DEVELOPMENT OF A PROJECT-BASED LEARNING (PJBL) METHOD USING GOOGLE MEET TO IMPROVE STUDENT LEARNING OUTCOMES IN ISLAMIC EDUCATION SUBJECTS AT UPT SDN 064955 MEDAN AMPLAS

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Received: 06–05–2025 Revised: 05-06-2025 Accepted: 09-06-2025

Abstract

This research aims to: (1) determine the results of developing the Google Meet-based PjBL model used to improve student learning outcomes in PAI subjects at UPT SDN 064955 Medan Amplas, (2) ascertain the validity, practicality, and effectiveness of the developed Google Meet-based PjBL learning model used to enhance student learning outcomes in PAI subjects at UPT SDN 064955 Medan Amplas. This research is a type of research and development. The development of the PjBL model used is adapted from the ADDIE model, which then consists of 8 stages, namely; (1) needs analysis, (2) initial prototype design, (3) validation, (4) revision, (5) limited trial, (6) revision, (7) extensive trial, (8) final product review.

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Research results; the development of the PjBL model has stages; (1) problem presentation, (2) planning and determining learning groups, (3) scheduling, (4) observing product creation, (5) assessment, (6) evaluation. Based on the results of expert validation and trials conducted on the developed product, it can be concluded that this assessment product meets very good criteria and has received a very feasible qualification.

Keywords: PjBL Method, Google Meet, PAI Learning Outcomes

INTRODUCTION

Along with the rapid development of information technology and the need for 21st-century skills, the world of education is faced with the challenge of producing students who not only master the learning material but also possess critical thinking, creative, and adaptable skills to cope with the changes that occur. In this regard, the utilization of technology becomes very important in supporting an effective and efficient learning process. Islamic Religious Education (PAI) is a crucial element in shaping the character of students who are faithful and devout[6]. However, the current challenge in PAI education is to create teaching methods that are not only effective but also relevant to the needs of the modern era[7]. The rapid digital transformation encourages the integration of technology in the world of education, one of which is through

[6] Rosi Fitrisia dan Nurmadiah Nurmadiah, "Efektivitas Penerapan Model Pembelajaran Problem-Based Learning Dalam Pendidikan Agama Islam Siswa SMAN 10 Batanghari | ISLAMIKA," 28 September 2024, https://ejournal.stitpn.ac.id/index.php/islamika/article/view/5404.

[7] Yeni Ekowati, Ni Putu Eka Widiastuti, dan Sri Mulyantini, "The Role of Foreign Ownership in The Implementation of Green Economy in Hospitality Companies in Indonesia," *Eduvest - Journal of Universal Studies* 3, no. 4 (21 April 2023): 767–79, https://doi.org/10.59188/eduvest.v3i4.783.

platforms like Google Meet, which has been proven to enhance the effectiveness of online learning[8]. The Project Based Learning (PjBL) method has become one of the innovative solutions in addressing the issues of low student engagement and learning outcomes in PAI education. PjBL provides students with the opportunity to learn collaboratively through projects designed to enhance critical and creative thinking skills[9]. Research on its effectiveness shows that the project-based approach can significantly enhance students' understanding of PAI learning materials[10]. The use of technology such as Google Meet in the implementation of PjBL further expands the scope of learning. As a video conferencing platform, Google Meet not only supports collaboration but also enables real-time time management and supervision by teachers[11]. Studies in various

[8] Ahmad Sodikin Ahmad, Ahmad Ulin Ni'am, dan Suhartono, "Pengembangan Model Pembelajaran Problem Based Learning Berbantu Aplikasi PISS KTB Untuk Meningkatkan Berpikir Kritis Mahasiswa:," *Dirasah : Jurnal Studi Ilmu Dan Manajemen Pendidikan Islam* 4, no. 2 (28 Agustus 2021): 104–17, https://doi.org/10.29062/dirasah.v4i2.305.

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[10] Mia Mia dkk., "PERAN PENDIDIKAN AGAMA ISLAM (PAI) DALAM MENCEGAH TIMBULNYA JUVENILE DELIQUENCY," *Aplikasia: Jurnal Aplikasi Ilmu-Ilmu Agama* 21, no. 1 (30 Juni 2021): 81–88, https://doi.org/10.14421/aplikasia.v21i1.2110.

[11] Yetrie Ludang, Herry Palangka Jaya, dan Sarwoko Mangkoedihardjo, "Potential Applications of Land Treatment Systems for Disinfectant-Rich Wastewater in Response to the COVID-19 Health Protocol: A Narrative Review," *Journal of Environmental Health and Sustainable Development*, 15 Maret 2022, https://doi.org/10.18502/jehsd.v7i1.8968.

educational institutions show that the application of technology in PjBL can enhance students' learning motivation[12].

