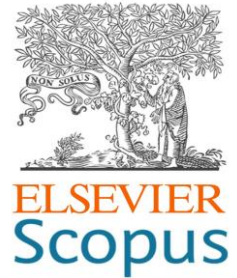


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The Role of Artificial Intelligence in Enhancing Pedagogical Methods in Modern Islamic Education

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Abstract: The rapid advancement of Artificial Intelligence (AI) has transformed numerous sectors, including Islamic education. This study explores AI's role in modernizing Islamic pedagogy by enhancing teaching effectiveness, personalizing learning experiences, and preserving traditional knowledge. Using qualitative methods, data were collected through interviews with scholars, teachers, and edtech developers in Islamic education, as well as through the analysis of AI-powered learning platforms. Thematic analysis revealed key benefits of AI, such as adaptive learning, automated administrative tasks, and increased student engagement via gamified Qur'anic applications and intelligent tutoring systems. However, significant concerns were raised regarding theological accuracy, data ethics, and the preservation of human spiritual mentorship. The study recommends that Islamic educational institutions adopt AI tools that have been vetted for theological soundness and ethical compliance.



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Educators should receive training to balance technological integration with human-centered pedagogy, while curriculum developers are encouraged to design flexible frameworks that incorporate AI without compromising Islamic values. Additionally, oversight mechanisms are recommended to ensure both ethical and theological integrity. This research offers valuable insights into the ethical integration of AI in faith-based education, providing practical guidance for policymakers, curriculum designers, and technology developers. It supports the enhancement of Islamic education in terms of quality, accessibility, and relevance in the digital age.

Keywords: Artificial Intelligence, Islamic education, digital pedagogy, ethical technology, faith-based learning.

人工智能在提升现代伊斯兰教育教学方法中的作用

摘要: 人工智能 (AI) 的快速发展改变了众多领域, 包括伊斯兰教育。本研究探讨了人工智能在现代化伊斯兰教育中的作用, 即提升教学效率、个性化学习体验和保护传统知识。研究采用定性方法, 通过访谈伊斯兰教育领域的学者、教师和教育技术开发者, 以及分析人工智能驱动的学习平台收集数据。主题分析揭示了人工智能的主要优势, 例如自适应学习、自动化管理任务, 以及通过游戏化的《古兰经》应用程序和智能辅导系统提高学生参与度。然而, 研究者对神学准确性、数据伦理以及人类精神导师关系的维护提出了重大担忧。本研究建议伊斯兰教育机构采用经过神学健全性和伦理合规性审查的人工智能工具。教育工作者应接受培训, 以平衡技术与以人为本的教学法之间的融合, 同时鼓励课程开发者设计灵活的框架, 在不损害伊斯兰价值观的情况下融入人工智能。此外, 还建议建立监督机制, 以确保伦理和神学的完整性。这项研究为人工智能在宗教教育中的伦理融合提供了宝贵的见解, 为政策制定者、课程设计者和技术开发者提供了实用指导。它有助于提升伊斯兰教育在数字时代的质量、可及性和相关性。

关键词: 人工智能、伊斯兰教育、数字教育学、伦理技术、基于信仰的学习

1. Introduction

The 21st century has witnessed an unprecedented surge in digital innovation, with Artificial Intelligence (AI) emerging as one of the most transformative forces in education. AI technologies, ranging from adaptive learning platforms to intelligent tutoring systems, are reshaping pedagogical models across disciplines by enhancing personalization, accessibility, and administrative efficiency [1]. In the context of Islamic education, these technological shifts present both unique opportunities and significant challenges. As a faith-based educational tradition deeply rooted in classical texts and spiritual mentorship, Islamic pedagogy calls for careful adaptation to ensure the coexistence of technological advancement and religious authenticity [2].

Despite the growing body of literature on AI in general education, research on its role in Islamic education remains limited and underdeveloped [3]. Existing studies often focus on e-learning or online Qur'anic instruction, with little attention to the integration of AI-specific technologies—such as natural language processing (NLP), machine learning, and

intelligent chatbots—into the modernization of Islamic pedagogy [4]. Furthermore, empirical research on the epistemological, ethical, and theological implications of AI in religious instruction remains scarce, despite the centrality of these concerns to Islamic educational philosophy [5].

