

Integrating Islamic Curriculum Education with Artificial Intelligence within the Sanad 'Ilm Framework

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ABSTRACT :

Despite the rapid growth of the global AI education market and its transformative potential, many Islamic schools face challenges in adopting these advancements, raising concerns about inadequate preparation for an AI-driven future. This study explores the integration of artificial intelligence into Islamic curriculum education through the *Sanad 'Ilm* framework, examining its challenges, opportunities, and pedagogical implications. Using a qualitative approach, the research conducts an integrative literature review of five recent peer-reviewed articles to identify key themes and generate new insights on AI's role in Islamic education. The findings reveal challenges such as the potential reduction in human interaction and the need for proper educator training to effectively use AI while preserving the traditional concept of *sanad 'ilm* in knowledge transmission. The research highlights the importance of a balanced approach that incorporates AI while remaining aligned with Islamic principles. Ultimately, it concludes that thoughtful AI integration in Islamic education can improve learning outcomes and help cultivate a knowledgeable Muslim community capable of adapting to modern educational demands without compromising their faith.

Key words: Artificial Intelligence, Islamic Curriculum Education, Sanad Ilm

INTRODUCTION

The global market for Artificial Intelligence in education surpassed \$3.81 billion in 2023 and is expected to reach \$5.18 billion in 2024 (Research, 2024b), highlighting the increasing recognition of AI's transformative potential in education. This significant investment signals the urgent need for educational systems worldwide to embrace new technologies that can enhance teaching and learning. However, many Islamic schools and universities have been left behind to incorporate AI into their educational practices (Astuti et al., 2023; Fauziyati, 2023; Yuhana, 2024). This set back raises serious concerns about how well students are being prepared for a future shaped by AI, underscoring the necessity for Islamic educational institutions to adopt these advancements to better prepare students for the changing landscape of education.

While various educational institutions are using AI to enhance learning, manage tasks, and teach essential modern skills (Paling et al., 2024), many Islamic institutions continue to rely on traditional teaching methods. For example, some Indonesian teachers have begun incorporating AI into their classrooms through Adaptive Learning technologies like Quizizz, which help personalize learning experiences in an engaging way (Dalimunthe et al., 2024). However, the limited integration of technology into the Islamic education curriculum may put students at a disadvantage, raising concerns about their preparedness for a future shaped by AI.

In implementing technology within Islamic educational settings, it is crucial to remain committed to Islamic values and principles (Siddiqui, 2024). This commitment stems from the need to preserve *Sanad 'ilm* – the authentic transmission of Islamic knowledge – within the curriculum. Upholding this tradition is vital not only for Islamic educators but for all educators, as it reinforces the importance of maintaining the integrity of knowledge (Hamid & Bakri, 2023). This aligns with the teachings of the Quran, specifically Surah Al-Isra (17:36), which emphasizes the importance of preserving truth in knowledge.

مَسْئُوْ لَا عَنْهُ كَانَ أُولَٰلِكَ كُلُّ دَ لَفُوَاوَ الْبَصَرَوَ السَّمْعَ إِنَّ عِلْمٌ بِهِ لَكَ لَيْسَ مَا تَقْفُ وَ لَا "And do not pursue that of which you have no knowledge. Indeed, the hearing, the sight and the heart about all those [one] will be questioned." ~ (Al-Isra : 36)

This verse reminds us that we should not follow or spread information without truly understanding it. It teaches that we will be held accountable for how we use our senses—our hearing, sight, and hearts—when it comes to the knowledge we seek and share. In the context of education, this verse emphasizes the importance of being careful and truthful in what we teach and learn. Especially with new technologies like AI, educators must ensure that the knowledge they share is based on truth and is in line with Islamic values. This aligns with the statement of the renowned scholar, Abdullah Ibn Mubarak, in the introduction to Sahih Muslim, Volume 1, page 87, where he said:

شَاءَ مَا شَاءَ مَنْ لَقَالَ الإسْنَادُ وَلَوْلاَ الدِّيْنِ مِنَ اَلْإِسْنَادُ

"Sanad is a part of the religion; if it were not for sanad, anyone could say whatever they wanted." (Al-Nisaburi, 1955)

Quoting Abdullah Ibn Mubarak emphasizes that the tradition of Sanad is not merely a historical practice but a continuous principle that ensures the authenticity of knowledge. By embracing this principle in their teaching, educators honor their religious heritage and foster a sense of responsibility and respect for knowledge in their students.