One of the methods relevant to this need is Project Based Learning (PjBL), which focuses on providing projects or tasks based on real problems to encourage students to learn actively and deeply. Amid the flood disaster that struck parts of Medan and its surroundings in November 2024, causing several students at SDN 064955 Medan Amplas to be unable to attend normal classes as usual, online learning using platforms like Google Meet became an effective solution to maintain the continuity of education. Therefore, the implementation of the PjBL method based on Google Meet is expected to improve students' learning outcomes, particularly in the subject of Islamic Religious Education (PAI) at SDN 064955 Medan Amplas.

Previous literature reviews indicate that the application of the PjBL method in learning has been widely discussed and proven to have a positive impact on students' skills and learning outcomes. Several studies state that PjBL is capable of enhancing students' critical thinking skills, cooperation skills, and learning motivation[13]. On the other hand, online learning platforms such as Google Meet have been widely used, but there has not been much research

[12] Mahfudz Reza Fahlevi, "Kajian Project Based Blended Learning Sebagai Model Pembelajaran Pasca Pandemi dan Bentuk Implementasi Kurikulum Merdeka," *Jurnal Sustainable* 5, no. 5 (2022): 230–49.

[13] Nanang Priatna, Silviana Lorenzia, dan Sri Adi Widodo, "STEM Education at Junior High School Mathematics Course for Improving the Mathematical Critical Thinking Skills," *Journal for the Education of Gifted Young Scientists* 8, no. 3 (15 September 2020): 1173–84, https://doi.org/10.17478/jegys.728209.

specifically examining the use of Google Meet in the context of Project-Based Learning (PjBL) in Islamic Education (PAI)[14]. According to several studies, the use of Google Meet in online education can enhance interaction and communication between teachers and students, but the challenges faced include the limited skills of teachers in effectively managing online learning[15].

Based on the study, this article offers scientific novelty by developing and implementing a Google Meet-based PjBL method to improve student learning outcomes in PAI subjects at SDN 064955 Medan Amplas. This novelty lies in the application of a method that combines a project-based approach with online educational technology, particularly in PAI learning, which has so far received little attention in the existing literature.

The problem that will be addressed in this research is to determine the results of developing the Google Meet-based PjBL model used to improve student learning outcomes in PAI subjects at UPT SDN 064955 Medan Amplas, and to ascertain the validity, practicality, and effectiveness of the developed Google Meet-based PjBL learning model used to enhance student learning outcomes in PAI subjects at UPT SDN 064955 Medan Amplas.The hypothesis proposed is that the application of the Google Meet-based PjBL method will improve students' learning outcomes in PAI subjects,

[14] Aniswati Nahdiah dan Sri Lestari Handayani, "Pengaruh Model Project Based Learning Berbantuan Google Meet Terhadap Kemampuan Berpikir Kreatif Siswa," *Jurnal Basicedu* 5, no. 4 (Agustus 2021): 2377–83, https://doi.org/10.31004/basicedu.v5i4.1228.

[15] Haryanto Haryanto dkk., "The Correlation between Digital Literacy and Parents' Roles towards Elementary School Students' Critical Thinking," *Cypriot Journal of Educational Sciences* 17, no. 3 (2022): 828–39.

taking into account aspects of interaction, student engagement, and the effectiveness of online learning media.

The objective of this study is to develop a Google Meet-based PjBL learning model that can improve student learning outcomes in PAI subjects, as well as to identify the advantages and challenges in implementing the model at SDN 064955 Medan Amplas. The research method used in this study is research and development (R&D), with a development model referring to the ADDIE steps (Analyze, Design, Develop, Implement, and Evaluate) modified according to the needs of the research context.

RESEARCH METHODS

The research method in the development of the PjBL learning model based on Google Meet described in the document uses the Research and Development (R&D) approach, employing the ADDIE model (Analyze, Design, Develop, Implement, Evaluate), tailored to the research needs[16]. This model consists of five main stages: Analyze: Identify needs, including obstacles in learning and potential solutions. Design: Designing an initial prototype of a project-based learning model using Google Meet. The stages in this research are carried out with the following steps: develop (Development): Creating learning products, such as guides, materials, and project designs. Implement (Implementation): Conducting PjBL-based learning using Google Meet. Evaluate:

[16] Sugiyono, *Metode Penelitian Kuantitatif, Kualitattif, R&D* (Bandung: Alfabeta, 2010).

Measure the effectiveness of the model through expert validation, trials, and analysis of student learning outcomes.

