

EXPLORING THE POTENTIAL OF GAMIFICATION-ASSISTED PROBLEM-BASED LEARNING (PBL) IN THE CONTEXT OF ISLAMIC RELIGIOUS EDUCATION (PAI)

Yuli Ani Setyo Dewi, Diah Ambarumi Munawaroh
Institut Agama Islam Sunan Giri Ponorogo
UIN Maulana Malik Ibrahim
ambar79@uin-malang.ac.id

Abstract: *Islamic Religious Education (PAI) plays a central role in shaping individual character and morality. However, the challenges in teaching PAI are increasingly complex with the demands of the times. This article discusses the potential of problem-based learning in the PAI context as an innovative solution to increase the effectiveness of the learning process. This approach encourages students to explore a deep understanding of Islamic values through exploring real cases and solving problems that are relevant to everyday life. Through a critical analysis of the concept of problem-based learning, this article outlines how this approach can be optimized to support PAI goals, including the development of morals, social sensitivity, and a more holistic understanding of Islamic teachings. By exploring the potential of problem-based learning, it is hoped that this approach can make a significant contribution to updating PAI teaching methods that are more contextual and relevant to students' daily lives.*

Keywords: *Gamification Problem-Based Learning (PBL), Islamic Religious Education (PAI) / Islamic Education, Student Engagement, Learning Motivation*

Abstrak: Pendidikan Agama Islam (PAI) memegang peran sentral dalam membentuk karakter dan moralitas individu. Meskipun demikian, tantangan dalam mengajarkan PAI semakin kompleks dengan tuntutan perkembangan zaman. Artikel ini membahas potensi pembelajaran berbasis masalah dalam konteks PAI sebagai solusi inovatif untuk meningkatkan efektivitas proses pembelajaran. Pendekatan ini mendorong siswa untuk menggali pemahaman mendalam terhadap nilai-nilai Islam melalui eksplorasi kasus-kasus nyata dan pemecahan masalah yang relevan dengan kehidupan sehari-hari. Melalui analisis kritis terhadap konsep pembelajaran berbasis masalah, artikel ini menguraikan bagaimana pendekatan ini dapat dioptimalkan untuk mendukung tujuan PAI, termasuk pengembangan akhlak, kepekaan sosial, dan pemahaman yang lebih holistik terhadap ajaran Islam. Dengan menggali potensi pembelajaran berbasis masalah, diharapkan pendekatan ini dapat memberikan kontribusi signifikan terhadap pembaruan metode pengajaran PAI yang lebih kontekstual dan relevan dengan kehidupan sehari-hari siswa.

Keywords: Gamifikasi, Pembelajaran Berbasis Masalah (PBL), Pendidikan Agama Islam (PAI) / Pendidikan Islam, Keterlibatan Siswa, Motivasi Belajar

Introduction

Islamic Religious Education (PAI) is an integral component in shaping individual character and morality, playing a pivotal role in guiding students toward a deeper understanding of Islamic values¹. However, amidst the ever-evolving dynamics of the times, challenges have arisen in presenting PAI material that is both relevant and engaging.² In response to these complexities, problem-based learning has emerged as an innovative solution with the potential to transform the teaching paradigm of PAI.³

Problem-based learning emphasizes the use of real-world situations to develop students' critical thinking and problem-solving skills. In the context of PAI,⁴ this method can be instrumental in strengthening students' understanding of Islamic teachings by presenting contextual challenges and scenarios.⁵ This article aims to investigate and explore the potential of problem-based learning within PAI, identifying its benefits for the learning process and its contribution to the development of Islamic character. High-quality instruction can be achieved through various methods and media that incorporate problem-based learning—one such approach being⁶. Gamification is detailing the theoretical foundations and key concepts of problem-based learning, this article discusses how this approach can be effectively implemented in PAI instruction.⁷ Through a deep understanding of student needs and learning dynamics, we can identify ways in which problem-based learning enriches the PAI learning experience, guiding students toward a deeper, applied understanding of Islamic values in their daily lives.⁸

¹ M. B. U. B. Arifin E. F. Fahyuni, Wasis, A. Bandono, "Integrating Islamic Values and Science for Milenial Students Learning on Using Seamless Mobile Media," *IPA* 9, no. 2 (2020): 231–40.

