UTILIZATION OF ARTIFICIAL INTELLIGENCE IN CREATIVE LEARNING: IMPLICATIONS FOR STUDENT ENGAGEMENT AND ACHIEVEMENT IN ISLAMIC RELIGIOUS EDUCATION

Article Info

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Abstract

Utilization of technology Artificial Intelligence (AI) in education has become increasingly popular in recent years. This study was conducted to determine how AI can improve student achievement in the Islamic Religious Education (PAI) learning process through creative learning that can increase student engagement. The research method used was field research, located at Rambah Middle School. The data source for this study was eighth-grade students discussing the use of AI in creative learning. Data collection techniques were carried out through observation, interviews, and data reduction. Data analysis was carried out by analyzing and synthesizing the collected data to determine the use of AI in creative learning. The results of the study indicate that the use of AI in creative learning in Islamic Religious Education can increase student engagement and achievement in a more effective and efficient manner through projects and assignments using technology. AI can help improve students' ability to understand learning materials, develop skills, and increase learning motivation during independent learning. In addition, AI can also assist teachers in developing curricula that are appropriate to students' needs and abilities. Thus, the use of AI in creative learning can be one solution to improve the quality of education in Indonesia and help students achieve better performance.

Keywords: *Artificial Intelligence, Creative Learning, Student Activeness, Student Achievement*

INTRODUCTION

Education is a crucial aspect of national development. High-quality education can shape a generation that is intelligent, creative, and has character. However, many challenges remain in the learning process, such as a lack of student engagement and achievement. Therefore, innovation in the learning process is necessary to improve student engagement and achievement (Zulwiddi, 2023, p. 53).

In recent years, technology AI has developed rapidly and brought about significant changes in various aspects of life, including education. The use of AI in education can help improve the quality of education in a more effective and efficient manner. AI can assist teachers in developing curricula, assessing student assignments, and providing fast and accurate feedback (Nazla, 2025, p. 24-40).

The use of AI in creative learning can help increase student engagement in a more engaging and interactive manner (Ramadhani, 2024, p. 102). This phenomenon can be seen in the increasing use of AI technology in various educational institutions worldwide (Firdaus, 2025, p. 48-57). Creative learning can also help students develop creative thinking skills, develop skills, and increase learning motivation. Therefore, the use of AI in creative learning can be a solution to improve the quality of education in Indonesia.

However, many educational institutions have yet to optimally utilize AI in creative learning. Another current phenomenon is the underutilization of technology in education. Many schools still use traditional learning methods, which are less effective in increasing student engagement and achievement (Ali, 2025, p. 1-8; Sappaile et.al, 2024, p. 382-388). Many students still struggle to understand learning materials and lack active participation in the learning process (Sholihah, 2024, p. 207-218). Therefore, research is needed to determine how the use of AI in creative learning can improve student engagement and achievement.

The use of AI in creative learning can help increase student engagement in the learning process. AI can help develop curricula tailored to students' needs and abilities, enabling them to be more active in the learning process. Therefore, the use of AI in creative learning can help improve student engagement and achievement (Utami, 2024, p. 6-15). The use of AI in creative learning can also help improve teachers' teaching skills. AI can assist teachers in developing curriculum, assessing student assignments, and providing fast and accurate feedback. Therefore, the use of AI in creative learning can help improve teachers' teaching skills (Wahyuni, 2024, p. 45-59).

Based on observations conducted by researchers at Rambah Middle School regarding the use of AI during PAI learning to improve student engagement and achievement, it was shown that AI was already familiar to students in completing assignments. However, the school's restrictions on mobile phone use during learning meant that students were primarily tasked with observing the teacher's use of AI. Only when teachers provided opportunities for students to use AI via mobile phones or computers were students able to actively express themselves in completing their assignments, and ultimately, they were able to engage in discussions on the topics discussed.

