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PAI'S Teachers' Strategies in Facing The Development of AI Technology in The Digital Era

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Abstract

This study aims to analyze the strategies of Islamic Religious Education (PAI) teachers in dealing with the development of Artificial Intelligence (AI) technology in the digital era and its impact on the learning process. The research uses a descriptive qualitative approach with data collection techniques in the form of interviews, observations, and documentation. Data analysis is carried out through data reduction, data presentation, and conclusion drawn. The results of the study show that the use of AI in learning is able to increase the effectiveness and creativity of student learning through digital-based interactive learning media. The strategies carried out by teachers include the use of AI-based learning applications, the integration of religious values in the use of technology, and the cultivation of digital ethics in students. In addition to having a positive impact, the use of AI also poses challenges in the form of technology dependence, declining critical thinking skills, and the risk of academic plagiarism. This research contributes to the development of technology-based PAI learning that remains oriented towards the formation of Islamic character and values in the digital era.

Keywords: PAI teachers, artificial intelligence, digital era, learning strategies, digital ethics.

Introduction

The development of digital technology in the modern era has brought enormous changes in various areas of life, including in the world of education. One of the technological innovations that is currently developing rapidly is Artificial Intelligence (AI).¹ The presence of AI provides convenience in the learning process, such as the provision of fast information, interactive learning media, and a digital-based learning evaluation system. In the world of education, AI is beginning to be used to help teachers and students in increasing learning effectiveness. These changes require educational institutions to be able to adapt to technological developments so that the learning process remains relevant to the needs of the times.²

In the context of Islamic education, the development of AI is a challenge as well as an opportunity for Islamic Religious Education (PAI) teachers. PAI teachers not only play the role of conveying religious materials, but also as moral guides and character of students in the midst of increasingly rapid technological developments. The use of AI in PAI learning can provide benefits in the form of increased creativity, learning effectiveness, and ease of access to information. However, on the other hand, the use of AI also has the potential to cause various problems such as students'

¹ Duwi Habsari Mutamimah and Binti Maunah, "The Role of Artificial Intelligence in Human Resource Management in Islamic Educational Institutions," in *International Journal of Scice and Applied Science*, vol. 8, 2025, 97–109, <https://doi.org/10.20961/ijsascs.v7i2.96772>.

² Muhamad Suyudi et al., "Responding To The Global Issues Of Digitally Differentiated Arabic Learning For Students With Special Needs" 6, no. 3 (2024): 168–79, <https://doi.org/10.37680/scaffolding.v6i3.5206>.

dependence on technology, decreased critical thinking skills, and the risk of plagiarism and misuse of technology in learning. Therefore, the right strategy is needed from PAI teachers so that the use of AI remains in harmony with religious values and the goals of character education.³

Several previous studies have discussed the use of AI in general learning and the influence of digital technology on the world of education. Previous research has tended to focus on the effectiveness of technology in improving student learning outcomes as well as digital-based learning media innovations. However, research that specifically discusses the strategies of PAI teachers in dealing with the development of AI technology is still relatively limited, especially related to the inculcation of religious values and digital ethics in students.⁴ In addition, some previous studies have not examined how PAI teachers integrate the use of AI technology with the formation of students' religious character in the school environment.

Based on these conditions, this research has novelty or novelty in the focus of the study on the strategies of PAI teachers in dealing with the development of AI technology in the digital era through the integration of Islamic values, digital ethics, and student character formation. This research not only discusses the use of AI as a learning medium, but also highlights teachers' efforts in directing students to be able to use technology wisely, responsibly, and in accordance with Islamic teachings. Thus, this research makes a new contribution

³ Sudarsri Lestari, "Peran Teknologi Dalam Pendidikan Di Era Globalisasi," *Edureligia; Jurnal Pendidikan Agama Islam* 2, no. 2 (2018): 94–100, <https://doi.org/10.33650/edureligia.v2i2.459>.

⁴ Ahamad Sodik, "The Role of Artificial Intelligence in Encouraging Islamic Education Management Innovation in the Era of the Industrial Revolution 4.0," *An No. 7*, no. 1 (2024): 9–18, <https://doi.org/10.51614/annaba.v7i1.388>.

to the development of technology-based PAI learning that still emphasizes the moral and spiritual aspects of students.

The purpose of this study is to analyze the strategies of Islamic Religious Education (PAI) teachers in dealing with the development of Artificial Intelligence (AI) technology in the digital era, to find out the impact of the use of AI in PAI learning, and to describe teachers' efforts in instilling religious values and digital ethics in students in the midst of increasingly rapid technological developments.

Research Method

This study uses a qualitative approach with a descriptive type of research. This approach is used to understand the phenomenon of using AI technology in PAI learning in depth based on the experiences and views of informants. The research subjects consisted of PAI teacher Winarsih, S.Pd.I and principal Dani Eko Cahyono as the main informant. The location of the research is in Hasyim Asy'ari Kalikuning Tulakan.

