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The Future of Islamic Education in the Age of Artificial Intelligence: Trends and Implications

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Abstract

The development of artificial intelligence (AI) has brought significant changes to the global education landscape, including Islamic education which is based on the formation of balanced individuals from intellectual, moral and spiritual aspects. This article aims to explore current trends in the use of AI in education and analyze its implications for the Islamic education system, particularly in terms of curriculum, pedagogy, the role of teachers, and ethical issues. Through a conceptual analysis approach based on the latest literature, this study found that AI has the potential to improve learning effectiveness through adaptive learning, smart content and data-based assessment. However, the integration of this technology requires changes in curriculum design, strengthening teachers' digital literacy, and the development of pedagogy that maintains the elements of tarbiah and human relationships in the educational process. In addition, several challenges have been identified, including the validity of digital religious resources, the protection of student data privacy, technology access gaps, and the risk of reducing human values in learning. In this regard, this article proposes the development of Islamic education policies based on technological ethics, continuous professional training of teachers, and the development of AI applications that are in line with the values of maqasid syariah. Overall, Islamic education's preparedness for the AI era requires a balanced approach between technological innovation and the preservation of Islamic educational values to ensure the sustainability of a relevant and competitive education system.

Keywords: Islamic Education, Artificial Intelligence in Islamic Education, Transformation of Islamic Education, Technology-Based Islamic Education Curriculum, Digital Pedagogy, Technology Ethics in Islamic Education

Introduction

The development of global education in the 21st century shows rapid changes in line with the advancement of digital technology and artificial intelligence (AI). Education systems in various countries are now moving towards data-driven learning, automation of teaching processes, and the use of smart analytics to improve the effectiveness and efficiency of learning (Saad et. al., 2025). This approach is in line with the demands of the Industrial Revolution 4.0 which emphasizes the capabilities of technology in supporting personalized

learning, systematic education management, and the production of competitive human capital in the digital economy. In the context of global education, AI is increasingly accepted as a new driver of transformation that has the potential to improve learning management efficiency, personalize student experiences and support teachers in making data-based pedagogical decisions (Hermawan, W. et. Al., 2025). This phenomenon has made education move towards a smart learning ecosystem that relies on automation and digital analytics. However, these changes also have profound implications for the philosophy and goals of education, especially when efficiency, speed and measurable results are made the main benchmarks of educational success.

In this context, value-based education is faced with increasingly complex challenges. Education is not just a process of transferring knowledge and skills, but also aims to form individuals who are intellectually, emotionally, socially and morally balanced. The emergence of AI in education has the potential to create tension between technological automation approaches and humanistic education that emphasizes human relationships, meaning-making, and character formation (Hassen, M. Z., 2025). The use of intelligent systems that rely too much on algorithms and data risks reducing meaningful interactions between educators and students, thus affecting the process of forming values and humanity in education (Abimbola, C. et. al., 2024). This situation raises critical questions about the extent to which technology can be integrated without eroding the foundations of education that are centered on holistic human development. Therefore, discussions about AI in education cannot be limited to aspects of technical effectiveness alone, but rather need to assess its implications for the values, ethics and basic purposes of education itself

Internationally, AI has been used to develop smart tutor systems, adaptive learning applications, automatic assessments and real-time student performance analysis platforms. AI's ability to adapt content according to individual ability levels makes the learning process more flexible and focused on student needs (Lestari et al., 2024). At the same time, the use of AI has also changed the role of teachers from information providers to learning facilitators who manage human and technological interactions in a balanced manner (Annisa & Nurdin, 2024). This transformation indicates that future education is no longer entirely dependent on traditional methods, but rather requires the integration of smart technology as a main support tool.

However, this development also has major implications for value-based education systems, especially Islamic education. Islamic education is not just about producing knowledgeable students, but also emphasizes the formation of balanced individuals in terms of faith, morality, intellect and social aspects. The tarbiah tradition in Islamic education emphasizes the relationship between the teacher and the student, the transfer of knowledge based on narrations and the formation of manners as the core of the effectiveness of education (Ramli et. Al., 2025). Therefore, the entry of AI into the learning space raises questions about the extent to which this technology can be integrated without eroding the humane and spiritual spirit of Islamic education (Hakim et al., 2024). At the same time, today's generation of students is a digital generation that is accustomed to smart devices, interactive applications and quick access to information. The integration of AI into Islamic education is no longer an option, but rather a strategic necessity to ensure that this system remains competitive and attractive to students (Annisa & Nurdin, 2024; Wan Anuar & Hamzah, 2024).