Meiditra (2025, p. 45-52) has previously conducted research on the use of AI to improve the quality of learning through approaches tailored to the material and the importance of advanced

training on AI. Wijaya's (2023, 152-158) research found that AI-assisted problem-based learning models in Microsoft Excel 365 can improve student activity and learning outcomes. Triyadi (2024, p. 21-38) research found that learning evaluation includes learning assessments on Gradescope, making it easy to measure student activity and achievement.. However, many unanswered questions remain about how the use of AI in creative learning can specifically improve student engagement and achievement. Therefore, this study aims to determine how the use of AI in creative learning can improve student activity and achievement, especially at Rambah Middle School.

This research is very important to conduct because it can help improve the quality of education at Rambah Middle School and education in Indonesia. By understanding how the use of AI in creative learning can increase student engagement and achievement, educational institutions can develop more effective and interactive learning strategies. Furthermore, this research can provide useful information for teachers and educators in developing more innovative learning strategies. Thus, this research can help improve student engagement and achievement in a more innovative and effective manner. Therefore, this research is crucial, and its results can be used as a reference for future educational development.

RESEARCH METHODS

This study used a qualitative approach with field research methods to investigate the use of AI in creative learning to improve student engagement and achievement. The primary data sources in this study were 5 students of class VIII of Rambah Middle School who were selected based on the students' level of understanding ranging from the lowest, medium, and high levels and 2 Islamic Religious Education teachers, who made decisions regarding the use of AI in creative education during Islamic Religious Education learning. Secondary data sources were obtained from other sources such as books, journals, research reports, theses, and dissertations relevant to the research topic. By using both primary and secondary data sources, researchers were able to obtain comprehensive information about the use of AI in creative Islamic Religious Education (PAI) learning.

Data collection techniques in this study were carried out through observation, interviews, and documentation regarding the use of artificial intelligence (AI) in creative learning to increase student activity and achievement. The researcher also used keywords relevant to the research topic to search for secondary data sources in online databases and libraries. After collecting the data sources, the researcher screened them to ensure they were relevant and credible.

The data analysis technique in this study involved analyzing and reducing the collected data. This allowed researchers to understand the use of AI in creative learning to improve student engagement and achievement. By using field research methods, researchers were able to obtain comprehensive information about the use of AI in creative Islamic Religious Education (PAI) learning. The results of this study are expected to provide useful information and insights for teachers, students, and educational developers in improving the quality of education through the use of AI.

FINDINGS AND DISCUSSION

Utilization of Artificial Intelligence in creative learning can improve student engagement and achievement at Rambah Middle School in several ways tailored to learning needs. The use of AI in creative learning can help improve student engagement in a more interactive and innovative manner (Wahyuni, 2024, p. 45-59). This study aims to determine the use of Artificial Intelligence (AI) in creative learning of Islamic Religious Education (PAI) and its impact on student engagement and achievement. The implementation of AI in learning is carried out through the use of AI-based media, such as educational chatbots for Q&A on PAI material, adaptive learning applications, and the use of interactive digital content personalized according to student learning needs.

Based on the results of observations, interviews, and documentation during the implementation of the research, several systematic findings were found regarding the use of Artificial Intelligence (AI) by teachers and students in Islamic Religious Education (PAI) learning at the junior high school level. *First,* Findings related to the role of teachers indicate that teachers are utilizing AI as a creative learning tool. Teachers are using AI to design more varied teaching materials, such as developing AI-based evaluation questions, presenting materials in interactive visual formats, and utilizing educational chatbots to enrich Islamic Religious Education (PAI) material explanations. AI helps teachers save time on lesson preparation and provides more innovative alternative learning strategies. However, teachers remain the primary controllers of learning, particularly in instilling Islamic values and guiding the ethical use of AI. *Second,* findings related to student use of AI indicate that students utilize AI as a supporting learning resource. Students use AI to ask questions about Islamic Religious Education (PAI) material they don't yet understand, find examples of the application of Islamic values in everyday life, and work independently on practice questions. The use of AI provides easy access to information and rapid feedback, thus encouraging students to be more active and independent in their learning.