As Muslim-majority countries increasingly invest in digital education and educational technology, there is an urgent need to develop models of Islamic education that are both technologically responsive and spiritually grounded [6]. With digital natives entering Islamic learning environments, institutions must meet learners' expectations for interactivity and accessibility while preserving the core principles of *tarbiyah* (the moral and spiritual nurturing central to Islamic pedagogy) [5]. Failing to strike this balance risks alienating youth from religious education or enabling AI applications to disseminate theological inaccuracies and culturally insensitive content [7].

Several studies have evaluated digital Islamic platforms, such as mobile Qur'anic applications and online hadith databases [8]. These tools primarily emphasize content delivery rather than AI-driven

personalization or pedagogical design. Emerging initiatives, including Islamic AI voice assistants and Qur'an-based chatbots, indicate growing interest in intelligent Islamic learning systems [9]. However, existing research often lacks integration with educational theory and pays insufficient attention to learner-centered outcomes and teacher adaptation strategies [10]. There is a need for further research to bridge this gap by examining AI's potential not merely as a technological tool, but as a catalyst for transformational religious learning.

Recent advancements in Artificial Intelligence (AI) have significantly impacted various sectors, particularly education. Within Islamic education, AI demonstrates considerable potential for enhancing pedagogical practices. As [11] notes, AI can personalize learning experiences through adaptive recommendation systems tailored to individual students' proficiency levels; this feature is especially valuable in Islamic education, where a personalized understanding of religious texts and teachings is essential. Furthermore, AI-driven data analytics provide actionable insights into learners' needs, supporting the development of more relevant and effective curricula in Islamic studies.

Artificial Intelligence (AI) can help address key challenges in Islamic education by providing virtual assistants capable of answering theological questions with accurate scriptural references, as highlighted by [12]. This enhances accessibility, particularly for learners in remote or underserved areas, and promotes a more nuanced global understanding of Islamic teachings. AI's role in education extends beyond technical enhancements, offering inclusive and adaptive learning opportunities across diverse levels of Islamic studies.

This study offers a novel contribution by systematically examining how AI technologies can be integrated into Islamic pedagogical practices to support learner engagement, adaptive instruction, and the preservation of Islamic epistemology. In contrast to prior research, which has largely focused on digital content access, this work explores how AI can be aligned with the *maqasid al-shari'ah* (the higher objectives of Islamic law) in educational contexts, specifically in fostering critical thinking, ethical reasoning, and spiritual development [13]. Grounded in both technological literacy and Islamic educational philosophy, the study enables a meaningful interdisciplinary contribution to the evolving discourse on faith-based education in the digital age.

The primary objective of this study is to examine the role of Artificial Intelligence (AI) in shaping contemporary Islamic educational practices. Specifically, the research aims to identify current applications of AI technologies in Islamic educational contexts, including intelligent tutoring systems, Qur'anic learning applications, and AI-powered administrative tools. Furthermore, it seeks to analyze the

key opportunities and challenges associated with integrating AI into Islamic pedagogy, with particular attention to personalization, accessibility, ethical considerations, and theological appropriateness. Finally, this study proposes a set of guiding principles for the effective and ethical integration of AI into Islamic educational frameworks, ensuring that technological innovation remains aligned with core Islamic epistemology and values.

The study offers practical insights for Islamic schools, curriculum developers, edtech startups, and religious scholars seeking to create AI-enhanced learning environments grounded in Islamic values. It contributes to the emerging field of Islamic digital pedagogy and supports broader efforts toward responsible AI integration in faith-based education. Additionally, the findings inform policy discussions on Islamic education reform, teacher training, and technology ethics in Muslim-majority societies.

2. Method

This study employed a qualitative, exploratory research design, which is well-suited to investigating emerging phenomena such as the integration of Artificial Intelligence (AI) into Islamic education. The qualitative approach enabled an in-depth exploration of how AI is perceived, utilized, and assessed within Islamic educational contexts, with particular attention to theological, pedagogical, and technological dimensions [14]. Given the novelty of AI in this domain, an exploratory design was essential for uncovering nuanced meanings and stakeholder experiences that cannot be fully captured through quantitative metrics alone [15].