The integration of Artificial Intelligence (AI) into Islamic curriculum education offers promising opportunities to improve learning experiences and tackle educational challenges. AI tools enable personalized learning by customizing educational content to individual needs and offering immediate feedback (Salem, 2024). In addition to enriching students' education, AI prepares them for a rapidly evolving world, helping them develop essential skills such as critical thinking, problem-solving, and digital literacy (Indrayani et al., 2024). To fully capture on these benefits, it is essential to provide teachers with proper training to build their confidence in using AI technology (Haryono et al., 2024). Furthermore, ensuring that these technologies align with Islamic values and preserve the tradition of *sanad 'ilm* is crucial (Siddiqui, 2024; Hamid & Bakri, 2023). Focusing on these factors will not only improve teaching methods but also offer students a more meaningful and relevant learning experience.

Adapting Artificial Intelligence (AI) into Islamic curriculum education presents several challenges. One significant issue is the limited access to technology (Rusmala et al., 2024). In many Islamic educational institutions, particularly in rural or economically disadvantaged areas, there is a lack of infrastructure to support AI tools (U. H. Salsabila et al., 2022), such as reliable internet connectivity, modern computers, and adequate training resources. This technological gap can prevent both students and teachers from fully utilizing AI tools. Additionally, some educators may be reluctant to adopt AI due to unfamiliarity with the technology or concerns about its effectiveness in teaching complex Islamic concepts (Haryono et al., 2024). As a result, many educators may continue to rely on traditional teaching methods.

Resolving this challenge offers many advantages. It will empower educators to adopt modern teaching approaches (Kim, 2023), enhancing student outcomes by creating more interactive and personalized learning experiences (Contrino et al., 2024; Dave, 2024). Moreover, it will help close the technological gap (Murgatroyd, 2024), ensuring that students in Islamic schools remain aligned with the increasing role of AI in global education. In the long term, overcoming this barrier will not only improve educational practices but also contribute to developing a future generation proficient in technology and deeply rooted in Islamic teachings.

This article focuses on exploring the integration of Artificial Intelligence (AI) into Islamic curriculum education, addressing the opportunities and challenges it entails. By conducting an integrative literature review, the study seeks to examine existing research to uncover ways AI can be utilized effectively while upholding Islamic principles. The discussion aims to introduce new perspectives by identifying AI tools that align with the needs of Islamic education. Ultimately, this article provides valuable strategies for educators and policymakers to incorporate AI into Islamic teaching and tackle modern educational challenges.

Methods

This study employs a qualitative approach using an integrative literature review to evaluate, critique, and synthesize existing research, aiming to generate new insights (Snyder, 2019). This method was chosen for its ability to go beyond summarization, enabling a deeper exploration of how Artificial Intelligence (AI) influences Islamic curriculum education by combining findings from diverse studies.

Data was collected using Open Knowledge Maps (https://openknowledgemaps.org/) with the keywords "Artificial Intelligence and Islamic Curriculum Education." From the search results, five articles published in the last five years were selected. These articles were chosen because they focus on how AI can be integrated into Islamic education and its impact on teaching and learning. The data sources include peer-reviewed journal articles, books, and other academic materials, providing reliable information for the study.

The selected articles were reviewed to find common themes, such as AI's role in education, challenges in using AI, and how AI can align with Islamic values. The information from these articles was organized and combined to create a clear understanding of the topic.

This approach ensures that the study reflects the current state of knowledge about AI in Islamic education. By analyzing existing research, this study aims to provide useful insights for educators and policymakers on how AI can be used effectively while staying true to Islamic values.

