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PROBLEM BASED LEARNING IN IMPROVING LEARNING OUTCOMES IN ISLAMIC RELIGIOUS EDUCATION AND LEARNING MOTIVATION

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Abstract

This study aims to determine the effectiveness of the problem-based learning method in PAI learning on improving learning outcomes and learning motivation of students of SMK Ma'arif Walingoso Kajoran. This research uses an experimental method with a quasi experimental design approach. This research was conducted at SMK Ma'arif Walisongo Kajoran. The instruments used in this study were learning outcome scales and learning motivation. Data analysis techniques using Wilcoxon test and Mann Whitney test. Based on the results of the Wilcoxon test, it shows that problem-based learning (PBL) method has an effect on improving student learning outcomes in the experimental group and in the control group with lecture techniques there is no difference. While the results of the Wilcoxon test of learning motivation, there is a difference in learning motivation in the problem-based learning method and there is no difference in the lecture technique. Problem-based learning (PBL) method in PAI learning is effective in improving learning outcomes and learning motivation in students of SMK Ma'arif Walisongo Kajoran.

Keywords: *Problem Based Learning, Learning Outcome, Motivation*

INTRODUCTION

Education in a nation is an investment in the civilization of that nation. The quality of education in a nation will be a benchmark for the future of that nation. The fate of a nation is determined by the implementation of education today (Pambudi, 2019, p. 67-84). The objectives of education, as stated in the Law of the Republic of Indonesia Number 20 of 2003, are related to the National Education System to develop character and civilization in order to educate the nation, fostering individuals who are pious, faithful, independent, and responsible. The government has established education standards in Regulation Number 16 of 2022 regarding process standards as the basis for implementation, ensuring that learning is conducted through enjoyable, challenging,

and motivating activities that encourage active participation. In the 21st century, students are expected to be able to independently solve problems and think critically (Lase, 2019, p. 28-43).

Challenges in PAI learning can include less innovative teaching methods, limited availability of learning resources, and limited student involvement (Ziplin, 2021, p. 102-106). The availability and quality of PAI learning resources are also often problematic. For example, a lack of interesting teaching materials and minimal learning facilities can hinder the learning process and the achievement of PAI learning objectives. The lack of motivation and student involvement in PAI learning can hinder understanding and acceptance of religious values. As a result, students' interest in participating in PAI learning decreases. If the above problems are experienced in the learning process, it will result in suboptimal learning outcomes and impact the achievement of learning objectives. In this study, the researcher applied Problem Based Learning to improve learning outcomes and learning motivation in Islamic Religious Education.

Based on observations and interviews with teachers and students at SMK Ma'arif Walisongo Kajoran, it was discovered that Islamic Religious Education (ISE) learning still uses conventional methods such as lectures and assignments and has not yet adopted the PBL method (Suhendar & Ekayanti, 2018, p. 15-19). The contributing factor to low student motivation and learning outcomes is the teacher's conventional teaching methods, which use lectures and assignments. Learning methods are not yet varied and do not actively involve students in the learning process. Students become passive and less involved in the Islamic Religious Education (ISE) learning process. However, active student involvement in the learning process can improve motivation and learning outcomes.

Problem-Based Learning (PBL) is an educational approach that involves students working through authentic problems to develop their understanding and problem-solving skills (Gunawan et al., 2023, p. 268-279). This method emphasizes the importance of communication, collaboration, and utilizing available resources to generate ideas and reasoning. PBL aims to empower students to actively engage in problem solving and construct knowledge, rather than simply acquiring information from teachers. It is widely recognized as an effective tool for fostering critical thinking, creativity, practical application of knowledge, and addressing complex challenges in real-world contexts, particularly in the field of Islamic Education.