² Winda Agustina, Hamengkubuwono Hamengkubuwono, and Wandu Syahindra, "Model Pembelajaran Pendidikan Agama Islam Di Sekolah Umum," *At-Ta'dib: Jurnal Ilmiah Prodi Pendidikan Agama Islam* 18, no. 20 (2020): 112, <https://doi.org/10.47498/tadib.v12i02.365>.

³ Kani Ulger, "The Effect of Problem-Based Learning on the Creative Thinking and Critical Thinking Disposition of Students in Visual Arts Education," *Interdisciplinary Journal of Problem-Based Learning* 12, no. 1 (2018): 3–6, <https://doi.org/10.7771/1541-5015.1649>.

⁴ John R Savery et al., "Problem Based Learning: An Instructional Model and Its Constructivist Framework," 1996.

⁵ Agustina, Hamengkubuwono, and Syahindra, "Model Pembelajaran Pendidikan Agama Islam Di Sekolah Umum."

⁶ Raul Inácio Busarello et al., "Construction Parameters for Hypermedia Comics to Learning Based on the Gamification Concept," *9th International Conference on Design and Emotion 2014: The Colors of Care*, 2014, 616–22.

⁷ Rifa'i Aulia Sandiah, "Gamifikasi Nilai-Nilai Akhlak Dalam Aplikasi Mobile Learning Berbasis Android : Studi Kasus Mata Pelajaran PAI" 3, no. 2 (2025): 171–77.

⁸ Ali Wafa, "Integration of Religious Knowledge with Science and Technology in Islamic Education," *Maklumat: Journal of Da'wah and Islamic Studies* 1, no. 1 (December 2023): 11–20, <https://doi.org/10.61166/maklumat.v1i1.2>.

By paving the way for the development of more contextual and interactive learning methods, this article aims to offer valuable insights into modernizing the teaching approach for Islamic Religious Education (PAI). By exploring the potential of problem-based learning, we can cultivate a generation that possesses not only a solid understanding of Islam but also the critical thinking and problem-solving skills needed to navigate contemporary challenges.

Method

This study uses a literature review approach with a descriptive-qualitative method.⁹ This method was chosen to gain a comprehensive understanding of the application of Problem-Based Learning (PBL) and the use of gamification in Islamic Religious Education (PAI) learning, including its benefits, characteristics, implementation strategies, and its contribution to students' engagement and thinking skills. The research data is in the form of secondary data obtained from various scientific sources, including national and international journal articles, proceedings, academic books, and scientific documents relevant to PBL, gamification, PAI learning, learning motivation, critical thinking, collaboration, and the application of Islamic values in learning¹⁰. Literature was obtained through searching academic databases such as *Google Scholar*, *Scopus*, and *ScienceDirect* using keywords such as Problem-Based Learning, gamification in education, gamified learning, Islamic Religious Education, PAI learning, and a combination of these keywords.¹¹ The literature used was selected based on several criteria, namely: (1) discussing PBL, gamification, or the integration of the two in learning; (2) has relevance to PAI learning or religious value-based education; (3) come from academic sources that can be accounted for; (4) have information that can be used to analyze the implementation, benefits, and challenges of gamification-based PBL; and (5) available in full-text form. Literature that is not relevant to the focus of the study, in the form of duplication, or does not have adequate information is excluded from the analysis process. Data collection is carried out through several stages. The first stage is identification, which is conducting a literature search based on predetermined keywords.¹² The second stage is selection, which is examining the title, abstract, and content of the article to determine its suitability with the focus of the research. The third stage is data extraction, by identifying important information about the PBL

⁹ Miles Mathew B. and Michael Huberman, *Qualitative Data Analysis A Sowerbook of New Metodhs* (New York: Sage Publications., 1987).

¹⁰ Jurnal Jispendiora et al., "SYSTEMATIC LITERATURE REVIEW (SLR)" 2, no. 1 (2023).

¹¹ Dela Riadi, *Systematic Literature Review (SLR) Untuk Peneliti Pemula Teori Dan Latihan Soal* (Banyumas: PT. Ganesha Kreasi semesta, n.d.).