Primary data were collected from Islamic education scholars, religious teachers, edtech developers, and curriculum designers actively involved in Islamic pedagogy and digital learning. Participants were selected through purposive sampling to ensure the inclusion of knowledgeable informants with relevant expertise [16]. The sample comprised individuals from Islamic educational institutions, Qur'anic learning platforms, Islamic universities, and AI-driven edtech startups across Southeast Asia and the Middle East.

The study employed a multi-method qualitative approach, combining the following data collection techniques:

a) Semi-structured interviews with 20 participants to explore their experiences, perceptions, and ethical considerations regarding the use of AI in Islamic education.

b) Document analysis of AI-integrated Islamic learning platforms, mobile applications, and institutional policy guidelines to assess pedagogical design and theological alignment.

c) Online ethnographic observation of selected Islamic AI platforms (e.g., AI Qur'an tutors, hadith bots, virtual Islamic classrooms) to examine patterns of user interaction and AI responsiveness in authentic

educational contexts [17].

All interviews were conducted via video conferencing and audio-recorded with participants' informed consent. Transcripts were anonymized to ensure confidentiality and adherence to ethical research standards.

The collected data were analyzed using thematic analysis, following six-phase method [18]: (1) familiarization with the data, (2) initial coding, (3) generating candidate themes, (4) reviewing and refining themes, (5) defining and naming themes, and (6) producing the final report. NVivo software was used to support coding and organize the qualitative data. Key themes identified include: personalization and learner engagement, authenticity of Islamic content, ethical dilemmas in automation, and institutional readiness for future AI integration.

To enhance trustworthiness, the study employed data triangulation, member checking with a subset of p

3. Results and Discussion

3.1. Emerging Applications of AI in Islamic Education

This study identified a range of AI applications currently in use within Islamic educational contexts. These include intelligent Qur'an recitation apps that provide real-time feedback, AI-powered hadith retrieval systems, and virtual tutors capable of answering theological questions through natural language processing. A prominent example is the integration of AI in *tajweed* (Qur'anic phonetics) applications, which detect pronunciation errors and deliver immediate corrective feedback. Participants emphasized that these tools enhance accessibility and enable personalized learning experiences, particularly for learners in remote or underserved regions.

These findings align with existing literature on the role of AI in adaptive learning [20] and confirm its growing utility in Islamic digital platforms [21]. However, participants also expressed concerns about the accuracy of theological interpretations and the absence of qualified religious oversight in certain AI-driven applications, highlighting the critical need for scholarly supervision during AI model training and content curation [22].

The integration of Artificial Intelligence (AI) into Islamic education has sparked a wave of innovation, gradually reshaping traditional pedagogical practices. As digital learning becomes increasingly prevalent in both Muslim-majority and Muslim-minority contexts, AI is being leveraged across a range of applications to enhance the delivery, accessibility, and personalization of Islamic knowledge.

3.1.1. Intelligent Qur'an Learning Systems

One of the most prominent applications of Artificial Intelligence (AI) in Islamic education is found in AI-powered Qur'an learning platforms. These tools

leverage machine learning and voice recognition technologies to support users in improving their *tajweed* (Qur'anic pronunciation) and recitation fluency. Applications such as QuranHero and Tarteel AI are capable of detecting recitation errors in real time and providing immediate corrective feedback. Such systems are particularly beneficial for self-directed learners, young children, and non-Arabic speakers [23]. The capacity of AI to analyze recitations, track individual progress, and dynamically adjust the difficulty level according to learner performance enhances the efficiency and engagement of Qur'anic memorization and mastery [24].

3.1.2. AI-Based Hadith Retrieval and Fatwa Systems

Another growing area is the development of AI-driven hadith databases and automated fatwa (religious ruling) platforms. These systems use natural language processing (NLP) and semantic search technologies to allow users to search for relevant hadiths or religious rulings by entering keywords or questions in natural language. Projects like the "AI Hadith Engine" aim to make the vast corpus of Islamic literature more accessible and navigable, particularly for scholars and students conducting research. However, concerns remain about the theological accuracy and contextual understanding of automated fatwa generators, emphasizing the need for human scholarly oversight [25].