A number of scientific studies have shown that the integration of Problem Based Learning (PBL) can increase student motivation and improve educational achievement. PBL actively involves students in the learning process, stimulating their motivation to learn. In addition, PBL fosters critical thinking and problem-solving skills, which are essential for improving educational

outcomes. For example, (Yuliasari 2023, 171-178) study on thematic teaching in elementary schools showed a significant increase in student motivation and educational achievement after the implementation of PBL. Similarly, Gunawan's study (2023, p. 268-279) study in the field of science education in secondary schools yielded similar results. Research conducted by Hartati (2023, p. 238-248) on biology education in secondary schools further reinforces these findings, showing a significant increase in student motivation and educational achievement through the implementation of PBL. Based on the latest research, it can be concluded that PBL does have a real impact on improving student motivation and educational achievement. Consequently, the integration of PBL in this study is expected to produce positive results that are comparable in terms of student motivation and educational achievement.

Recent research findings indicate that the use of Problem-Based Learning (PBL) has been proven to increase student motivation and academic performance. This study aims to determine whether the implementation of PBL can produce similar positive effects on student motivation and academic achievement at SMK Ma'arif Walisongo Kajoran. Through recent observations and interviews with educators and students at the school, it was found that traditional teaching methods such as lectures and assignments were more commonly used in Islamic Education classes, leading to a decline in student motivation and learning outcomes. It has been proven that integrating more varied and engaging teaching approaches, such as PBL, can address these issues and encourage active student participation in the learning process.By encouraging students to actively solve problems and build new knowledge, PBL holds promise in enhancing student motivation and academic performance in Islamic Religious Education classes at SMK Ma'arif Walisongo Kajoran (Svihla, V., Stephens, A.L., Childers, G., Momer, B., Tang, W., Suchday, S., An, B. P. 2022).

This research is important to be conducted in order to contribute to improving the quality of Islamic Religious Education (PAI) learning, particularly in improving student motivation and learning outcomes at SMK Ma'arif Walisongo Kajoran. This study aims to analyze the extent to which the implementation of the Problem-Based Learning (PBL) model can improve student learning outcomes and motivation in the context of PAI learning. Through this approach, it is hoped that students can be more actively involved in the learning process and develop critical thinking skills relevant to their daily lives. More broadly, the results of this study are expected to serve as a reference for other schools, particularly at the Vocational High School level, in implementing the PBL model to improve the quality of PAI learning. Thus, this research also has the potential to provide guidance for educators and policymakers in designing more effective learning strategies that are in line with the needs of educational development at the vocational level.

RESEARCH METHODS

The research method used was an experiment with a quasi-experimental design. This research was conducted from February to April 2024 at SMK Ma'arif Walisongo Kajoran Magelang. The population in this study was all grade XI students, and the sample used in this study was grade XI PPLGIM as the experimental class and grade XI MPLB B as the control class. Based on the results of the pretest, the PPLGIM and MPLB B classes had low learning outcomes and motivation compared to other classes, with an average learning outcome score of 38 for the PPLGIM class and 39 for the MPLB B class. Meanwhile, the average motivation score for the PPLGIM class was 54, and the MPLB B class had an average score of 59.

The results of the pre-test data analysis show that, in class XI PPLGIM there are 30 students who have learning outcomes abilities that are in the medium category and 1 student is in the high category. In addition, in class XI MBPL B students there are 29 students who have learning outcomes abilities that are in the medium category and 2 students are in the high category. The results of the pre-test data analysis show that, in class XI PPLGIM there are 30 students who have learning motivation abilities that are in the medium category and 1 student is in the high category. In addition, in class XI MBPL B students there are 19 students who have learning outcomes abilities that are in the medium category and 12 students are in the high category.

Table 1. Learning Outcomes

Class	Category			Total
	High	Medium	Low	
XI BCF	6	31	1	38
XI PPLGIM	1	30	0	31
XI MPLB A	7	21	0	28
XI MPLB B	2	29	0	31
TOTAL	16	111	1	128

Table 2. Learning Motivation

Class	Category		Total
	High	Medium	
XI BCF	5	33	38
XI PPLGIM	1	30	31
XI MPLB A	3	25	28

XI MPLB B	12	19	31
TOTAL	21	107	128

The data collection technique used in this study was a scale of student learning outcomes and learning motivation. The validity used in this study was content validity and field validity with the results of learning outcomes and learning motivation variables showing no invalid items, because the calculated r value was > the table r value, which at a significance level of 5% (0.05) with 128 respondents was 0.172. Meanwhile, the reliability test results for learning outcomes had a value of 0.870 and learning motivation had a value of 0.904, indicating very good reliability because the values were > 0.80.