¹² Riadi.

concept, gamification elements, forms of implementation, learning outcomes, as well as supporting and inhibiting factors for its implementation. The fourth stage is synthesis, which is grouping findings based on themes that have similarities and then comparing research results from various sources. The data was analyzed using content analysis in a descriptive-qualitative manner. The analysis was carried out by identifying the main patterns and themes of the literature studied, then interpreting the relationship between PBL and gamification in the context of PAI learning. Overall, the stages of the research can be formulated as follows:

Identification of literature → Literature selection → Data extraction → Categorization of → themes Content analysis → Synthesis of findings → Drawing conclusions.¹³ Through this method, the research is expected to provide a systematic overview of the potential integration of gamification and PBL in PAI learning and become a conceptual basis for the development of PAI learning that is more interactive, contextual, and oriented towards the application of Islamic values.

Discussion

a. Definition and Concepts of Problem-Based Learning (PBL):

Problem-Based Learning (PBL) is an instructional method that positions students as active participants in identifying, analyzing, and resolving authentic problems.¹⁴ The fundamental concept of PBL centers on problem-solving, where students are presented with real-world situations or cases requiring conceptual understanding, analytical skills, and collaborative abilities. Implementing PBL within the context of Islamic Religious Education (PAI) offers significant added value by linking religious aspects with active student engagement.¹⁵

The application of PBL in PAI fosters a dynamic and interactive learning environment. Students are encouraged not merely to memorize religious teachings but to comprehend them through the resolution of problems encountered in their daily lives.¹⁶ PBL is highly relevant to PAI, as it enables students to experience the direct relevance and practical

¹³ Jispendiora et al., "SYSTEMATIC LITERATURE REVIEW (SLR)."

¹⁴ Mauhibur Rokhman and Fathul Amami, "Integration of Islamic Religious Education and Science Learning in Elementary School," *Ta Dib: Jurnal Pendidikan Islam* 10, no. 2 (2021): 331–39, <https://doi.org/10.29313/tjpi.v10i2.8971>.

¹⁵ Brenda Luz Colorado Aguilar and Ruben Edel Navarro, "The Combined Learning in Higher Education. An Experience Through the PBL," *International Journal of New Technology and Research* 4, no. 2 (2018), <https://doi.org/10.31871/ijntr.4.2.53>.

¹⁶ Asrizal Wahdan Wilsa, Sri Mulyani Endang Susilowati, and Enni Suwarsi Rahayu, "Problem Based Learning Berbasis Socio-Scientific Issue Untuk Mengembangkan Kemampuan Berpikir Kritis Dan Komunikasi Siswa," *Journal of Innovative Science Education* 6, no. 1 (2017): 129–37, <http://journal.unnes.ac.id/sju/index.php/jise>.

application of religious values in their lives.¹⁷ Beyond simple fact retention, students are guided to understand contexts and develop critical skills that assist them in navigating moral and ethical challenges.¹⁸

Within the PBL framework, learning becomes more contextual and grounded in real-life experiences. For instance, through case studies involving moral dilemmas or ethical challenges found in everyday society, students are empowered to identify relevant religious values and formulate appropriate solutions. Thus, PBL serves not only as a teaching method but also as a tool for shaping students' character and morality within the framework of Islamic religious teachings.

While traditional methods may limit students to the passive reception of information, PBL stimulates student interest and active engagement in the learning process. By presenting real-world challenges, PBL helps students develop critical thinking, problem-solving, and effective communication skills. In the context of Islamic Religious Education (PAI), this enables students to become not merely possessors of knowledge but also religious practitioners who understand and are capable of applying Islamic values in their daily lives.

Thus, understanding and implementing the PBL concept within the context of PAI adds a new dimension to the learning process. PBL is not solely about transferring information; it is also about shaping character and morality, and fostering the practical application of Islamic teachings in students' everyday lives. By actively involving students in problem-solving, PBL contributes significantly to the development of critical thinking and the application of religious values in real-world situations.