Result

Artificial Intelligence (AI) has played a transformative role in education, particularly within the realm of Islamic education. As Islamic schools and educators work to incorporate modern technology into their curricula, it is essential to explore both the opportunities and challenges that AI presents. Using Open Knowledge Maps, five articles relevant to the integration of AI in Islamic curriculum education were selected. These articles, published within the past five years, focus on AI's impact on educational practices, highlighting challenges, opportunities, and pedagogical implications. They also provide insights into how traditional Islamic curricula are being adapted to align with modern AI-driven learning tools. A detailed breakdown of the articles is provided below.

Author	Title	Method	Key Findings
Hernawati et al. (2024)	Adjusting the Ideal Islamic Religious Education Curriculum to the Development Of AI-Based Technology	Library Research	Integrating Artificial Intelligence (AI) into Islamic religious education comes with both advantages and disadvantages. On the positive side, AI enhances learning by offering flexibility, enhancing student independence, minimizes errors, providing quick access to educational resources, and acting as a learning discussion partner. However, it also presents challenges, including promoting laziness, reducing creativity and critical thinking, increasing reliance on technology, complicating material validation, and raising concerns about data privacy and security.
Shodikun, (2024)	Integrating Artificial Intelligence (AI) into the Islamic Education Curriculum	Literature Review	Integrating Artificial Intelligence (AI) into the Islamic education curriculum is a crucial step toward improving the effectiveness of Islamic education in the digital age. AI technology allows for personalized learning that addresses individual needs, making the educational experience more engaging and interactive. Furthermore, it helps create a curriculum that adapts to modern developments while reinforcing Islamic values.
Irsyad & Zakir, 2023	Transformasi AI dan Kurikulum; Tantangan Pendidikan Islam menghadapi Abad ke- 21	Library Research	The integration of Artificial Intelligence (AI) into the Islamic Education curriculum brings both opportunities and challenges. Interviews and observations indicate that many educators and students struggle to keep up with rapid digital advancements, while others recognize the efficiencies technology offers. To address these challenges, collaboration between society and government is crucial in developing skilled human resources and ensuring access to the necessary technology and infrastructure.
Rohiem & Salsabila, (2024)	The Ethical Influence of Artificial Intelligence (AI) in Religious Education: Implications, Challenges, and Innovative Perspectives on the Merdeka Curriculum	Case Study	The ethical implications of Artificial Intelligence (AI) in religious education are significant, offering both challenges and new opportunities within the Merdeka curriculum. While AI can enhance religious learning through a variety of digital resources, it is important to address ethical concerns, privacy issues, and the way religious values are conveyed. A key challenge lies in integrating AI in a manner that preserves meaningful human interaction and respects diverse beliefs.
Mahmudulh assan et al. (2024)	Artificial Intelligence in Multicultural Islamic Education: Opportunities, Challenges, and Ethical Considerations	Literature Review	Artificial Intelligence (AI) has the potential to significantly enhance Islamic education by making learning more personalized and accessible for students. It helps teachers in preparing lessons, assessing student progress, and encouraging innovative teaching methods. AI can also translate the Quran and Hadith into various languages, expanding access to Islamic knowledge. However, ethical concerns need to be carefully managed, such as ensuring that AI aligns with Islamic values, remains unbiased, and preserves the vital relationship between teachers and students.

Discussion

Challenges and Barriers in Integrating Artificial Intelligence (AI) into Islamic Curriculum Education

There are several key challenges and barriers that could prevent the effective integration of Artificial Intelligence (AI) into Islamic curriculum education. One major concern is the potential for AI to make students overly dependent on technology, reducing their active participation in learning. Herawati et al. (2024) highlight that such reliance on AI tools might lead to students becoming passive learners, less engaged in the educational process. Zhang (2024) also notes that the use of AI by students could be viewed negatively by educators, peers, and society, creating anxiety about being perceived as lazy, dishonest, or lacking intellectual ability. Furthermore, AI often emphasizes memorization over the development of critical thinking and creativity, which could limit the growth of essential skills like problem-solving and analytical thinking (Zhang, 2024). These challenges emphasize the need for careful planning and management when integrating AI into Islamic education.

