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The Utilization of Artificial Intelligence (AI) Technology in Islamic Religious Education to Develop Students' Spiritual Character at MTs Diniyyah Putri Lampung, Gedong Tataan District, Pesawaran Regency, Lampung Province

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Abstract:
This study aims to examine the utilization of Artificial Intelligence (AI) in Islamic Religious Education (IRE) and its contribution to strengthening students' spiritual character at MTs Diniyyah Putri Lampung, Pesawaran Regency, Lampung Province. The study was motivated by the challenges of providing relevant and engaging Islamic Religious Education for a digitally oriented generation, whose familiarity with technology is not always accompanied by strong spiritual awareness. This research employed a qualitative approach with a case study design. The informants included the Head of the Madrasah, IRE teachers, students, dormitory *Ummi*, and PMDL administrators. Data were collected through in-depth interviews, participatory observations, and documentation of IRE learning activities. The findings indicate that AI was utilized through several applications, including AI-based chatbots to facilitate students' religious inquiries and spiritual guidance, interactive digital applications to support dhikr and self-reflection (*muhasabah*), and visual-based AI learning platforms to present Islamic Religious Education materials in a more engaging manner. These applications supported interactive religious learning, encouraged students to reflect on their behavior and religious practices, increased learning motivation, and strengthened emotional engagement with Islamic learning. However, the findings also demonstrate that AI has a supportive rather than substitutive role in spiritual character formation. Teachers remain essential in modeling and cultivating values such as sincerity, patience, discipline, and closeness to Allah SWT through direct guidance and interpersonal interaction. The novelty of this study lies in identifying AI as a complementary pedagogical instrument that connects digital Islamic learning with students' spiritual self-reflection, while emphasizing the irreplaceable role of teachers in authentic spiritual character formation. This study contributes to the development of technology-integrated Islamic Religious Education by proposing a balanced approach in which AI supports learning innovation without displacing teacher-mediated spiritual formation.

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Introduction (مقدمة)

In an era of rapid digital technological advancement, education faces increasingly complex challenges. Technological developments have not only transformed the way people live but have also influenced educational paradigms and methodologies, including Islamic education. One of the technologies that has received considerable attention in the educational context is Artificial Intelligence (AI). AI is no longer merely associated with sophisticated industrial technology but has also begun to be utilized in learning processes as an instrument for curriculum development, interactive learning media, and data-driven assessment (Luckin et al., 2016).

Islamic Religious Education, as a field of Islamic studies that emphasizes the development of morality and spiritual relationships with Allah SWT, requires reflective and contemplative approaches. Within the educational context, Islamic Religious Education plays an important role in instilling the values of sincerity, patience, reliance on God (*tawakkul*), and compassion. However, in the digital era, younger generations tend to be more familiar with gadgets and digital devices than with books, which have traditionally served as primary references for Islamic knowledge. Therefore, the integration of AI into Islamic Religious Education represents a strategic approach to bridging students' spiritual needs with modern learning approaches (Ahmad & Supriyanto, 2022).

AI can be utilized in Islamic Religious Education through various applications, including spiritual guidance chatbots, augmented reality-based simulations for *dhikr* meditation, and machine learning-based learning platforms capable of monitoring students' spiritual development. The use of such technologies enables learning to become more personalized, adaptive, and relevant to the characteristics of contemporary learners. Thus, AI should not be viewed merely as a technical tool but also as a potential facilitator in fostering strong spiritual character (Holmes et al., 2019).

On the other hand, one of the greatest challenges in utilizing AI for Islamic Religious Education is preserving the substance of spiritual values so that they are not reduced to mere algorithms. The role of teachers as spiritual mentors remains central in guiding students not only to understand religious meanings cognitively but also to internalize and practice them in their daily lives (Zarkasyi, 2021). In this context, AI should serve as a supportive instrument rather than a replacement for the spiritual relationship between teachers and students.

The utilization of AI in Islamic Religious Education should also be directed toward supporting the fundamental objective of Islamic education, namely the development of *insan kamil* (the complete or holistic human being). The spiritual character developed through Islamic Religious Education can help students navigate the rapid flow of information, digital hedonism, and the crisis of values that increasingly affects younger generations. Therefore, an integrative and collaborative strategy that combines technology with religious values is essential for developing an educational system that maintains a balance among intellectual, emotional, and spiritual dimensions (Al-Attas, 1991).