The implementation of Problem-Based Learning (PBL) in Islamic Religious Education (PAI) offers several significant advantages. First, PBL enables a better integration of religious concepts with the realities of everyday life. Students do not merely learn Islamic teachings theoretically; they also see how these values can be applied in real-world contexts. This fosters a deeper and more relevant understanding of Islamic teachings.¹⁹

¹⁷ Muhammad Aditya Firdaus et al., "Implementation of Problem-Based Learning (PBL) in Islamic Religious Education (PAI) at Higher Education Institutions to Enhance Students' Moderate Attitudes" 4, no. 3 (2019): 1372–82.

¹⁸ Jurnal Keislaman and Sman Rejang Lebong, "IMPLEMENTATION OF THE PROBLEM BASED LEARNING (PBL) MODEL IN ISLAMIC RELIGIOUS EDUCATION LEARNING AND ITS IMPLICATIONS FOR THE CRITICAL THINKING ABILITY OF STUDENTS OF SMAN 1 REJANG LEBONG" 6 (n.d.): 346–62.

¹⁹ E. F. Fahyuni, Wasis, A. Bandonono, "Integrating Islamic Values and Science for Milenial Students Learning on Using Seamless Mobile Media."

Another advantage is the stimulation of students' critical and analytical thinking skills. By presenting problem situations that require resolution, PBL encourages students to think deeply, analyze various perspectives, and seek well-reasoned solutions. This not only develops cognitive skills but also shapes a mindset that is more critical and reflective regarding the religious values being studied. PBL also creates opportunities for student collaboration. In the context of PAI, this reflects the values of solidarity, mutual cooperation, and mutual support that are highly cherished in Islam. Students work together to understand and resolve religious issues, forging strong social bonds during the learning process. This collaboration mirrors the spirit of the Muslim community to assist one another and strengthen social ties within society.

Furthermore, PBL helps prepare students to face moral and ethical challenges in the real world. Students do not merely grasp theories of morality; they are also given opportunities to test and apply religious values when navigating various life situations. This fosters a holistic learning experience in which knowledge, skills, and character develop in a balanced manner. Regarding student motivation, PBL offers an approach that is both engaging and relevant. When students perceive a direct connection between their studies and their own lives, they tend to be more motivated and actively involved in the learning process. This can create a positive learning environment and spark student interest in Islamic Religious Education.²⁰

Thus, the advantages of PBL within the context of Islamic Religious Education include the integration of religious teachings with daily life, the development of critical thinking skills, the promotion of collaborative values, preparation for moral challenges, and the fostering of student motivation through relevant links between lessons and real-life realities.

b. Implementation of PBL in PAI Subjects

Implementing Problem-Based Learning (PBL) in Islamic Religious Education (PAI) involves a series of carefully planned steps to ensure the method yields the greatest possible positive impact. First, the teacher must design scenarios or case studies that are relevant and aligned with PAI learning objectives. For instance, the problem scenarios might center on

²⁰ Bruce R. Maxwell, "Problem-Based Learning (PBL) in a Grade 11 World History Class: Trials, Tribulations, and Triumphs," *Journal of Problem-Based Learning* 7, no. 1 (2020): 11–20, <https://doi.org/10.24313/jpbl.2020.00248>.

ethical issues, moral dilemmas, or societal value conflicts that require a deep understanding of Islamic teachings.²¹

The next step involves defining the roles of both the teacher and the students within the PBL framework. The teacher acts not merely as a source of information but also as a facilitator and guide, assisting students in identifying the core problem, formulating guiding questions, and navigating the problem-solving process.²² Meanwhile, students play an active role by gathering information, analyzing situations, and developing solutions that align with Islamic values.

PBL in PAI also requires an appropriate assessment design. Beyond evaluating the understanding of religious concepts, assessment must also gauge the students' ability to apply these values in real-world contexts. Methods such as research projects, presentations, or group discussions are well-suited to the PBL approach.²³ A balanced use of formative and summative assessments can provide students with continuous feedback. Creating a classroom environment conducive to PBL implementation is crucial; emphasis should be placed on student collaboration, open discussion, and an atmosphere that encourages the exploration of new ideas. Finally, relevant resources—such as books, articles, and online references—must be made available to support students as they seek information and devise solutions to the problems at hand.