Data collection techniques are carried out through in-depth interviews, observations, and documentation. Interviews were used to obtain information related to teachers' strategies in utilizing AI, the challenges faced, and efforts to instill religious values in students in the digital era. Observations were made on the technology-based learning process in the classroom, while documentation was used to complete the research data.⁵

Data analysis uses the Miles and Huberman model which includes data reduction, data presentation, and conclusion drawn. The validity of the data is carried out through source

⁵ Yasri Rifa'i, "Analysis of Qualitative Research Methodology in Data Collection in Scientific Research on the Preparation of Mini Research," *Innovative and Cultured Scholars* 1, no. 1 (2023): 31–37, <https://doi.org/10.59996/cendib.v1i1.155>.

triangulation and triangulation techniques so that the research results have a high level of validity.⁶

Leteratur review

The Concept of Artificial Intelligence in Education

Artificial Intelligence (AI) is a technology that allows computer systems to imitate human thinking skills such as analyzing data, understanding language, and providing recommendations automatically. In the world of education, AI is used to improve the effectiveness of learning through digital media, automated evaluation, and personalized learning. AI is able to help teachers develop more adaptive learning methods according to student needs.⁷

The Role of PAI Teachers in the Digital Era

PAI teachers have a great responsibility in shaping the character and spirituality of students. In the digital era, teachers not only play the role of educators but also supervisors in the wise use of technology. According to Muhaimin (2012), Islamic education must be able to adapt to the times without abandoning Islamic values.⁸

Technology-Based Learning Strategies

Technology-based learning requires teachers to be creative in using digital media to make learning more interesting. The use of applications such as Google Classroom,

⁶ Matthew B. Miles, A. Michael Huberman, and Johnny Saldana, *Qualitative Data Analysis*, ed. Helen Salmon, *Jurnal Penelitian Pendidikan Guru Sekolah Dasar*, Third Edit, vol. 6 (America: SAGE Asia-PacitanPte.Ltd, 2014).

⁷ Ali Shodiqin et al., "Learning Media Training and Artificial Intelligence for Mathematics Teachers to Assist Teacher Performance at MGMP Mathematics High School in Demak Regency," *Journal of Social Service* 1, no. 9 (2024): 1219–29, <https://doi.org/10.59837/mxbske97>.

⁸ Muhaimin, *Thinking and Actualization of the Development of Islamic Education* (Jakarta: RajaGrafindo Persada, 2003).

Quizizz, and Wordwall can increase students' motivation to learn. However, the use of technology must also be balanced with strengthening digital character and ethics.

Digital Ethics in Islamic Education

Digital ethics is a procedure for using technology responsibly and morally. From an Islamic perspective, the use of technology must be based on the values of honesty, trust, and responsibility. PAI teachers have an important role in instilling digital ethics so that students do not abuse AI for plagiarism and academic cheating.⁹

Results and Discussion

Based on the results of interviews, observations, and documentation conducted by researchers, data was obtained on the strategies of Islamic Religious Education (PAI) teachers in dealing with the development of Artificial Intelligence (AI) technology in the digital era. Research data shows that the development of AI technology has a considerable influence on the learning process in schools. PAI teachers began to adjust learning methods by utilizing technology-based digital media to increase the effectiveness and attractiveness of learning.

The results of the interviews show that teachers have known and used AI technology in the learning process. The use of AI is used as an interactive learning medium, such as the use of Wordwall, digital quizzes, and technology-based presentation media. In addition, AI is also used to help prepare

⁹ Luqi Darmawan et al., "Innovation in Islamic education governance based on artificial intelligence technology: Transformation strategy toward global sustainable education." *International Conference on Corporate Social Responsibility and Sustainable Development*. Singapore: Springer Nature Singapore, 2025

materials, create practice questions, and provide additional learning resources for students.¹⁰

In its implementation, teachers not only focus on the use of technology, but also instill religious values and digital ethics in students. Teachers direct students to use AI wisely, responsibly, and not to abuse technology for acts of plagiarism or academic cheating.¹¹ Based on the results of the interview, the researcher summarized some of the research findings presented in the following table:

Table 1. Research Findings of PAI Teachers' Strategies in Facing the Development of AI Technology in the Digital Era in Hasyim Asy'ari Kalikuning Tulakan.