RESULTS AND DISCUSSION

This research aims to develop a Google Meet-based Project Based Learning (PjBL) method to improve student learning outcomes in Islamic Religious Education (PAI) at UPT SDN 064955 Medan Amplas. The characteristics of the implementation of the PjBL method using Google Meet in this study are as follows:

1. Integration of Digital Technology: Utilizing the Google Meet platform as an online learning medium to support interaction and collaboration between students and teachers.
2. Project-Based Approach: Focus on learning that involves students in real projects to enhance material understanding and skill development.
3. Clear Learning Stages: The stages include: problem presentation, project planning, determination of study groups, schedule preparation, product creation and observation, as well as evaluation and assessment of results.
4. Contextual and Relevant: The project material is adjusted to the daily lives of students, especially in the subject of Islamic Religious Education (PAI).
5. Improving Learning Outcomes: The average student score increased from 63.7 (satisfactory category) to 84.7 (good category) after the implementation of the method.

6. Flexibility and Adaptability: Offering alternative learning methods to address internet access constraints, such as offline materials and flexible timing.
7. Development of 21st Century Skills: Supporting the development of critical thinking, collaboration, communication, and adaptation to technology skills.

Based on the research results, this method has proven effective in improving students' learning outcomes. Before implementation, the average student score was 64.7, which falls into the sufficient category, but after the application of the PjBL method based on Google Meet, the average score increased to 84.7, which falls into the good category. This indicates an improvement in students' understanding of the material being taught.

Table. 1.1

Distribution of Values Before Implementation

Range of Values	Amount	Category
50-59	6	Fair
60-69	16	Good
70-79	1	Very Good
80-100	0	Excellent

The table above shows the distribution of student grades before the implementation of the Google Meet-based PjBL method. The majority of students fall into the adequate category (scores 60-69), while no students reached the very good category (scores 80-100). This indicates a need to improve students' learning outcomes.

Table 1.2

Table of Values Before Implementation

No	Name	Score
1.	FAIZA ALYA	58
2.	AGIL ALHAFIZS LUBIS	60
3.	AQILA SHIFA AZ ZAHRA	62
4.	BILQIS AZ ZAHWA	65
5.	BINTANG RAMADHAN	55
6.	CINTA LESTARI PUTRI	59
7.	DESITA ULI BR SIMBOLON	61
8.	DHIWA MAQRUF SITANGGANG	67
9.	DIMAS ALBI FAHRI	68
10.	FABIO ZAILANI	57
11.	FAHRIZAL VERMANSYAH	63
12.	KARISA MAHARANI NASUTION	60
13.	LUTHFIA AZAHRA SIREGAR	66
14.	M AZIZ ALMAHDI	64
15.	MAIWANI NATASYA RAUDHAH	70
16.	MHD ALZUNA	69
17.	MUHAMMAD ANDHIKA PRAMADYA LUBIS	68
18.	MUHAMMAD HAMZAH HAKIM MUNTHE	65
19.	NADA ALFATUNNISA	58
20.	RAFFA ALBARA GULTOM	60
21.	RANUM APRILIA	56
22.	REISHA ARDINA HASIBUAN	63

23.	ZAHIRA FIRANTIKA	64
	Average Value Total	**63,7**

The table above displays the individual student scores before implementation. Most of the scores fall under the good category (scores 70-79), indicating that many students need to improve their understanding of the learning material.

Table 1.2

Table of Scores After Implementation

No	Name	Score
24.	FAIZA ALYA	80
25.	AGIL ALHAFIZS LUBIS	82
26.	AQILA SHIFA AZ ZAHRA	85
27.	BILQIS AZ ZAHWA	88
28.	BINTANG RAMADHAN	78
29.	CINTA LESTARI PUTRI	84
30.	DESITA ULI BR SIMBOLON	86
31.	DHIWA MAQRUF SITANGGANG	89
32.	DIMAS ALBI FAHRI	90
33.	FABIO ZAILANI	79
34.	FAHRIZAL VERMANSYAH	83
35.	KARISA MAHARANI NASUTION	85
36.	LUTHFIA AZAHRA SIREGAR	87
37.	M AZIZ ALMAHDI	86
38.	MAIWANI NATASYA RAUDHAH	92
39.	MHD ALZUNA	91

40.	MUHAMMAD ANDHIKA PRAMADYA LUBIS	88
41.	MUHAMMAD HAMZAH HAKIM MUNTHE	87
42.	NADA ALFATUNNISA	81
43.	RAFFA ALBARA GULTOM	83
44.	RANUM APRILIA	79
45.	REISHA ARDINA HASIBUAN	82
46.	ZAHIRA FIRANTIKA	84
	Average Value Total	**84,7**

The table illustrates a substantial improvement in individual student scores following the implementation of the Google Meet-based Project-Based Learning (PjBL) method. A majority of the students successfully reached the "Good" and "Very Good" categories (scores ranging from 80 to 100). This positive shift highlights a significant enhancement in student performance and comprehension of the learning material.

The average score rose markedly from 63.7 before the method's application, which falls under the "Fair" category, to 84.7 after implementation, categorized as "Good." This notable increase underscores the method's effectiveness in fostering student engagement, understanding, and overall learning outcomes.