PBL can be integrated into various Islamic Religious Education (PAI) learning content, including the study of the Qur'an, Hadith, religious history, ethics, and Islamic law. Implementing PBL within each module or topic offers students the opportunity to explore and connect Islamic teachings with their daily lives. It also provides a chance to deepen the understanding of specific PAI aspects that might be difficult to grasp through conventional teaching methods. Equally important, parental involvement in the PAI PBL process can reinforce the understanding and application of religious values. By keeping parents informed about this learning approach, they can become partners in ensuring that PAI learning extends beyond the classroom to the home and the community.

²¹ Lucian Balan, Timber Yuen, and Moein Mehrtash, "Problem-Based Learning Strategy for CAD Software Using Free-Choice and Open-Ended Group Projects," *Procedia Manufacturing* 32 (2019): 339–47, <https://doi.org/10.1016/j.promfg.2019.02.223>.

²² Ulger, "The Effect of Problem-Based Learning on the Creative Thinking and Critical Thinking Disposition of Students in Visual Arts Education."

²³ Anielson Barbosa et al., "Problem-Based Learning A Proposal for Structuring PBL and Its Implications for Learning among Students in an Undergraduate Management Degree Program" 25, no. 2 (2018): 160–77, <https://doi.org/10.1108/REGE-03-2018-030>.

Overall, implementing PBL in PAI requires careful planning, an active role for the teacher as a facilitator, appropriate assessment design, and a classroom environment that fosters collaboration and the exploration of religious concepts. By addressing these aspects, PBL can serve as an effective tool to empower students in understanding and applying religious values within the context of their daily lives.

Although Problem-Based Learning (PBL) offers numerous benefits, several challenges may arise during its implementation in Islamic Religious Education (PAI) classes. One major challenge is time constraints. PBL requires more time because it involves in-depth problem-solving, group discussions, and research. In the context of PAI instruction—which often features a packed curriculum—integrating PBL without compromising other course material presents a challenge that must be addressed.

Furthermore, student readiness for a learning method that demands greater independence and responsiveness to real-world issues can also be an obstacle. Some students may be accustomed to more traditional teaching approaches and require time to adjust to the increased responsibilities inherent in PBL.²⁴ This necessitates a role for the teacher as a facilitator who provides adequate support and guidance. Assessment also poses a challenge; PBL assessment must encompass critical thinking skills, collaboration, and the application of religious values. Creating a balanced assessment instrument that provides a comprehensive picture of student achievement requires careful attention and planning.²⁵

Additionally, technology integration may prove challenging for schools or students lacking adequate access. While technology can open up opportunities for broader exploration and collaboration, care must be taken to ensure that no students are left behind due to technological limitations. To overcome these challenges, specific strategies can be adopted. First, specialized training can be provided to teachers to help them understand and effectively implement PBL. This can also include training for students to prepare them for this more independent approach to learning.

c. The Utilization of Gamification in PAI Learning through the Application of PBL

²⁴ I. Sutrisno, Azis, A., Laksana, S. D., Karliani, E., Hidayah, Y., Ambarita, P. D. E., ... Isnaini, "Assessing Student Readiness through Artificial Intelligence-Based Comics to Enhance Literacy and Indonesian Local Wisdom Values," *Jurnal Civics: Media Kajian Kewarganegaraan* 23, no. 1 (2026): 172–183, <https://doi.org/https://doi.org/10.21831/jc.v23i1.90763>.

²⁵ Kristin Stoeffler et al., "Gamified Performance Assessment of Collaborative Problem Solving Skills," *Computers in Human Behavior* 104, no. February 2019 (2020): 106036, <https://doi.org/10.1016/j.chb.2019.05.033>.

The use of gamification in Islamic Religious Education (PAI) learning through the application of Problem-Based Learning (PBL) is a pedagogical strategy that integrates the characteristics of games into the problem-based learning process. The integration is not intended to make learning just a game, but to create a more interactive, challenging, and active learning environment for learners. In the context of PAI, gamification can be used to strengthen students' processes in understanding Islamic concepts while developing critical thinking, problem-solving, collaboration, and decision-making skills based on Islamic values.²⁶

The application of PBL in PAI learning basically places students as subjects who are faced with authentic problems related to daily life. For example, students can be given problems regarding low concern for environmental cleanliness, dishonest behavior in academic life, the use of social media that is not in accordance with Islamic moral values, or the problem of tolerance in social life.²⁷ These problems then become a stimulus for students to identify problems, connect problems with Islamic sources, seek information, discuss alternative solutions, and formulate solutions based on the principles of the Qur'an and Hadith.²⁸