Research Focus	Research Findings	Analysis
Utilization of AI in learning	Teachers use Wordwall, digital quizzes, and AI-based interactive media.	AI helps learning become more engaging and effective.
Teachers' strategies to face AI	Teachers use AI for learning media, question creation, and material summaries.	This strategy supports learning innovation in the digital era.
Integration of religious values	Teachers instill the values of honesty, trust, and responsibility in the use of technology.	Religious values are important to shape students' character in the digital era.
Digital ethics	Teachers teach the use of AI wisely and prohibit plagiarism.	Digital ethics helps students use technology responsibly.
Positive impact of AI	AI facilitates access to information and enhances students' learning creativity.	AI supports more flexible and modern learning.
Negative impact of AI	Students are potentially dependent on AI and	The use of AI needs supervision so that it is not

¹⁰ Winarni, "Interview" (Teacher at Hasyim Asy'ari Tulakan Junior High School, 2026).

¹¹ Dani Eko Cahyono, "Interview" (Principal of Junior High School Hasyim Asy'ari Tulakan, 2026).

	lack critical thinking.	abused.
Teacher challenges	Teachers face the risk of plagiarism and limited mastery of technology.	It is necessary to improve teachers' digital competence.
School support	Schools support the use of digital learning media.	School support is essential to the success of AI-based learning.

Source: Research Findings

Based on the table of research findings above, it can be seen that the development of AI technology has a considerable influence on the learning of Islamic Religious Education (PAI). Teachers have shown the ability to adapt to technological developments by utilizing AI as a more interactive and innovative learning medium. The use of this technology has a positive impact in the form of increasing student learning interest, ease of access to information, and effectiveness in the learning process.

The results of the interviews also show that teachers have an awareness of the importance of instilling religious values and digital ethics in the midst of increasingly rapid technological developments. Teachers try to direct students to use AI wisely and responsibly in accordance with Islamic values. In addition, teachers also emphasized the importance of academic honesty so that students do not abuse AI in doing assignments and exams.

Nonetheless, the use of AI also poses various challenges, such as students' dependence on technology, decreased critical thinking skills, and the risk of plagiarism. Therefore, supervision, character development, and support from schools are needed so that the use of AI technology in learning continues to run positively and in accordance with educational goals.

Discussion

The development of Artificial Intelligence (AI) technology has brought significant changes in the world of education, including in the learning of Islamic Religious Education (PAI). Based on the results of the study, the use of AI in learning has a positive impact on the effectiveness of the teaching and learning process. PAI teachers are starting to utilize digital media such as Wordwall, interactive quizzes, and technology-based presentation media to increase students' interest in learning. The use of AI-based media is able to create a more active, interesting, and non-monotonous learning atmosphere so that students are more enthusiastic in participating in learning.¹²

The use of AI in learning shows that PAI teachers have tried to adapt to the development of the digital era. Teachers no longer only use conventional lecture methods, but start implementing more innovative technology-based learning. This is in line with the development of 21st century education which requires teachers to have digital competence and the ability to utilize technology as a means of learning. The presence of AI helps teachers in compiling materials, creating evaluation questions, and providing more creative and efficient learning media. Thus, AI is not only a technological tool, but also a part of modern learning innovation.¹³

Selain meningkatkan efektivitas pembelajaran, The use of AI also provides opportunities for students to learn

¹² Aris Sarjito, "Human Resource Management in the AI Era: Challenges and Opportunities," *Proceedings of the National Seminar on Management, Economics, Finance and Business Sciences* 2, no. 2 (2023): 211–40.

¹³ Shiddiq Sugiono, "The Process of Adopting Generative Artificial Intelligence Technology in the World of Education: Perspectives on Innovation Diffusion Theory," *Journal of Education and Culture* 9, no. 1 (2024): 110–33, <https://doi.org/10.24832/jpnk.v9i1.4859>.

independently.¹⁴ Students can search for additional references, understand difficult material, and acquire a variety of learning resources through digital technology. This shows that AI can support the creation of flexible learning that is not limited by space or time. In the context of Islamic education, this condition can be an opportunity to expand students' Islamic knowledge through wider and faster access to information.¹⁵

However, the development of AI also presents considerable challenges for PAI teachers. One of the main challenges is the emergence of students' dependence on AI technology.¹⁶ Based on the results of the study, some students tend to use AI instantly to complete tasks without understanding the learning material in depth. This condition can lead to a decrease in students' critical thinking skills, creativity, and learning independence. If not properly supervised, the use of AI has the potential to make students rely solely on automated answers without going through a mature process of analysis and understanding.

In addition to technology dependence, the issue of plagiarism and academic honesty is also an important concern

¹⁴ Noperliani Gea et al., "The Impact Of Artificial Intelligence (Ai) In Education: Opportunities And Challenges In The Digital Era," *Education And Developmentmen* 13, no. 1 (2025): 637–44.

¹⁵ Duwi Habsari Mutamimah et al., "Integration of Prophetic Leadership Values and Digital Innovation on Formation of Islamic Elementary School Culture," *Journal of Education Method and Learning Strategy* 3, no. 02 (2025): 316–30, <https://doi.org/https://doi.org/10.59653/jemls.v3i02.1636>.