3.1.3. Virtual Islamic Tutors and Chatbots

AI-powered Islamic chatbots are increasingly used to simulate conversational learning experiences, particularly within mobile applications and e-learning platforms. These chatbots respond to frequently asked questions about Islamic beliefs, practices, and history, providing an accessible entry point for beginners and younger learners. For instance, platforms such as AskMuslim AI offer structured responses to fundamental religious inquiries. Meanwhile, several Islamic institutions are developing personalized AI tutors capable of delivering daily Qur'anic lessons, prayer reminders, and supplications (du'a), enhancing spiritual engagement through routine interaction.

These systems foster learner autonomy and interactivity, especially in asynchronous or distance learning environments [26]. However, the risk of misinformation remains high without proper theological supervision and dataset curation.

3.1.4. Adaptive Learning Platforms and Gamification

Artificial Intelligence (AI) is increasingly integrated into adaptive Islamic e-learning platforms that assess learners' strengths and weaknesses to personalize content and adjust pacing accordingly. These platforms employ AI algorithms to recommend Qur'anic surahs, core Islamic concepts, and Arabic vocabulary tailored to individual learning trajectories. Gamified Islamic

learning environments, such as QuizIslam, MuslimKids Learning, and similar platforms, leverage AI to sustain learner engagement through point systems, progress badges, and interactive storytelling.

AI-enhanced gamification has been shown to improve motivation and knowledge retention, particularly among children and adolescents [27]. By blending educational content with engaging gameplay in a manner sensitive to Islamic values, these platforms make religious learning more accessible and appealing within a digital-first cultural context.

3.1.5. Administrative and Curriculum Support

Beyond direct instruction, Artificial Intelligence (AI) is increasingly applied to administrative and curriculum management in Islamic schools and *madāris*. For example, predictive analytics are used to monitor student attendance, identify at-risk learners, and suggest evidence-based intervention strategies. Some institutions have begun exploring AI for automated exam grading, adaptive content recommendation systems, and intelligent curriculum mapping tools designed to align instructional content with both learning outcomes and Islamic educational objectives.

These applications enable educators and administrators to dedicate more time to mentorship and spiritual guidance, reducing the burden of routine administrative duties [28].

The emerging applications of Artificial Intelligence (AI) in Islamic education are diverse, ranging from AI-powered Qur'anic tutoring and intelligent hadith retrieval systems to adaptive gamified platforms and virtual religious assistants. These tools reflect a growing trend toward digitization and personalization in religious learning, opening new pathways for learner engagement, knowledge retention, and global accessibility. However, their effective and ethical implementation hinges on close collaboration between technologists and Islamic scholars to ensure doctrinal accuracy, ethical integrity, and pedagogical appropriateness. As Islamic education enters the AI era, thoughtful innovation, deeply rooted in Islamic values and educational philosophy, will be essential to achieving both spiritual depth and digital excellence.

3.2. Opportunities for Pedagogical Transformation

Participants acknowledged the transformative potential of Artificial Intelligence (AI) to modernize traditional Islamic educational practices. AI-enabled platforms were praised for their capacity to deliver personalized content, assess learning progress through predictive analytics, and enhance student engagement via gamified interfaces. Educators noted that AI facilitates the automation of administrative tasks, thereby freeing time for deeper spiritual mentorship and meaningful classroom interaction.

These benefits align with broader trends in educational technology, where AI supports

personalization and improves learning outcomes [29]. Within the Islamic context, AI was found to bridge the gap between classical religious content and the expectations of contemporary digital learners, especially when integrated with mobile technologies and voice-activated tools. However, participants emphasized that pedagogical innovation must remain grounded in the *maqāṣid al-sharī'ah* (the higher objectives of Islamic law), particularly in fostering values such as humility (*tawāḍu'*), critical reflection (*tafakkur*), and spiritual growth (*tazkiyah*).