If Islamic educational institutions do not adapt their teaching approaches to this reality, there is a risk that Islamic education will be seen as less relevant to current needs.

Several recent studies have shown that AI has the potential to support the learning of Islamic knowledge through voice recognition-based Quran teaching applications, automatic tajwid reading review systems, interactive fiqh learning platforms, and digital hadith content analysis. This approach can expand access to Islamic knowledge resources and provide more systematic self-learning (Lestari et al., 2024; Mustoip et al., 2023). In fact, AI can also support the management of Islamic character education through continuous monitoring of students' character development (Mustoip et al., 2023). However, the use of AI in Islamic education is not without major challenges. Among the main issues is the risk of misunderstanding in religious teachings due to over-reliance on automated systems without the guidance of authoritative teachers (Achruh et al., 2024). There is concern that AI could influence the way students interpret religious texts literally without understanding the real context, thus opening the way for misunderstandings in faith and practice (Hakim et al., 2024). In addition, the reduction of direct interaction between teachers and students also has the potential to weaken the tarbiah element that has been the foundation of Islamic education.

Ethical aspects are also an important concern. The use of AI requires extensive collection of student data, thus raising issues of privacy, information security and possible algorithmic bias. In the context of Islamic education, any application of technology must be in line with the principles of justice, trust and protection of human dignity. Therefore, the integration of AI without clear ethical guidelines can undermine public trust in Islamic educational institutions (Achruh et al., 2024). In addition, the gap in technological infrastructure and the level of digital literacy among teachers also poses a challenge to the comprehensive implementation of AI. Studies show that some teachers still lack skills in using smart technology, while internet facilities and digital equipment in some Islamic educational institutions are still limited (Wan Anuar & Hamzah, 2024; Wong & Ibrahim, 2024). These constraints indicate that the transformation of Islamic education based on AI is not just a technological issue, but also involves the development of human capacity and policy support.

The emergence of AI has demanded the need to adapt the content of the Islamic education curriculum so that students not only master religious knowledge, but also have digital literacy, critical thinking and an understanding of technological ethics. The future Islamic education curriculum also needs to be designed flexibly to integrate smart technology without neglecting the values of maqasid syariah and the goal of forming balanced individuals (Lestari et al., 2024; Muslimin, 2025). Updating the content of the Islamic education curriculum with the integration of AI can improve the quality of teaching and prepare students to face social and technological challenges, while maintaining religious values.

Despite the significant increase in research on the use of artificial intelligence in education, most of the existing discussions focus on technical aspects, system effectiveness, and technology acceptance in the context of general education. Studies that focus specifically on Islamic education are mostly descriptive or limited to specific applications, without in-depth conceptual analysis of the implications of AI on curriculum structure, pedagogical approaches, and overall value development. In addition, discussions linking the use of AI to the principles of *tarbiyyah* and the maqasid syariah framework are still relatively limited,

while both elements are core to the philosophy of Islamic education. This deficiency indicates a gap in the literature that requires more systematic and integrated research.

In this regard, this article aims to fill this gap by conceptually analyzing the implications of the use of AI on Islamic education from the perspectives of curriculum, pedagogy, and values. This discussion not only assesses the potential and challenges of technology, but also emphasizes the need to maintain the elements of tarbiah and the principles of maqasid syariah in the process of integrating AI. By providing an initial framework for discussion based on the latest literature and the values of Islamic education, this article is hoped to be a reference for educators, policymakers and educational institutions in planning the integration of AI in a more ethical, balanced and human development-based manner.

Fundamentals of Islamic Education in Contemporary Context

Islamic education basically aims to form a balanced and comprehensive person, encompassing intellectual, spiritual, emotional and social dimensions based on the teachings of the Quran and Sunnah. This goal emphasizes the development of people as servants and caliphs of Allah, who are not only knowledgeable but also have morals, manners and moral responsibilities in social life. Therefore, Islamic education cannot be understood separately from the values of monotheism, maqasid syariah and the development of a holistic Muslim personality (Rhendica & Budianto, 2024)

In the contemporary context characterized by the development of digital technology and artificial intelligence (AI), this foundation of Islamic education is facing new challenges. Digital transformation has changed the way knowledge is conveyed, accessed and assessed, thus influencing the philosophy and pedagogical practices of Islamic education. However, this change should not change the main purpose of Islamic education, but rather should be seen as a space to strengthen the implementation of Islamic values in a modern environment (Muslimin, 2025; Liriwati, 2023). One of the main characteristics of Islamic education is the tarbiah pedagogical approach that emphasizes the relationship between murabbi and mutarabbi. In this tradition, teachers are not just transmitters of knowledge, but act as guides, qudwah and shapers of character.