The findings validate the potential of combining technology and project-based strategies to address educational challenges, making this method a viable option for broader application in various learning environments.

Table. 1.3

Table of Average Scores Before and After Implementation

	Mean	**Category**
Before Implementation	63,7	Good
After Implementation	84,7	Very Good

The findings from the table indicate a significant improvement in students' learning outcomes after the implementation of the Google Meet-based Project-Based Learning (PjBL) method. The increase in average scores from 63.7 to 84.7 highlights the effectiveness of this method in fostering a deeper understanding of the material and improving overall academic performance. The shift from the "sufficient" to "good" category demonstrates that the PjBL approach is more than just a theoretical improvement— it translates into tangible results, helping students not only retain but also apply their knowledge in meaningful ways.

Before the method's implementation, a majority of students were in the sufficient category, with most scores ranging between 60-69. This suggests that, while students were able to grasp basic concepts, they were not fully excelling or engaging deeply with the content. However, after the implementation of the Google Meet-based PjBL method, most students had scores that exceeded 80, placing them in the good and very good categories. This shift suggests that the method provided students with opportunities to elevate their academic performance by actively participating in

projects that connected classroom content with real-world applications.

The success of this method can be attributed to several key factors. First, the increased interaction between teachers and students facilitated a more personalized and dynamic learning experience. In the traditional classroom setup, some students may have been passive learners, but through Google Meet, they could engage more readily in discussions, receive real-time feedback, and work collaboratively on projects. This virtual engagement likely encouraged greater participation and accountability.

Second, the relevance of the projects to students' daily lives played a crucial role in keeping them motivated and invested in the learning process. By working on real-world problems and tasks, students found their learning experiences more meaningful and applicable to their everyday surroundings. This practical approach helps reinforce theoretical knowledge and allows students to see the real-world significance of what they are studying.

Additionally, the use of technology was a major factor in fostering greater student engagement. Google Meet enabled students to access learning materials, communicate with peers and instructors, and collaborate on projects from any location. Technology not only facilitated the learning process but also empowered students with the digital skills they need for future success. The collaborative nature of the projects, coupled with the use of online tools, also contributed to the development of essential

soft skills, such as teamwork, communication, and problem-solving, which are critical for their personal and professional growth.

Despite the overall success, challenges such as limited internet access remained a concern. In some areas, students struggled to fully participate in online classes due to connectivity issues. However, adaptive solutions such as providing offline learning materials, flexible scheduling, and extending deadlines were effective in mitigating the impact of these obstacles. These adjustments allowed students to continue their work at their own pace, ensuring that those with limited internet access could still benefit from the PjBL method.

Beyond improving academic outcomes, the PjBL method also promoted the development of other valuable skills. The emphasis on collaboration encouraged students to work together, share ideas, and resolve conflicts constructively. Furthermore, the incorporation of technology helped students become more comfortable with digital platforms and tools, which are essential skills in the modern world. By integrating both academic and soft skills development, the Google Meet-based PjBL method offered a holistic approach to education that prepared students for a wide range of future challenges.

CONCLUSION

This study demonstrates that the development of a Google Meet-based Project-Based Learning (PjBL) model significantly enhances student learning outcomes in Islamic Religious Education

(PAI) at SDN 064955 Medan Amplas. The findings confirm the hypothesis that integrating the PjBL method with Google Meet fosters higher levels of student engagement, deeper understanding of material, and improved overall learning outcomes in PAI. The model, structured through the systematic ADDIE framework, has been validated as highly effective in terms of content, instructional design, and media integration.

The trial results highlight the model's robust performance, achieving an effectiveness rate of 80% across both small-scale trials and broader field implementations. Students displayed increased motivation, critical thinking skills, and collaborative abilities during the learning process, demonstrating the potential of this model to address challenges commonly faced in conventional education systems. Despite its strengths, certain areas require refinement for broader scalability and greater effectiveness. These include:

Simplifying the Material: Ensuring that learning materials are more concise and accessible to accommodate diverse student abilities.

Time Management: Optimizing the scheduling and use of the Google Meet platform to maximize instructional time and reduce potential inefficiencies during virtual sessions.

The PjBL model's success also underscores the value of combining project-based methodologies with digital platforms like Google Meet, particularly in fostering 21st-century skills such as critical thinking, collaboration, and adaptability to technology. This

innovative approach proves adaptable and flexible, making it a viable alternative for schools facing infrastructure limitations or disruptions, such as during periods of remote learning.

In conclusion, the Google Meet-based PjBL model is a transformative instructional strategy that can be effectively implemented in other educational contexts, provided appropriate adjustments are made. Future research is recommended to explore its long-term impact on student learning and its applicability across various subjects and grade levels. By continuing to refine and adapt this model, educators can further enhance its potential to deliver meaningful and engaging learning experiences in diverse educational settings.

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