The data analysis techniques used in this study were Microsoft Excel and SPSS (Statistical Package for the Social Sciences). The data analysis techniques used were non-parametric, using the Homogeneity Test, Wilcoxon Test, and Mann Whitney Test.

FINDINGS AND DISCUSSION

Based on the research results, it was found that out of 128 students in grades XI BCF, XI PPLGIM, XI MPLB A, and XI MPLB B at SMK Ma'arif Walisongo Kajoran, 16 students (12.5%) achieved high academic performance, 111 students (86.7%) achieved moderate academic performance, and 1 student (0.8%) achieved low academic performance. These results indicate that the majority of students at SMK Ma'arif Walisongo Kajoran have learning outcomes in the moderate category. Regarding learning motivation, 21 students (16.4%) have high learning motivation, 107 students (83.6%) in the moderate category, and 0 students (0%) in the low category. This indicates that the majority of students at SMK Ma'arif Walisongo Kajoran have learning motivation in the moderate category.

Table 3. Frequency Distribution of Student Learning Outcomes

No.	Kategori	Interval Score	Frequency	Percentage
1.	High	47-56	16	12,5%
2.	Medium	23-46	111	86,7%
3.	Low	14-22	1	0,8%
Total			**128**	**100%**

Table 4. Frequency Distribution of Leraning Motivation

No.	Category	Interval Score	Frekuency	Percentage
1.	High	66-80	21	16,4%
2.	Medium	34-65	107	83,6%
3.	Low	20-33	0	0%
Total			**155**	**100%**

This study examines the effectiveness of the Problem Based Learning (PBL) model in improving learning outcomes and learning motivation in Islamic Education, which is a significant focus of research for researchers. In the initial stage, the researchers administered a pre-test to all students in grade XI. Based on the data analysis, grades XI PPLGIM and XI MPLB B had average learning outcomes and learning motivation in the moderate category. Therefore, the researcher used the eleventh grade PPLGIM and MPLB B classes as samples for this study. The eleventh grade PPLGIM class was the experimental group that was given treatment in the form of a problem-based learning (PBL) model, while the eleventh grade MPLB B class was only given lecture techniques. The next step was for the researcher to provide treatment six times with different topics. After providing treatment, the researcher administered a post-test to measure learning outcomes and learning motivation after treatment. Based on the Wilcoxon test, the results showed that there was no difference in learning outcomes and learning motivation in the control group after being taught using lecture techniques, while in the experimental group there was a difference in learning outcomes and learning motivation after being taught using the problem-based learning (PBL) method.

Table 5. Results of the Mann Whitney Post-test of Learning Outcomes of the Experimental Group and the Control Group

No	Aspect	PostTest_Kel. Eksperimen_Kel. Kontrol_Hasil.Belajar
1	Mann-Whitney U	193.000
2	Wilcoxon W	469.000
3	Z	-1.192
4	Asym. Sig. (2 Tailed)	0.000

Table 6. Results of the Mann Whitney Post-test for Learning Motivation of the Experimental Group and the Control Group

No	Aspect	PostTest_Kel. Eksperimen_Kel. Kontrol_Hasil.Belajar
1	Mann-Whitney U	288.500
2	Wilcoxon W	784.500

3	Z	-2.706
4	Asym. Sig. (2 Tailed)	0.002

In addition, based on the Mann Whitney test, it was found that the significance value of the post-test of the experimental group and the control group in learning outcomes was 0.000 or (sig < 0.05) and learning motivation was 0.002 or (sig < 0.05), indicating that there was a difference in learning outcomes between the experimental group and the control group.