Third, the interaction between teachers, students, and AI creates a more interactive and student-centered learning model. Students no longer passively receive material but actively engage in discussions, exploration, and problem-solving with the help of AI. This positively impacts learning engagement, such as increased questioning, discussion participation, and student collaboration. *Fourth,* in terms of learning achievement, the use of AI helps students understand Islamic Religious Education material more deeply and contextually. Students are able to relate Islamic Religious Education concepts to real-life situations through explanations provided by AI. This is reflected in the improvement in learning evaluation results in each action cycle. Overall, the findings of this study indicate that the use of Artificial Intelligence (AI) in Islamic Religious Education learning in junior high schools functions as an effective, creative learning medium. AI supports the role of teachers in improving the quality of learning and helping students become more active, independent, and achieve, without neglecting Islamic educational values and character.

Based on observations during the learning process, a significant increase in student engagement was observed. Students became more confident in asking questions, actively engaged in discussions, and became more involved in learning activities. The presence of AI as a learning medium helped create a more engaging, varied, and non-monotonous learning environment, thus motivating students to actively participate. Interviews with students also showed that most students felt that Islamic Religious Education (PAI) learning became more enjoyable and easier to understand with the help of AI. Students stated that interactive features, such as instant feedback and visual and narrative explanations of the material, helped them understand Islamic Religious Education concepts that were previously considered abstract. Furthermore, learning evaluation results showed an increase in student achievement. The average learning outcome score after the implementation of AI-based learning increased compared to before the implementation. This indicates that the use of AI not only impacts the affective and active aspects but also positively influences students' cognitive aspects.

The increase in student engagement in Islamic Religious Education (PAI) learning demonstrates that the use of AI can act as a stimulus for creative learning (Khoirunnisa, 2025, p. 56). AI provides a student-centered learning experience, allowing students to learn at their own pace and style. This aligns with the principles of creative learning, which emphasize active student involvement in the learning process (Ahyar, 2025, p. 14-23). In the context of Islamic Religious Education, AI can be utilized as a supporting tool to deepen understanding of Islamic values (Puspitaningrum, 2024, p. 1080-1090). Through chatbots or AI-based applications, students can

ask questions about Islamic faith, morals, jurisprudence, and Islamic history at any time. This ease of access encourages independent and sustainable learning.

Improved student achievement demonstrates that AI-based learning is effective in helping students understand the material more deeply. AI is able to present learning materials adaptively and provide immediate feedback on student errors, making the learning process more effective and efficient. This allows students to quickly improve their understanding without having to wait for conventional teacher explanations (Siagian, 2024, p. 18-23). However, the use of AI in Islamic Religious Education (PAI) learning still requires the role of teachers as facilitators and guides. Teachers play a crucial role in guiding the use of AI to ensure it remains aligned with learning objectives and Islamic values. AI cannot completely replace the role of teachers, but rather serves as a tool to improve the quality of learning.

Overall, this demonstrates that the use of Artificial Intelligence (AI) in creative Islamic Religious Education (PAI) learning can improve student engagement and achievement. Therefore, the integration of AI into Islamic Religious Education (PAI) learning can be used as an alternative learning innovation in the digital era, while still considering pedagogical aspects and Islamic values. The following is a summary of the implementation of AI in Islamic Religious Education (PAI) at Rambah Middle School to make learning more creative, to activate and foster student achievement.