A significant barrier to integrating AI into Islamic education is the lack of technological infrastructure. Many schools, especially those in rural areas, face challenges due to limited resources, such as unreliable internet access and insufficient equipment (Irsyad & Zakir, 2023). Islamic educational institutions also struggle with issues like community skepticism, an overloaded curriculum, low graduate competitiveness, inadequate facilities, and technological shortcomings (Rahman & Akbar, 2021). These obstacles are further worsened by the differences in digital literacy, as both students and educators need additional training to effectively use AI tools (Irsyad & Zakir, 2023; Shodikun, 2024). Furthermore, funding challenges make it difficult for schools with limited resources to maintain and upgrade AI systems, slowing their broader adoption (Shodikun, 2024).

In addition to challenges related to infrastructure and digital literacy, ethical concerns play a key role in the discussion. Mahmudulhassan (2024) and Rohiem & Salsabila (2024) emphasize the potential for AI to reduce human interaction, which is a critical aspect of Islamic education that relies on strong teacher-student relationships. In Islamic education, the bond between students and teachers is essential, as it ensures the implementation of concepts like *Robithoh* (the connection between students and teachers) and *Ta'aluq* (attachment or relationship) (Resky & Suharyat, 2024). These connections are vital for ensuring that the knowledge shared is trustworthy and can be properly accounted for.

The ethical considerations of incorporating AI into religious education include ensuring that AI systems align with Islamic principles, such as distinguishing between halal and haram (Mahmudulhassan, 2024). Additionally, the handling of large amounts of sensitive student data by AI systems raises concerns about privacy and data security, emphasizing the need for compliance with regulations (Shodikun, 2024; Rohiem & Salsabila, 2024). These challenges highlight the importance of adopting a balanced approach that integrates AI into Islamic curriculum education while prioritizing human-centered, ethical, and secure practices.

Promising Opportunities in Integrating Artificial Intelligence (AI) into Islamic Curriculum Education

The integration of Artificial Intelligence (AI) into Islamic education brings significant opportunities that can enhance the learning experience, improve accessibility, and administrative efficiency. According to Hernawati et al. (2024), AI facilitates a flexible learning environment, enabling students to access educational materials easily and engage in personalized learning, which aligns with modern, student-centered approaches. This flexibility encourages critical thinking and curiosity, while also supporting individualized learning that meets each student's needs, as noted by Irsyad and Zakir (2023). Both studies emphasize how AI improves greater learning independence by providing tools and resources for self-directed exploration. While Hernawati et al. (2024) and Irsyad and Zakir (2023) highlight the benefits of AI in creating a flexible, student-centered learning environment, this approach raises concerns when applied to Islamic education, particularly regarding the concept of *sanad*, which ensures the authenticity and integrity of religious teachings. Therefore, the role of teachers remains crucial in guiding the use of this new technology to maintain the accuracy and reliability of knowledge (Celik et al. 2022). Although AI can support learning, the teacher's role, grounded in *sanad*, is essential to ensure that students not only have access to vast information but also receive proper guidance aligned with authentic Islamic teachings.

AI algorithms are highly effective in identifying and correcting errors, providing valuable feedback that helps educators address misconceptions and offer personalized support (Hernawati et al., 2024; Mahmudulhassan et al., 2024). The rapid processing capabilities of AI allow for efficient assessments and prompt feedback, leading to improved educational outcomes. Additionally, AI-driven chatbots and virtual assistants, as noted by several authors, act as interactive learning companions, enhancing student engagement and collaboration while offering immediate assistance (Shodikun, 2024; Mahmudulhassan et al., 2024).