Accordingly, this study aims to explore how AI can be effectively integrated into Islamic Religious Education to strengthen students' spiritual character. This research is important as a contribution to the development of Islamic educational innovation that is responsive to contemporary developments and relevant to the changing educational landscap

Method (منهج)

The rapid development of digital technology has transformed contemporary educational practices, including curriculum design, instructional processes, learning resources, and assessment. Among these developments, Artificial Intelligence (AI) has emerged as an

increasingly important educational technology, offering opportunities for personalized learning, interactive instruction, and data-informed assessment (Luckin et al., 2016). However, the pedagogical integration of AI requires critical consideration because technological efficiency does not necessarily ensure the development of students' moral and spiritual capacities.

This issue is particularly significant in Islamic Religious Education (IRE), which aims not only to develop religious knowledge but also to cultivate faith, morality, and spiritual character. Recent empirical studies have primarily examined AI as a tool for generating learning materials, accessing religious information, supporting Qur'anic and Hadith learning, and enhancing instructional effectiveness. Nevertheless, limited empirical research has examined how AI is integrated into madrasah-based Islamic education and how its utilization relates to students' spiritual engagement and character formation. This constitutes an important research gap, particularly concerning *muhasabah* (self-reflection) and the internalization of Islamic values.

This study addresses this gap by examining AI utilization in IRE at MTs Diniyyah Putri Lampung, Pesawaran Regency, within an educational environment that integrates formal instruction and religious activities. The novelty of this study lies in positioning AI as a complementary pedagogical resource for supporting students' spiritual engagement and *muhasabah*, rather than as a substitute for teachers in spiritual character formation. Accordingly, this study aims to identify the forms of AI utilized, analyze its integration into IRE and religious activities, and examine its contribution and limitations in strengthening students' spiritual character.

Identify Subsections

It is both conventional and expedient to divide the method section into labeled subsections. These usually include a section with descriptions of the participants or subjects and a section describing the procedures used in the study. The latter section often includes description of (a) any experimental manipulations or inter-ventions used and how they were delivered-for example, any mechanical apparatus used to deliver them; (b) sampling procedures and sample size and precision; (c) measurement approaches (including the psychometric properties of the instruments used); and (d) the research design. If the design of the study is complex or the stimuli require detailed description, additional subsections or subheadings that divide the subsections may be warranted to help readers find specific information.

A. Research Approach and Design

This study employed a qualitative approach using a case study design to investigate in depth the processes, forms, and impacts of utilizing Artificial Intelligence (AI) in Islamic Religious Education among students. A qualitative approach was selected because it enables researchers to gain a holistic understanding of students' spirituality and character from the perspectives of teachers, students, and the technological tools employed in the learning process (Creswell, 2016). The study also focused on the meanings, interpretations, and subjective experiences of students in integrating spiritual values through the support of AI-based digital technology.

Data were collected through in-depth interviews with the head of the madrasah, Islamic Religious Education (PAI) teachers, students, *ummi asrama* (female dormitory mentors), PMDL administrators, and developers of the AI platforms utilized in the learning process. In addition, participatory observations were conducted during digital learning activities, accompanied by documentation of AI-based learning applications or systems. Data triangulation was employed to ensure data credibility by comparing information obtained from interviews, observations, and digital learning documents (Moleong, 2018). The collected data were analyzed using Miles and Huberman's (2014) interactive thematic analysis model, which consists of three main stages: data

reduction, data display, and conclusion drawing. The analysis was conducted continuously throughout and after the data collection process to identify patterns of AI integration in Islamic Religious Education and its impact on strengthening students' spiritual character. Data validity was maintained through member checking, peer debriefing, and an audit trail. The primary focus of the study was to identify effective practices and challenges associated with the utilization of AI in strengthening students' values of sincerity, patience, and spiritual awareness through contextual Islamic Religious Education in the digital era (Saldaña, 2021).

B. Research Site and Period

The study was conducted at MTs Diniyyah Putri Lampung, Gedong Tataan District, Pesawaran Regency, Lampung Province, Indonesia. The research site was selected purposively because MTs Diniyyah Putri Lampung is an Islamic secondary education institution that has implemented AI-based technology in religious education. Therefore, the institution was considered highly relevant to the focus of this study. The research was scheduled to be conducted from July to September 2026.

C. Research Participants/Informants

The research informants consisted of individuals who were directly involved in fostering students' spiritual character, including:

Head of the Madrasah

Islamic Religious Education (PAI) Teachers

Students

Dormitory Mentors (*Ummi Asrama*)

PMDL Administrators

AI Platform Developers

The informants were selected using **purposive sampling**, in which participants were deliberately selected based on their knowledge, experience, and direct involvement in the implementation of the program.

D. Data Collection Techniques

The data collection techniques employed in this study included the following:

1. **Interviews**
   In-depth interviews were conducted with the PKBM program managers, tutors/instructors, and learners to obtain information regarding the management and implementation of the PKW Graphic Design Program.
2. **Observation**
   Direct observations were conducted to examine the learning process, interactions between tutors and learners, the utilization of facilities and infrastructure, and the implementation of program activities.
3. **Documentation**
   Documentation was used as supporting data and included the PKBM profile, curriculum, learning modules, participant data, photographs of program activities, and program reports.