3.3. Ethical and Theological Challenges

While AI offers significant technical efficiency, its deployment in religious education raises profound ethical and theological dilemmas. Teachers and Islamic scholars expressed concerns about delegating spiritual authority to algorithmic systems. Some questioned whether AI chatbots should be authorized to respond to fatwa-related inquiries, citing risks of misinterpretation and the erosion of scholarly discretion. Others raised concerns about data privacy, particularly when AI systems collect sensitive information regarding students' religious beliefs, and behaviors.

These concerns resonate with broader critiques of AI ethics in religious contexts [30]. Participants emphasized that AI integration must be accompanied by robust theological oversight, algorithmic transparency, and clearly defined boundaries between automated processes and human guidance, especially in matters of creed (*'aqīdah*), jurisprudence (*fiqh*), and ethics (*akhlāq*). Failure to establish such safeguards risks theological inaccuracies, cultural insensitivity, and even *fitnah* (spiritual confusion or discord) in matters of faith.

While the integration of Artificial Intelligence (AI) into Islamic education offers transformative possibilities, it also introduces profound ethical and theological challenges that require critical examination to ensure alignment with Islamic values, educational principles, and epistemic traditions. The concerns raised by scholars, educators, and developers in this study highlight several pressing issues that call for timely, thoughtful, and contextually grounded responses.

3.3.1. The Delegation of Religious Authority

One of the most prominent concerns raised was the risk of delegating religious authority to algorithmic systems. AI-powered chatbots and automated fatwa engines, while efficient, are unable to replicate the nuanced reasoning, contextual sensitivity, and ethical discernment characteristic of qualified Islamic scholars (*'ulamā'*). The process of deriving legal rulings (*ijtihād*) and offering religious counsel requires a profound understanding of the *maqāṣid al-sharī'ah* (higher objectives of Islamic law), *uṣūl al-fiqh* (principles of Islamic jurisprudence), and the socio-cultural context – all of which remain beyond the capabilities of current AI systems [31].

Respondents cautioned that unmonitored AI could lead to the circulation of inaccurate, overly rigid, or unverified interpretations, potentially misleading users in matters of creed and practice. As noted by [32], delegating theological interpretation to non-human entities poses a serious epistemic and ethical risk that may undermine the role of traditional Islamic authority structures.

3.3.2. Doctrinal Authenticity and Dataset Integrity

Another significant concern centers on the authenticity and integrity of the data used to train AI systems. Many Islamic AI applications rely on open-source datasets and textual corpora that may include unverified hadiths, weak or contradictory interpretations, or sectarian bias. In the absence of scholarly oversight during dataset curation and annotation, AI outputs risk perpetuating theological inaccuracies or amplifying misinformation [33].

This issue is particularly critical when AI is tasked with summarizing or interpreting sacred texts. Participants emphasized the need for certified, peer-reviewed, and juristically diverse textual corpora to ensure that AI applications remain aligned with sound Islamic teachings and respect the legitimate diversity of scholarly opinion within the Muslim tradition [34].

3.3.3. Ethical Concerns: Privacy, Surveillance, and Manipulation

Beyond theological concerns, significant ethical challenges arise in the areas of data privacy, algorithmic transparency, and potential user manipulation. AI applications in education routinely collect extensive personal data, including behavioral patterns, learning preferences, and sensitive spiritual inquiries. Within religious contexts, such information is often regarded as sacred or deeply private, and its misuse may violate both legal norms and spiritual sanctity.

Participants voiced concerns about data mining and surveillance, particularly in state-sponsored or commercially driven AI platforms where profit or control may override user well-being. Furthermore, the opacity of many AI algorithms raises critical questions about accountability, especially when students receive personalized guidance or educational outcomes shaped by biased or discriminatory models [35].

Islamic ethical tradition emphasizes core principles such as *amānah* (trustworthiness), *maṣlahah* (public interest), and *ḥurmat al-insān* (human dignity), all of which must be rigorously upheld in the design, development, and deployment of AI technologies [36]. To this end, developers should adopt ethical-by-design frameworks that safeguard users' spiritual integrity, digital autonomy, and right to informed consent.