Gamification acts as a motivational and interactive layer that strengthens each stage of PBL.²⁹ Elements such as points, badges, levels, leaderboards, missions, challenges, quests, and rewards can be used to provide a more structured learning experience.³⁰ For example, at the problem orientation stage, teachers can present missions in the form of real-life cases that students must solve. Groups earn points when they are able to identify the root of the problem appropriately. At the investigation stage, students can obtain an achievement badge after successfully finding and using relevant sources of the Qur'an or Hadith. Furthermore, at the solution development stage, students face challenges to produce solutions that are argumentative and in accordance with Islamic values.³¹

²⁶ Silja Litvin et al., "Gamification as an Approach to Improve Resilience and Reduce Attrition in Mobile Mental Health Interventions: A Randomized Controlled Trial," *PLoS ONE* 15, no. 9 September 2020 (2020), <https://doi.org/10.1371/journal.pone.0237220>.

²⁷ C. H. Su and C. H. Cheng, "A Mobile Gamification Learning System for Improving the Learning Motivation and Achievements," *Journal of Computer Assisted Learning* 31, no. 3 (2015): 268–86, <https://doi.org/10.1111/jcal.12088>.

²⁸ Lilis Sumaryanti, Aldo Redho Syam, and Azid Syukroni, "Urgency of Implementing Adab for Students of Elementary School in the Perspective of the Qur'an and Hadith," *Al-Asasiyya: Journal Of Basic Education* 5, no. 1 (2020): 5.

²⁹ Sigit Dwi Laksana et al., "Comic Strip Media Assisted by Digital Gamification: Increasing Student Behavior Targets and User Engagement in the Learning Process," *E3S Web of Conferences* 500 (2024), <https://doi.org/10.1051/e3sconf/202450005006>.

³⁰ Litvin et al., "Gamification as an Approach to Improve Resilience and Reduce Attrition in Mobile Mental Health Interventions: A Randomized Controlled Trial."

³¹ Asmoro Achmadi, "PASANG SURUT DOMINASI ISLAM A . Pendahuluan Ponorogo Merupakan Salah Satu Kabupaten Di Propinsi Jawa Timur , Tepatnya Barat Daya Jawa Timur Berbatasan Dengan Wilayah Yogyakarta Dan Jawa Tengah . Ponorogo Adalah Sebuah Nama Yang Terkenal Karena Kesenian Re" *XIII* (2013): 111–34.

Thus, gamification does not stand as a separate learning method from PBL, but functions as a mechanism to strengthen student involvement in the problem-solving process. PBL provides cognitive structure through the problem-solving stages, while gamification provides motivational stimulus through challenges, feedback, rewards, and learning progress.³² The combination of the two allows PAI learning to move from a dominant learning pattern oriented towards material delivery to more active, contextual, and student-centered learning.

Table 1. Gamification Integration and PBL Stages³³

PBL Stages	Gamification Utilization	Activities in PAI Learning
Problem orientation	Mission/Story/Challenge	Students face real cases related to morality or Islamic life
Organizing learners	Team/Quest	Students are divided into groups and get a problem-solving mission
Guiding research	Points/Levels/Clues	Students are looking for postulates, information, and alternative solutions
Developing solutions	Challenge/Badge	The group develops solutions based on the values of the Qur'an and Hadith
Presenting results	Leaderboard/Achievement	The group presented the solution and obtained appreciation based on the criteria
Evaluation/reflection	Feedback/Reward/Progress	tudents reflect on the learning process, solutions, and values obtained

Conclusion

The application of Problem-Based Learning (PBL) in Islamic Religious Education (PAI) learning has the potential to increase students' understanding and ability to apply Islamic values in real life. PBL encourages students to think critically, analyze problems, find solutions based on Islamic sources, and work collaboratively.

The integration of gamification through missions, challenges, points, badges, and feedback further strengthens the motivation and involvement of students in each stage of PBL. Thus, the combination of PBL and gamification can create more active, contextual, collaborative, meaningful, and fun PAI learning, while supporting the internalization and application of Islamic values in daily life.