Table 1. Forms of Creative Learning and Their Impact on Student Activity and Achievement

No	AI-Based Creative Learning Forms	Short Description	Impact on Student Activity	Impact on Learning Achievement
1	Interactive Learning Based on Digital Questions and Answers	Students interact with AI through direct Q&A on Islamic Religious Education material.	Students are more daring to ask questions and are more active in discussions.	Concept understanding increases due to instant explanations
2	Adaptive and Personal Learning	Materials and exercises are adapted to students' abilities.	Students are more engaged because learning is tailored to their needs.	Learning outcomes increase gradually
3	Exploration and Discovery Based Learning	Students search for and relate Islamic Education material to real life.	Student curiosity and participation increased	Understanding of the material becomes deeper
4	Guided Independent Learning	Students learn independently with AI assistance	Independence and responsibility for learning increases	Student learning completion increases
5	Technology-Based Collaborative Learning	Students work in groups with the help of AI	Interaction and cooperation between students increases	Critical thinking skills and evaluation results improve

6	Contextual Learning	PAI material is linked to real life situations of students	Students are more enthusiastic and active in responding to the material	The material is easier to understand and remember
7	Feedback-Based Reflective Learning	AI provides immediate feedback on learning outcomes	Students actively engage in self-reflection	Learning errors are reduced and achievement is increased

This table shows that the use of Artificial Intelligence (AI) produces various forms of creative learning that have a positive impact on student activity and learning achievement in Islamic Religious Education learning at the junior high school level.

The findings of this study align with constructivist learning theory, which emphasizes that knowledge is actively constructed by students through learning experiences (Ritonga, 2024, p. 1-13). The use of AI in Islamic Religious Education learning provides students with opportunities to explore material, ask questions, and receive direct feedback, thereby making the learning process more meaningful (Ramadhani, 2025, p. 131-142). This aligns with the constructivist view that effective learning occurs when students are actively involved in constructing their own understanding (Subhan, 2025, p. 22-26).

Furthermore, the results of this study are also relevant to the theory of technology-enhanced learning, which states that the use of digital technology can increase student motivation, engagement, and learning outcomes (Tejawiani, 2023, p. 3578-3592). AI, as part of learning technology, can provide interactive, adaptive, and personalized learning experiences, thus supporting creative learning in Islamic Religious Education (PAI) subjects (Apsariningsih, 2025, p. 14-25).

From the perspective of self-directed learning theory, the use of AI encourages students to learn more independently and take responsibility for their learning (Yassir, 2024, p. 45-54). Students can access materials, ask questions, and practice at any time according to their needs. These findings suggest that AI acts as a learning facilitator, helping students develop independent learning, a crucial goal of modern education (Winda, 2025, p. 53).

The findings of this study also support previous research suggesting that the use of AI in learning can improve student engagement and achievement. Several previous studies have shown that the use of educational chatbots and AI-based learning media can improve conceptual understanding, student engagement, and learning evaluation outcomes. This study expands on these findings by demonstrating that AI is also effectively implemented in Islamic Religious Education learning at the junior high school level.

Thus, the relationship between research findings, learning theory, and previous research demonstrates that the use of Artificial Intelligence in Islamic Religious Education (PAI) learning has a strong theoretical and empirical basis. The integration of AI in creative learning is not only relevant to developments in educational technology but also aligned with the pedagogical principles and values of Islamic Religious Education.

CONCLUSION

Based on the research results and discussion outlined above, it can be concluded that the use of Artificial Intelligence (AI) in creative Islamic Religious Education learning at Rambah Middle School has proven effective in increasing student engagement. The use of AI is able to deliver various forms of creative learning, such as interactive, adaptive, independent, collaborative, and contextual learning, which encourage students to be more actively involved in the learning process. Student engagement increased gradually at each meeting, marked by the courage to ask questions, participate in discussions, and independence in learning.

In addition to increasing engagement, the use of AI also positively impacts student achievement in Islamic Religious Education (PAI) learning. AI helps students understand the material more deeply through varied presentations and rapid feedback. Improved learning outcomes in each cycle demonstrate that the integration of AI in Islamic Religious Education (PAI) learning is not only relevant to developments in educational technology but also aligned with pedagogical principles and Islamic values. Therefore, AI can be used as an effective alternative learning innovation to improve the quality of Islamic Religious Education learning at Rambah Middle School.

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