Innovations like AI modeling of the Quran and Natural Language Processing (NLP) have revolutionized the translation of Islamic texts, enabling broader accessibility to Islamic teachings worldwide (Mahmudulhassan et al., 2024). These advancements align with Islamic educational principles, emphasizing the harmonious integration of technology to uphold core values (Shodikun, 2024). However, to make the most of these opportunities, it is important to address key challenges like making technology accessible to everyone, giving teachers proper training, and building strong infrastructure (Irsyad and Zakir, 2023).

AI technologies, like Quran modeling and Natural Language Processing (NLP), help make Islamic teachings more accessible by translating the Quran and Hadith into different languages. However, this needs to be done carefully because translating the Quran is a complex task that requires skilled experts, especially for non-Arabic speakers (Nurrahman, 2024). To keep the teachings accurate and meaningful, it's important for qualified scholars to guide the translation process. While AI makes Islamic knowledge easier to access, it also helps develop important modern skills and creates a more informed Muslim community.

Pedagogical Implications of integrating Artificial Intelligence (AI) into Islamic Curriculum Education.

Integrating Artificial Intelligence (AI) into Islamic education requires adapting teaching methods to improve learning outcomes. Hernawati et al. (2024) highlight the need to teach students about AI, including its ethical implications and potential impacts, to ensure its use aligns with Islamic principles. Similarly, Shodikun (2024) explains how AI tools, such as educational apps and virtual tutors, can provide personalized support, helping students understand complex Islamic concepts more effectively. According to Rohiem and Salsabila (2024), AI-powered chatbots give students 24/7 access to information on Islamic teachings and moral values, offering instant answers to their questions. Irsyad and Zakir (2023) note that the post-COVID-19 transition to digital education has encouraged educators to use AI for creating engaging learning materials and simplifying administrative tasks. This includes intelligent tutoring systems

that provide real-time support, allowing for more flexible and interactive learning experiences (Mahmudulhassan et al., 2024).

While AI technologies offer personalized learning support, they may lack the spiritual and moral depth inherent in traditional teaching methods (Mappanyompa et al., 2024). Islamic education places great value on direct mentorship from knowledgeable teachers (Zahrani & Muthahari, 2024), as this ensures students gain a thorough understanding of the teachings and learn how to apply them in daily life. Therefore, AI should be used to complement, not replace, traditional methods, with a strong focus on preserving the authenticity of religious teachings through the sanad.

Integrating AI into Islamic education comes with challenges, including differences in technological skills among educators and students, as well as ethical concerns related to data privacy and alignment with Islamic principles (Shodikun, 2024). To address these challenges, it is essential to provide thorough training for educators, who are the core of Islamic education (Taufik & Rindaningsih, 2024). This training should prepare them with both technical expertise and an understanding of the ethical aspects of AI use (Mahmudulhassan et al., 2024). Skilled teachers proficient in technology will play a vital role in preserving the sanad—a centuries-old chain of knowledge. Such training also helps educators shift from being simple providers of information to facilitators, guiding students through the complexities of religious education (Rohiem & Salsabila, 2024).

Conclusion

The study identifies both challenges and opportunities in integrating Artificial Intelligence (AI) into Islamic curriculum education. Challenges include potential overdependence on technology, limited technological infrastructure, varying levels of digital literacy, ethical concerns around data privacy, and the reduced role of human interaction in education. On the other hand, AI offers valuable opportunities, such as enabling personalized learning, improving access to Islamic teachings, and assisting educators in providing quick feedback.

The findings emphasize the need for a balanced approach that integrates AI while safeguarding the authenticity of religious knowledge through the concept of sanad 'ilm, which ensures the integrity of knowledge transmission in Islamic education. Proper training for educators is essential to help them effectively use AI tools as a complement to traditional teaching methods, maintaining their crucial role as mentors and guides.

The advancement of Islamic education should utilize AI to promote critical thinking, creativity, and student engagement while respecting ethical standards and Islamic principles. Thoughtful integration of AI can improve educational outcomes, address modern learning needs, and develop a well-informed Muslim community that stays grounded in faith and tradition.

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