So, it can be concluded that the problem-based learning (PBL) method is effective in improving the learning outcomes and learning motivation of students at SMK Ma'arif Walisongo Kajoran. The effectiveness of the problem-based learning (PBL) method encourages students to actively participate in the learning process, which can improve their understanding of the subject matter. Based on research conducted by Kusrini & Mustafa (2019, p 229–234), it was found that the application of PBL in PAI learning significantly improved student learning outcomes. Students who learn through PBL show an increase in their understanding of religious concepts and are able to apply religious values in their daily lives. Another study conducted by (Hartati & Billa, 2023, p. 238-248) shows that PBL improves students' critical and analytical thinking skills in PAI subjects. Students are better able to understand and analyze issues related to religious values, which impacts overall learning outcomes. PBL makes learning more meaningful by connecting lesson material to relevant real-world problems.

This is in line with research conducted by (Fahrul, 2021, p. 297-316) that students taught using the PBL method have a deeper understanding and are able to think critically about religious issues and provide space for students to explore and explore the material in a more contextual manner. This ability is very important in understanding religious teachings that often require deep interpretation and reflection. Students who are accustomed to PBL tend to be better able to evaluate and apply religious values in different contexts. In addition, Al Ayyubi (2024, 13-18) highlights that increased student motivation in PAI lessons can make students more motivated to learn when they are faced with real problems that are relevant to their lives. This motivation then contributes to an improvement in students' overall learning outcomes. PBL is also known to be effective in increasing student motivation to learn. In the context of Islamic Education (PAI), PBL not only helps students understand religious concepts but also significantly stimulates their motivation to learn. First, PBL stimulates students' learning motivation by providing relevant and contextual challenges. This is supported by research conducted by (Mendrofa, 2021, p. 36) that problem solving can strengthen students' understanding of lesson material, but also increase the relevance of learning to their life contexts.

Second, PBL encourages collaboration and discussion among students. In PAI learning, this can create an environment that supports the exchange of ideas and personal experiences about religious practices. These discussions not only enrich students' perspectives but also strengthen their connection to the subject matter, as they feel actively involved in the learning process. In addition, PBL emphasizes independent and student-centered learning. Students are encouraged to develop their critical and analytical thinking skills in dealing with complex problems. This helps boost their confidence in understanding and explaining religious concepts, which in turn increases their motivation to engage more deeply in learning. Furthermore, a study by Rahman, Zamili, and Munawwaroh (2021, p. 34-47) found that PBL increases students' confidence in learning. Students become more active in discussing and collaborating with their peers, creating a positive and supportive learning environment.

The successful implementation of Problem-Based Learning (PBL) in schools is inseparable from several supporting factors that influence its effectiveness. One of these is the character of the teacher, who can effectively facilitate and support the implementation of PBL. Teachers who possess good communication skills and are able to create an open and interactive learning environment can encourage students to be more active in the learning process. Teachers who are oriented towards collaborative and contextual learning also play a crucial role in the success of PBL, as stated by Kwan (2009, p. 91–108), who stated that teachers who foster curiosity and a sense of responsibility in students can create a more effective learning environment. Furthermore, a school culture that supports a problem-based learning approach is crucial for the success of PBL. Schools that have a culture of collaboration, openness to innovation, and support the implementation of various learning methods can strengthen the PBL process. A culture that prioritizes active and participatory learning will facilitate students' development of critical and reflective skills, the primary focus of PBL. According to Puspitasari, Hayati, and Purwaningsih 2022 (p. 1252–1262), a school culture that supports positive interactions between teachers and students, as well as among students themselves, will increase student motivation and the quality of learning outcomes. Another factor is the facilities available at the school, such as access to technology and adequate learning resources. PBL requires adequate support facilities so that students can optimally explore information and solve problems. Facilities such as comfortable classrooms, fast internet access, and various additional learning resources can help students gather relevant information to solve the problems they face. Research conducted by (Musliadi, 2020, p. 35-47) shows that adequate facilities can increase the effectiveness of PBL implementation in the classroom.