¹⁶ Saiful Bahri, "Islamic Education in the Digital Era: Integration of Classical Values in Character Building," *Nusantara Journal of Islamic Studies* 05, no. 01 (2024), <https://doi.org/https://doi.org/10.70379/njis.v5i1.6184>.

in the use of AI.¹⁷ The ease of access to answers through AI can encourage students to copy answers without any effort on their own. Therefore, PAI teachers have an important role in instilling moral values and digital ethics in students. Teachers not only function as teachers of religious material, but also as mentors who direct students to use technology responsibly in accordance with Islamic teachings. Values such as honesty, trust, responsibility, and discipline need to continue to be instilled in every technology-based learning process.¹⁸

The strategy carried out by teachers in integrating religious values into the use of technology is a very relevant step in the digital era. Teachers teach that AI technology should be used as a learning tool, not as a means to commit academic cheating. The cultivation of digital ethics is an important part of PAI learning so that students have awareness in using technology wisely.¹⁹ With digital ethics education, students are expected to be able to sort out the correct information, avoid misuse of technology, and understand the positive and negative impacts of using AI.²⁰

¹⁷ Sehan Rifky, "The Impact of the Use of Artificial Intelligence on Higher Education," *Indonesian Journal of Multidisciplinary on Social and Technology* 2, no. 1 (2024): 37–42, <https://doi.org/10.31004/ijmst.v2i1.287>.

¹⁸ Magdalena Suliyem et al., "Integration of AI in Collaborative Learning to Improve Learning Effectiveness," *Academy of Education Journal* 15, no. 1 (2024): 1063–71.

¹⁹ Mukhlis Mukhlis, Ahyar Rasyidi, and Husna Husna, "The Purpose of Islamic Education: The World, the Hereafter and the Formation of Muslim Character in Forming Individuals with Morals and Positive Contributions," *AL GHAZALI: Journal of Islamic Education and Thought* 4, no. 1 (2024): 1–20, <https://doi.org/10.69900/ag.v4i1.189>.

²⁰ Saifullah Ach and Agus Zainul Fitri, "Formulation of Madrasah Strategies in the Development of Al-Quran Learning at Madrasah Ibtidaiyah Islamiyah Ngoro Jombang," *Sustainability (Switzerland)* 7, no. 1 (2023): 1–14, <https://doi.org/10.52431/murobbi.v7i2.1258>.

The results of the study also show that teachers strive to create more interactive learning through the use of digital media. The use of interactive quizzes and technology-based visual media is able to increase student participation in the learning process. Students become more active in discussing, answering questions, and participating in learning evaluations. This shows that AI can support the creation of student-centered learning, which is learning centered on student activities and involvement.²¹

On the other hand, the successful implementation of AI-based learning is inseparable from the support of schools. Schools have an important role in providing technology facilities, internet access, and digital training for teachers. This support is needed so that teachers are able to develop digital competencies and utilize technology optimally in learning.²² Without adequate facility support, the use of AI in learning will be difficult to apply optimally. Therefore, cooperation between teachers, schools, and students is an important factor in dealing with the development of AI technology in the digital era.²³

Overall, the results show that the use of AI in PAI learning provides a great opportunity in improving the quality of education, especially in creating innovative, effective, and interactive learning. However, the use of AI must also be balanced with character strengthening, supervision, and the inculcation of religious values so that technology is still used

²¹ M Nur Lukman Irawan et al., "Strategies of Islamic Educational Institutions in Responding to Contemporary Education Challenges," *Journal of Education and Counseling* 4 (2022): 1349–58.

²² Shodiqin et al., "Learning Media and Artificial Intelligence Training for Mathematics Teachers to Help Teacher Performance at MGMP Mathematics High School in Demak Regency."

²³ Iin Gusman and Syamzaimar, "Challenges and Solutions in Improving the Quality of Madrasah Ibtidaiyah Teachers in the Digital Era," *Al-Mujahadah: Islamic Education Journal* 2, no. 2 (2025): 1–12.

positively and responsibly. Thus, PAI teachers are required to be able to become educators who are adaptive to technological developments as well as moral guides for students in the digital era.

Conclusion

The development of AI technology provides a great opportunity for PAI teachers to create more innovative and interactive learning. PAI teachers have leveraged AI through digital learning media such as Wordwall and interactive quizzes. The main strategies carried out include integrating religious values, instilling digital ethics, and supervising the use of AI by students. However, the use of AI also poses challenges in the form of technology dependency and the risk of plagiarism. Therefore, cooperation between teachers, schools, and students is needed so that the use of AI in education continues to run in accordance with Islamic values and the goals of character education.

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