³² Busarello et al., "Construction Parameters for Hypermedia Comics to Learning Based on the Gamification Concept."

³³ Allen Lai, "A Study of Gamification Techniques in Mathematics Education," 2014, 1–17.

Bibliography

- Achmadi, Asmoro. "PASANG SURUT DOMINASI ISLAM A . Pendahuluan Ponorogo Merupakan Salah Satu Kabupaten Di Propinsi Jawa Timur , Tepatnya Barat Daya Jawa Timur Berbatasan Dengan Wilayah Yogyakarta Dan Jawa Tengah . Ponorogo Adalah Sebuah Nama Yang Terkenal Karena Kesenian Re" XIII (2013): 111–34.
- Aguilar, Brenda Luz Colorado, and Ruben Edel Navarro. "The Combined Learning in Higher Education. An Experience Through the PBL." *International Journal of New Technology and Research* 4, no. 2 (2018). <https://doi.org/10.31871/ijntr.4.2.53>.
- Agustina, Winda, Hamengkubuwono Hamengkubuwono, and Wandu Syahindra. "Model Pembelajaran Pendidikan Agama Islam Di Sekolah Umum." *At-Ta'dib: Jurnal Ilmiah Prodi Pendidikan Agama Islam* 18, no. 20 (2020): 112. <https://doi.org/10.47498/tadib.v12i02.365>.
- Ali Wafa. "Integration of Religious Knowledge with Science and Technology in Islamic Education." *Maklumat: Journal of Da'wah and Islamic Studies* 1, no. 1 (December 2023): 11–20. <https://doi.org/10.61166/maklumat.v1i1.2>.
- Aulia Sandiah, Rifa'i. "Gamifikasi Nilai-Nilai Akhlak Dalam Aplikasi Mobile Learning Berbasis Android : Studi Kasus Mata Pelajaran PAI" 3, no. 2 (2025): 171–77.
- Balan, Lucian, Timber Yuen, and Moein Mehrtash. "Problem-Based Learning Strategy for CAD Software Using Free-Choice and Open-Ended Group Projects." *Procedia Manufacturing* 32 (2019): 339–47. <https://doi.org/10.1016/j.promfg.2019.02.223>.
- Barbosa, Anielson, Da Silva, Ana Carolina, Kruta De Araújo, Danilo Goncalves Rodriguez, Francisco Ialyson, and Felipe Vasquez. "Problem-Based Learning A Proposal for Structuring PBL and Its Implications for Learning among Students in an Undergraduate Management Degree Program" 25, no. 2 (2018): 160–77. <https://doi.org/10.1108/REGE-03-2018-030>.
- Busarello, Raul Inácio, Luciane Maria Fadel, Vania Ribas Ulbricht, and Patricia Biegging. "Construction Parameters for Hypermedia Comics to Learning Based on the Gamification Concept." *9th International Conference on Design and Emotion 2014: The Colors of Care*, 2014, 616–22.
- E. F. Fahyuni, Wasis, A. Bandono, M. B. U. B. Arifin. "Integrating Islamic Values and Science for Milenial Students Learning on Using Seamless Mobile Media." *IPA* 9, no. 2 (2020): 231–40.
- Firdaus, Muhammad Aditya, Uus Ruswandi, Mohamad Erihadiana, Opik Abdurrahman, Islamic Education, Doctoral Program, and Corresponding Author. "Implementation of Problem-Based Learning (PBL) in Islamic Religious Education (PAI) at Higher Education Institutions to Enhance Students' Moderate Attitudes" 4, no. 3 (2019): 1372–82.
- Huberman, Miles Mathew B. and Michael. *Qualitative Data Analysis A Sowerebook of New Metodhs*. New York: Sage Publications., 1987.
- Jispendiora, Jurnal, Vol No, Pendidikan Karakter, D I Sekolah, Devina Norlita, Putri Wanda