E. Data Analysis Techniques

The data were analyzed using an interactive analysis model consisting of:

1. **Data reduction**, which involves selecting, summarizing, and focusing the data in accordance with the research objectives.
2. **Data display**, which involves presenting the research findings in the form of narrative descriptions, tables, or diagrams.
3. **Conclusion drawing**, which involves formulating the research findings based on the results of the data analysis.

F. Data Trustworthiness

The trustworthiness of the data was established through triangulation. This technique was employed to ensure data credibility by comparing information obtained from interviews, observations, and digital learning documents (Moleong, 2018). Data The collected data were analyzed using Miles and Huberman's (2014) interactive analysis model, which consists of three main stages: data reduction, data display, and conclusion drawing. The analysis was conducted continuously throughout and after the data collection process to identify patterns of AI integration in Islamic Religious Education and its impact on strengthening students' spiritual character. The trustworthiness of the data was further ensured through member checking, peer debriefing, and an audit trail.

Result (نتائج) And Discussion (مناقشة)

The findings demonstrate that Artificial Intelligence (AI) has been utilized in Islamic Religious Education (IRE) at MTs Diniyyah Putri Lampung, although its implementation remains limited and primarily functions as a complementary learning resource. Based on interviews with IRE teachers and students, AI was used in several forms, including question-and-answer chatbots for obtaining explanations of Islamic concepts, AI-supported applications for *dhikr* and spiritual reflection, and visual and interactive platforms for presenting IRE materials. A teacher explained that AI was particularly useful when students required additional explanations beyond the material delivered during classroom instruction: "AI is usually used when students still have questions after the lesson. They can search for additional explanations, but I still guide them in determining whether the information is appropriate and consistent with Islamic teachings" (IRE Teacher, interview, May 2026).

Classroom observations provided further evidence of this practice. During IRE learning activities, several students used AI-based digital tools to obtain additional explanations concerning religious concepts discussed by the teacher. The teacher subsequently encouraged students to compare the information generated by AI with the learning materials and provided clarification when the responses required contextual or religious correction (Classroom Observation, May 2026). This pattern indicates that AI was not employed as an autonomous source of religious authority but as an additional instructional resource under teacher supervision.

The use of AI was also associated with students' learning motivation and interest in exploring Islamic spiritual values. One student stated, "It is easier for me to understand the material when I can ask questions and receive explanations in a way that is easier to understand. Sometimes I also look for additional explanations about the meaning of religious practices" (Student, interview, May 2026). Observation data similarly showed that students were more actively involved in asking questions and discussing religious concepts when AI-supported

visual and interactive materials were incorporated into the learning process. Documentation of learning activities further indicated the use of digital materials as supplementary resources in IRE instruction.

These findings suggest that AI contributed primarily to the accessibility, interactivity, and attractiveness of Islamic Religious Education learning. Nevertheless, its contribution remained pedagogically dependent on teacher mediation. Teachers continued to determine the relevance of AI-generated information, provide religious clarification, and connect technological learning activities with students' spiritual development. Therefore, the empirical evidence indicates that AI functions more appropriately as a complementary pedagogical instrument than as a substitute for teachers in Islamic Religious Education, particularly in the formation of spiritual character

Students involved in AI-based learning demonstrated increased learning motivation and higher levels of emotional engagement. They reported feeling more comfortable and less pressured because they were able to learn at their own pace. AI made the teaching and learning process more personalized and adaptive, enabling students who tended to be introverted to participate actively without having to speak directly in front of the class (Luckin et al., 2016).

Nevertheless, in-depth interviews with teachers indicated that the utilization of AI has not fully replaced the role of teachers as spiritual mentors. In Islamic Religious Education, particular attention must be given to exemplary behavior and the internalization of values, neither of which can be fully taught by machines. AI can provide information, but it cannot replace the spiritual experiences developed through direct interaction and guidance (Zarkasyi, 2021).

Teachers reported that prior to the use of AI, many students experienced difficulties in understanding spiritual teachings because of their philosophical and contemplative nature. However, following the implementation of interactive applications, many students began to relate spiritual values to their everyday lives, including patience, honesty, and inner tranquility. This finding indicates that AI can serve as a supporting tool for spiritual character development when implemented through an appropriate pedagogical approach.

Nevertheless, several challenges were also identified in the utilization of AI, particularly the limited availability of human resources capable of developing and utilizing AI optimally. Some teachers and staff members at MTs Diniyyah Putri Lampung do not yet possess adequate technological skills, resulting in their reliance on learning materials provided by third parties.