The teaching and learning process occurs through continuous interaction that builds trust, manners and spiritual awareness in students. This approach is seen as different from technocratic pedagogy that is too focused on results and efficiency alone (Renda Ratna et al., 2021). However, the emergence of AI technology in education has significantly changed the pedagogical landscape. AI has the potential to support adaptive learning, automated assessment and more systematic learning management. Studies show that AI can improve teacher efficiency and provide a more individualized learning experience (Kudriani et al., 2023; Ting & Norman, 2024). In Islamic education, this potential can be harnessed to support the learning of the Quran, fiqh and morals, as long as its use is guided by Islamic values and ethics.

However, the uncontrolled use of smart technology risks eroding the human element of tarbiah. Excessive reliance on automated systems can reduce spiritual interaction between teachers and students, thus affecting the process of forming manners and character. Therefore, scholars emphasize that AI should function as a support tool, not a substitute for

the role of the murabbi in Islamic education (Achruh et al., 2024; Hakim et al., 2024). The need to maintain spiritual values in a modern technological environment is an important issue in Islamic education today. Values such as trust, honesty, responsibility and simplicity need to be applied in the use of educational technology, including AI. This includes awareness of the ethics of data use, the authenticity of knowledge and moral responsibility in producing and disseminating information (Rhendica & Budianto, 2024). Islamic education plays a role in educating students to be critically and ethically technologically literate, not just technically competent.

At the same time, Islamic education teachers are also faced with demands to improve their digital literacy and ability to integrate technology meaningfully. Empirical studies show that teachers' readiness for AI is influenced by perceived benefits, attitudes and institutional support (Meivawati et al., 2025). Without adequate training and guidance, technology integration risks becoming superficial and not contributing to the true tarbiah objectives. In addition, the Islamic education curriculum needs to be designed flexibly to balance the mastery of religious knowledge and the needs of 21st century skills (Liriwati, 2023; Lestari et al., 2024). AI-based curriculum transformation has the potential to support more relevant and contextual learning, but its implementation needs to be based on the principles of maqasid syariah so as not to deviate from the original purpose of Islamic education.

The foundations of Islamic education in a contemporary context require a balanced approach between the preservation of spiritual values and the acceptance of modern technology. Islamic education needs to remain centered on tarbiah and human development, while utilizing technological advances such as AI in an ethical and controlled manner. This approach is important to ensure that Islamic education remains relevant, competitive and capable of producing a generation of Muslims who are knowledgeable, moral and resilient in facing the challenges of the digital era. Although Islamic education is based on strong values and traditions of tarbiah, the reality of today's education demands openness to technological innovations that have the potential to support the teaching and learning process. Therefore, understanding the AI trend in education is important to identify the extent to which smart technology can be meaningfully integrated without compromising the foundations and purposes of Islamic education.

AI Trends in Education and Potential Integration in Islamic Education

The development of artificial intelligence (AI) in the field of education is accelerating in line with the emergence of the concept of Education 4.0. In the context of global education, AI is widely used through adaptive learning systems, smart tutors, learning analytics and smart content generation tailored to the individual needs of students (Muslimin, 2025; Achruh et al., 2024). AI no longer functions simply as a technological support tool, but has become the main catalyst for the transformation of teaching and learning methods to be more adaptive, interactive and data-based. One of the main trends in AI in education is adaptive learning, which is an approach that allows learning systems to adjust content, pace and delivery methods based on the ability level and learning style of students. Studies show that adaptive learning based on AI is able to increase student engagement and achievement because the learning experience becomes more personal and relevant (Lestari et al., 2024; Rubini & Herwinsyah, 2023). Through continuous analysis of learning data, AI is able to

identify student strengths and weaknesses and provide more targeted learning recommendations.

In addition, the development of smart content is another significant trend in the use of AI in education. Smart content refers to digital learning materials that can generate automatic feedback, change the difficulty level of questions, and provide self-training based on student performance. In the context of Islamic education, smart content has the potential to be used for teaching the Quran, tajwid, fiqh, and akhlak through interactive modules that utilize voice recognition, natural language processing, and machine learning (Mustoip et al., 2023; Annisa & Nurdin, 2024). Optimal use of digital learning materials from AI can enhance students' learning experiences, thereby increasing engagement and motivation. The use of AI is also increasingly prominent in the aspect of monitoring and evaluating learning. In Islamic education, this function can be used to continuously monitor students' mastery of Quran recitation, understanding of the concept of faith, and their personality development, without neglecting the role of teachers as the main guide (Rubini & Herwinsyah, 2023; Hakim et al., 2024). AI applications are able to provide immediate and more consistent feedback compared to manual assessments, thus helping teachers identify student progress more systematically.