- Nageta, and Siska Ayu Faradhila. "SYSTEMATIC LITERATURE REVIEW (SLR)" 2, no. 1 (2023).
- Keislaman, Jurnal, and Sman Rejang Lebong. "IMPLEMENTATION OF THE PROBLEM BASED LEARNING (PBL) MODEL IN ISLAMIC RELIGIOUS EDUCATION LEARNING AND ITS IMPLICATIONS FOR THE CRITICAL THINKING ABILITY OF STUDENTS OF SMAN 1 REJANG LEBONG" 6 (n.d.): 346–62.
- Lai, Allen. "A Study of Gamification Techniques in Mathematics Education," 2014, 1–17.
- Laksana, Sigit Dwi, Ayok Ariyanto, Moh Tajab, Aldo Redho Syam, and Lilis Sumaryanti. "Comic Strip Media Assisted by Digital Gamification: Increasing Student Behavior Targets and User Engagement in the Learning Process." *E3S Web of Conferences* 500 (2024). <https://doi.org/10.1051/e3sconf/202450005006>.
- Litvin, Silja, Rob Saunders, Markus A. Maier, and Stefan Lüttke. "Gamification as an Approach to Improve Resilience and Reduce Attrition in Mobile Mental Health Interventions: A Randomized Controlled Trial." *PLoS ONE* 15, no. 9 September 2020 (2020). <https://doi.org/10.1371/journal.pone.0237220>.
- Maxwell, Bruce R. "Problem-Based Learning (PBL) in a Grade 11 World History Class: Trials, Tribulations, and Triumphs." *Journal of Problem-Based Learning* 7, no. 1 (2020): 11–20. <https://doi.org/10.24313/jpbl.2020.00248>.
- Riadi, Dela. *Systematic Literature Review (SLR) Untuk Peneliti Pemula Teori Dan Latihan Soal*. Banyumas: PT. Ganesha Kreasi semesta, n.d.
- Rokhman, Mauhibur, and Fathul Amami. "Integration of Islamic Religious Education and Science Learning in Elementary School." *Ta Dib : Jurnal Pendidikan Islam* 10, no. 2 (2021): 331–39. <https://doi.org/10.29313/tjpi.v10i2.8971>.
- Savery, John R, Thomas M Duffy, In B Wilson, Ed Constructivist, Learning Environments, and Case Studies. "Problem Based Learning: An Instructional Model and Its Constructivist Framework," 1996.
- Stoeffler, Kristin, Yigal Rosen, Maria Bolsinova, and Alina A. von Davier. "Gamified Performance Assessment of Collaborative Problem Solving Skills." *Computers in Human Behavior* 104, no. February 2019 (2020): 106036. <https://doi.org/10.1016/j.chb.2019.05.033>.
- Su, C. H., and C. H. Cheng. "A Mobile Gamification Learning System for Improving the Learning Motivation and Achievements." *Journal of Computer Assisted Learning* 31, no. 3 (2015): 268–86. <https://doi.org/10.1111/jcal.12088>.
- Sumaryanti, Lilis, Aldo Redho Syam, and Azid Syukroni. "Urgency of Implementing Adab for Students of Elementary School in the Perspective of the Qur'an and Hadith." *Al-Asasiyya: Journal Of Basic Education* 5, no. 1 (2020): 5.
- Sutrisno, Azis, A., Laksana, S. D., Karlani, E., Hidayah, Y., Ambarita, P. D. E., ... Isnaini, I. "Assessing Student Readiness through Artificial Intelligence-Based Comics to Enhance Literacy and Indonesian Local Wisdom Values." *Jurnal Civics: Media Kajian Kewarganegaraan* 23, no. 1 (2026): 172–183.

<https://doi.org/https://doi.org/10.21831/jc.v23i1.90763>.

Ulger, Kani. "The Effect of Problem-Based Learning on the Creative Thinking and Critical Thinking Disposition of Students in Visual Arts Education." *Interdisciplinary Journal of Problem-Based Learning* 12, no. 1 (2018): 3–6. <https://doi.org/10.7771/1541-5015.1649>.

Wilsa, Asrizal Wahdan, Sri Mulyani Endang Susilowati, and Enni Suwarsi Rahayu. "Problem Based Learning Berbasis Socio-Scientific Issue Untuk Mengembangkan Kemampuan Berpikir Kritis Dan Komunikasi Siswa." *Journal of Innovative Science Education* 6, no. 1 (2017): 129–37. <http://journal.unnes.ac.id/sju/index.php/jise>.