In addition to technical challenges, ethical concerns have emerged regarding students' dependence on technology. Several teachers expressed concerns that excessive reliance on AI in spiritual learning could diminish the depth of students' emotional and spiritual experiences. Therefore, the integration of AI should be accompanied by direct character development and the reinforcement of spiritual values through real-life experiences (Al-Attas, 1991).

Another finding emerging from the research process was that students who regularly used AI in Islamic Religious Education tended to demonstrate greater levels of reflection and critical engagement. They asked more questions and engaged in discussions of learning topics beyond the classroom. Some students even maintained daily digital journals documenting their spiritual development, which were subsequently reviewed by teachers. This finding suggests that AI can foster a culture of spiritual literacy when directed and utilized positively (Saldaña, 2021).

The discussion of these findings indicates that the utilization of AI in Islamic Religious Education should be positioned as a supportive instrument rather than as the central component of spiritual education. AI can contribute to strengthening students' spiritual character when supported by the active role of teachers, a religiously supportive learning environment, and students' emotional engagement in daily religious practices (Moleong, 2018).

Thus, AI holds considerable potential to support Islamic education, particularly in strengthening students' spiritual character in the digital era. Although the utilization of AI appears to be relatively effective, its implementation should be undertaken responsibly and grounded in Islamic values so that it does not obscure the fundamental essence of Islamic Religious Education, which emphasizes cultivating closeness to Allah SWT.

Conclusion (خاتمة)

The findings indicate that the utilization of Artificial Intelligence (AI) in Islamic Religious Education (IRE) has the potential to support students' learning interest, understanding of spiritual concepts, and emotional engagement. AI-supported features, including spiritual chatbots, visual simulations, and digital *dhikr* applications, may facilitate more interactive, personalized, and adaptive learning experiences. These findings suggest that AI can function as a complementary medium for presenting Islamic educational content in ways that are relevant to students' digital learning environments.

However, the findings also emphasize that AI cannot replace the role of teachers as spiritual mentors. The internalization of Islamic values requires exemplary behavior, interpersonal interaction, guidance, and continuous habituation, which cannot be fully substituted by technological systems. Accordingly, AI should be positioned as a supporting tool rather than the primary instrument of IRE. Its use should remain guided by teachers and integrated with learning activities that cultivate sincerity, patience, self-control, responsibility, and other Islamic values in students' everyday lives.

The practical implication of these findings is that teachers should use AI selectively and responsibly, particularly for activities that enhance explanation, visualization, interaction, and students' independent learning. Islamic educational institutions should support this process through teacher training, appropriate digital literacy, ethical guidelines, and supervision of AI-generated content. The use of AI should also consider the accuracy of religious information, students' developmental needs, data privacy, and the potential for excessive technological dependence. Thus, technological innovation should remain aligned with the objectives and ethical principles of Islamic education.

Nevertheless, this study has limitations. The findings should be interpreted within the scope of the research context and should not be generalized to all forms of AI use or all Islamic educational settings. In addition, the study does not establish a causal relationship between AI utilization and changes in students' spiritual character. Further research is therefore needed to examine the effectiveness of specific AI applications through longitudinal, comparative, or mixed-method approaches and to investigate how AI-assisted learning influences students' spiritual development over time.

Overall, AI has considerable potential to complement Islamic Religious Education when it is implemented contextually, ethically, and under appropriate teacher guidance. The integration of technological innovation with teacher-led spiritual formation may contribute to learning environments that are both digitally responsive and consistent with the objectives of Islamic education. The responsible use of AI should.

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Bibliography ((مراجع

Ahmad, M., & Supriyanto, A. (2022). *Integrasi teknologi dalam pembelajaran pendidikan Islam di era digital*. Jurnal Pendidikan Islam Digital, 4(2), 101–115.

Al-Attas, S. M. N. (1991). *The Concept of Education in Islam*. Kuala Lumpur: ISTAC.

Creswell, J. W. (2016). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). SAGE Publications.

Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning*. Boston: Center for Curriculum Redesign.

Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). *Intelligence Unleashed: An Argument for AI in Education*. Pearson Education. https://www.pearson.com

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook* (3rd ed.). SAGE Publications.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook* (3rd ed.). SAGE Publications.

Moleong, L. J. (2018). *Metodologi Penelitian Kualitatif* (Edisi Revisi). Bandung: Remaja Rosdakarya.

Saldaña, J. (2021). *The Coding Manual for Qualitative Researchers* (4th ed.). SAGE Publications. Zarkasyi, H. F. (2021). *Tasawuf dan Pembentukan Karakter: Perspektif Pendidikan Islam Kontemporer*. Yogyakarta: Pustaka Pelajar.