However, the integration of AI in Islamic education needs to be implemented with caution. Studies have shown that the use of AI without ethical control can pose a risk of religious misunderstanding, especially when students rely too much on automated systems without the guidance of authoritative teachers. AI has the potential to deliver religious information literally without context, which can undermine a deep understanding of Islamic principles (Hakim et al., 2024). Therefore, the role of teachers as murabbi and content filter remains critical in ensuring the validity and accuracy of the knowledge conveyed. In the context of Islamic educational institutions, the potential for AI integration also depends on the level of readiness of teachers and students. Studies on the acceptance of AI among students and teachers show that positive attitudes, institutional support and the quality of AI applications influence the effectiveness of its use in the teaching and learning process (Ahad, 2024; Wan Anuar & Hamzah, 2024). Lack of training, digital divide and limited infrastructure have been identified as major challenges in fully realizing the potential of AI.

In addition, the integration of AI in Islamic education needs to be aligned with Islamic values and ethics. Aspects of data privacy, algorithmic fairness and system transparency need to be given attention so that the use of AI does not conflict with the principles of trust and justice. This approach requires collaboration between educators, technology experts and Islamic scholars to develop AI applications that are value-based and appropriate to the context of Islamic education (Achruh et al., 2024; Wong & Ibrahim, 2024). The trend of AI in education opens up great opportunities for Islamic education to improve the quality of learning through adaptive learning, smart content and data-based assessment systems. Although AI offers various opportunities to improve the quality of learning through adaptive approaches and smart content, its application in Islamic education cannot be separated from broader implications. Therefore, the following discussion will critically examine the impact of the use of AI on the curriculum and pedagogy of Islamic education, in addition to examining the ethical and social challenges that need to be addressed to ensure the integration of this technology occurs responsibly.

Discussion

The development of artificial intelligence (AI) in education has brought significant implications for curriculum design and pedagogical approaches, including in the context of Islamic education. Islamic education curricula traditionally focus on mastery of naqli and aqli knowledge and the formation of morality, but the digital education landscape demands content adaptation to be more responsive to technological changes and current student needs. AI-based curriculum transformation emphasizes the need to include digital skills, data literacy and an understanding of technological ethics as part of learning outcomes without neglecting the goals of tarbiah (Liriwati, 2023). This approach allows Islamic education curricula to remain relevant and able to prepare students to face the challenges of the digital world ethically.

From a pedagogical perspective, the use of AI has changed teaching methods from teacher-centered to more adaptive and student-centered learning. AI-based smart learning systems are able to provide graded content, immediate feedback and self-learning support, thus helping teachers adapt teaching according to the individual needs of students (Lestari et al., 2024). In Islamic education, this approach has the potential to support more interactive learning of the Quran, jurisprudence and morality, but the role of the teacher as a murabbi remains important to ensure that the learning process is not purely mechanistic (Muslimin, 2025). The role of Islamic education teachers has also changed in line with the use of smart technology. Teachers are no longer just conveyers of knowledge, but act as facilitators, value guides and filters of digital content. Teachers' ability to integrate AI meaningfully depends on their level of digital literacy, attitude and motivation towards new technologies (Senawi et al., 2025). Studies show that teachers who receive adequate training and infrastructure support are more prepared to apply AI creatively and ethically in teaching (Renda Ratna et al., 2021).

However, the integration of AI in Islamic education also raises ethical and social challenges that require serious attention. One of the main issues is the validity of digital religious resources. Religious content generated or supported by AI is at risk of being misinterpreted or not in accordance with the true context of Islamic teachings if not monitored by authorities. This situation can lead to a distortion of religious understanding among students (Hakim et al., 2024). Therefore, the involvement of Islamic scholars and educators in the development of AI-based digital content is very important to ensure the validity and integrity of knowledge. Data privacy issues are also a major concern in the use of AI in education. AI systems typically collect and analyze student data on a large scale for the purpose of personalizing learning. Without clear ethical guidelines, this practice can expose students' personal data to the risk of misuse and breach of trust (Wong & Ibrahim, 2024). In the context of Islamic education, data protection and algorithmic fairness need to be aligned with the values of trust and moral responsibility.

