertian Pendidikan, Ilmu Pendidikan dan Unsur-Unsur Pendidikan. Al Urwatul Wutsqa: Kajian Pendidikan Islam, 2(1), 1–8.

Ricardo, R., & Meilani, R. I. (2017). Impak Minat dan Motivasi Belajar terhadap Hasil Belajar Siswa. Jurnal Pendidikan Manajemen Perkantoran (JPManper), 2(2), 188–201.

Santi, Undang, & Kasja. (2023). Peran Guru PAI dalam Membentuk Karakter Peserta Didik di Sekolah. Jurnal Pendidikan Tambusai, 7(2), 16078–16084. https://doi.org/https://doi.org/10.31004/jptam.v7i2.8918

Sugiyono. (2018). Metode Penelitian Kuantitatif Kualitatif dan R&D. Bandung: Alfabeta.