However, although PBL has great potential to improve student motivation and learning outcomes, there are several obstacles that need to be considered in its implementation. One major obstacle is ensuring that some teachers are able to manage classes that involve extensive discussion and collaboration between students. This could be due to teachers' lack of training or experience in implementing PBL methods, which require advanced managerial skills. Furthermore, some students may have difficulty adapting to this more independent and problem-based approach, especially if they are accustomed to more structured and teacher-centric traditional learning methods. Another obstacle may be limited facilities and resources that can support the optimal implementation of PBL. Within the theoretical framework, PBL can be understood through the perspective of constructivism theory, which emphasizes the importance of active and contextual learning. This theory assumes that knowledge is constructed through direct experience, discussion, and reflection, which aligns with the PBL approach. Kwan (2009, p. 91–108) in his theory of the zone of proximal development emphasized the importance of social interaction and collaboration in the learning process. The application of PBL, which prioritizes discussion and group work, can accelerate student learning by utilizing this collaborative potential. Furthermore, according to Kusrini & Mustafa (2019, p 229–234) learning motivation theory, PBL can also increase students' intrinsic motivation because they feel more empowered and engaged in a learning process that is relevant to their lives.

The effectiveness of PBL in increasing motivation to learn PAI is also reflected in better learning outcomes and more meaningful learning experiences for students. Through this approach, students not only learn to remember information, but also to apply the values they learn in their daily lives, thereby increasing the relevance of the subject matter to their lives. This is confirmed by Rahayu (2019, p. 15) that students' intrinsic motivation increased after the implementation of PBL. Students felt more challenged and motivated to solve problems relevant to real life, making learning more interesting and meaningful. With support from previous studies, it can be concluded that PBL is an effective learning method in improving PAI learning outcomes and student learning motivation. The implementation of PBL not only helps students understand lesson material more deeply but also enhances their critical thinking skills, self-confidence, and intrinsic motivation.

Although this study provides a useful overview of the effectiveness of Problem-Based Learning (PBL) in improving student learning outcomes and motivation at SMK Ma'arif Walisongo Kajoran Magelang, several limitations warrant consideration. First, the relatively short duration of the study may limit an in-depth understanding of the long-term impact of PBL implementation on student learning outcomes and motivation. The study only spanned one academic year, thus not providing a comprehensive picture of long-term effects or broader changes at the school level.

Second, the study involved only one stream, which limits the generalizability of the results to a broader context. The unique conditions at SMK Ma'arif Walisongo, such as student characteristics, school culture, and available resources, may influence the results, and these results may not be applicable to other schools with different characteristics. Furthermore, the instrument used in this study was a scale, which may not fully capture the complexity of the variables studied, such as learning motivation or learning outcomes holistically. The use of more diverse instruments, such as in-depth interviews or classroom observations, could provide a richer and more in-depth understanding of student and teacher experiences with PBL implementation.

For further research, it is recommended that the study duration be extended to observe the long-term impact of PBL implementation on the development of student learning outcomes and motivation. Research with a longitudinal or experimental design involving more schools with various characteristics can provide more general and representative results. Furthermore, it is recommended to use more diverse and in-depth instruments, such as interviews with students and teachers, and direct classroom observations, to obtain more comprehensive data on learning dynamics. Further research could also explore other factors that may influence the success of PBL, such as teacher training, parental involvement, and school support in terms of learning facilities and resources.

CONCLUSION

This study concludes that the Problem-Based Learning (PBL) method significantly improves student learning outcomes and motivation at SMK Ma'arif Walisongo Kajoran. The Wilcoxon test showed a significance value of 0.000 (sig < 0.05), indicating a significant improvement in both learning outcomes and student motivation after the implementation of PBL. In contrast, the control group using the lecture method showed no significant changes. Although the Mann-Whitney test revealed no significant difference in learning outcomes between the two groups, student learning motivation was significantly higher in the PBL group. Therefore, PBL is more effective in enhancing student learning motivation than the traditional lecture method.

Considering that this study found no significant difference in learning outcomes between the PBL and lecture methods based on the Mann-Whitney test, it is recommended that future researchers explore more deeply the factors influencing the effectiveness of PBL on student learning outcomes. Further studies could also employ a larger and more diverse sample, in terms of location, student backgrounds, and subject areas, to achieve more generalizable results. In addition, incorporating a qualitative approach is suggested to gain deeper insights into students'

perceptions, challenges, and experiences during PBL implementation. This would provide a more holistic understanding of the impact of PBL in the context of vocational secondary education.

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