In addition, the technology access gap remains a major challenge, especially for Islamic educational institutions in rural or low-income areas. Inequality of access to digital infrastructure and smart devices can create injustice in learning opportunities, thus affecting efforts to transform Islamic education as a whole (Annisa & Nurdin, 2024). This situation shows that the application of AI is not just a pedagogical issue, but also involves the social and educational policy dimensions. Another risk that needs to be addressed is the possibility of reducing the human element in education. Overreliance on automated systems has the

potential to reduce emotional interaction, empathy and spiritual connection between teachers and students. Islamic education, which emphasizes manners, role models and human relationships, cannot be completely replaced by technology (Mustoip et al., 2023). Therefore, AI needs to function as a supporting tool that reinforces, not replaces, the role of humans in education.

The implications of AI for the curriculum and pedagogy of Islamic education demonstrate the need for a balanced approach between technological innovation and the preservation of values. At the same time, ethical and social challenges demand careful planning, ethical guidelines and comprehensive policy support. This integrated approach is essential to ensure that Islamic education continues to play a role in shaping knowledgeable, moral and responsible individuals in the era of artificial intelligence.

Conclusion

To ensure that Islamic education remains relevant in the era of artificial intelligence (AI), the future direction needs to move simultaneously on three main axes: clear institutional policies, empowerment of teacher competencies, and development of technologies that comply with Islamic values. First, from a policy perspective, Islamic educational institutions should develop policies for the use of AI that set goals, boundaries, review methods (*tabayyun*), and quality standards for digital religious content. This requirement is in line with the argument that the use of AI in Islamic Education requires guidelines based on a value framework (e.g. maqasid syariah) to curb the risks of inaccurate information, overreliance, and violations of academic ethics (Ahmad Taha et. Al, 2025). At the same time, policies need to emphasize the "AI as a support tool" approach, not a replacement, so that the role of the murabbi and the tarbiah process remains dominant.

Teacher training needs to be prioritized because the quality of AI integration depends largely on the pedagogical readiness of educators. Training is not limited to technical skills (using AI applications), but needs to include data literacy, design of AI-based learning activities, and skills in assessing the validity of information. Studies on digital transformation in Islamic education also emphasize that training and infrastructure support help teachers adapt technology without neglecting the balance of values and pedagogy. In addition, professional training needs to include an AI ethics module (autonomy, privacy, trust, responsibility) so that teachers can make pedagogical judgments that preserve student dignity and the integrity of knowledge.

The development of Islamic value-compliant technology needs to be driven by a three-party collaboration: educators, technology experts, and Islamic scholars. The focus is on developing intelligent content that supports learning such as reading review, step-by-step training, and immediate feedback, but is accompanied by control mechanisms such as authoritative references, cross-checking of sources, and markers of the level of confidence of answers. On the issue of chatbots and generative tools, research emphasizes the need to assess the potential and challenges of integrating AI chatbots in Religious/Islamic Education, including the risk of "convincing but wrong answers" that can mislead students if there is no verification process (Sholeh et.al., 2024). At the practical level, institutions can also establish "authentic resource repositories" (digital) for curriculum and PdP reference, in addition to periodic audits of AI-generated materials.

From an ethical and protection perspective, AI policies in Islamic education need to emphasize compliance with data privacy and student information security. AI ethics in education requires an ethical framework to address concerns of equity, transparency, and accountability, while addressing systemic bias, student privacy, and stakeholder responsibilities (Peddi, S., & Manoharan, G., 2025; Gartner, S., & Krašna, M., 2023). AI can modernize Islamic education by improving teaching effectiveness, personalizing learning experiences, and preserving traditional knowledge, but ethical integration is essential to maintaining religious values and human spiritual guidance (Ahmad, Z., 2025; Akgun, S., & Greenhow, C., 2022). With the rapid development of AI in teaching and learning, issues of ethics and student privacy as well as stakeholder responsibilities have emerged as important issues that need to be addressed.

In conclusion, Islamic education's readiness for the AI era demands a balanced strategy: embracing innovation to strengthen the quality of learning, while maintaining the spirit of education, the authority of knowledge, and the ethics of using technology. The success of AI integration is not measured by the use of applications alone, but by the extent to which it helps achieve the goals of Islamic education to form civilized, knowledgeable, and responsible individuals in an increasingly complex digital environment.

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