3.3.4. The Loss of Human Mentorship and Spiritual Presence

A subtler yet profoundly significant concern is the potential erosion of the human element in religious education. Islamic pedagogy has long emphasized the teacher-student relationship as a cornerstone of spiritual development [37]. Educators function not merely as transmitters of knowledge, but as moral exemplars, spiritual guides, and mentors.

Participants expressed concern that overreliance on AI could diminish opportunities for face-to-face guidance, reflective dialogue, and emotional support, thereby weakening the *tarbiyah* (moral and spiritual nurturing) at the heart of Islamic education. As argued in Christian educational contexts [38] and affirmed in Islamic pedagogical traditions [39], spiritual formation cannot be automated. While AI may enhance accessibility and engagement, it must not displace the relational, affective, and transformative dimensions of learning that are inherently human.

The ethical and theological challenges surrounding AI in Islamic education are both real and addressable. Central to resolving them is the development of interdisciplinary frameworks that bring together Islamic scholars, ethicists, AI developers, and educators. Such collaboration ensures that AI tools are not only technically effective but also theologically sound, ethically grounded, and pedagogically appropriate. Ultimately, the goal should be to design systems that enhance rather than replace the traditional structures of Islamic education, leveraging technology to serve faith, not to redefine it.

3.4. Institutional Readiness and Future Directions

The study also revealed significant disparities in institutional readiness. While some Islamic schools and higher education institutions are actively piloting AI tools, others lack the necessary infrastructure, faculty training, or administrative commitment to engage with emerging technologies. Several participants highlighted the digital divide and underscored the need for professional development in both technological literacy and Islamic pedagogical principles.

These findings reinforce existing calls in the literature for holistic edtech implementation strategies that incorporate capacity building, teacher training, and curriculum alignment with educational goals [40]. Participants advocated for the development of collaborative frameworks involving *'ulamā'* (Islamic scholars), educators, AI engineers, and policymakers to co-design AI-enhanced learning systems that are both pedagogically effective and theologically sound.

3.4. Comparative Analysis with Recent Studies

The findings of this study on the integration of Artificial Intelligence (AI) in Islamic education align with and extend recent developments in the field. A key area of convergence is the use of AI to enhance personalized learning experiences, particularly in Qur'anic recitation and theological studies. AI-powered

platforms such as QuranHero and Tarteel AI that are capable of providing real-time feedback on *tajwīd* (Qur'anic pronunciation) have gained recognition for their ability to adapt to individual learners' needs. These results mirror the findings of [11], who emphasized AI's potential to improve accessibility and engagement in Qur'anic learning, especially for non-Arabic speakers. Furthermore, AI's capacity to deliver personalized feedback helps bridge the gap between traditional pedagogical approaches and contemporary educational demands, reinforcing [12]'s argument about AI's role in fostering student collaboration and interaction in digital Islamic learning environments.

However, despite these technological advancements, both this study and recent literature highlight significant concerns regarding theological accuracy and the ethical implications of AI in Islamic education. The necessity of scholarly oversight in AI-driven platforms is underscored in [22], particularly when such tools are used to respond to theological inquiries or issue fatwas. The absence of expert supervision increases the risk of misinterpretation and doctrinal error; this concern is echoed by participants in this study. This challenge is further exacerbated by reliance on open-source datasets that may contain inaccuracies or sectarian biases, as noted by [33]. Ensuring doctrinal authenticity and ethical integrity in AI applications remains a critical priority for the development of Islamic educational technology.

Additionally, as noted in [32], AI's role in administrative tasks, such as automated grading, attendance tracking, and curriculum management, holds significant potential for enhancing operational efficiency in Islamic educational institutions. The findings of this study support this claim: participants reported that AI tools substantially reduced administrative workloads, enabling educators to dedicate more time to mentorship and spiritual guidance. However, the integration of AI into administrative systems requires robust data privacy protocols to safeguard sensitive student information. This is especially critical in faith-based contexts, where personal data is often considered ethically and spiritually significant.

3.5. Varying Levels of Readiness in Islamic Educational Institutions

This study reveals significant variation in institutional readiness to integrate AI into Islamic education across regions, institutions, and organizational types. Some private Islamic schools and forward-thinking universities, particularly those with dedicated IT or instructional design units, have begun piloting AI-powered learning platforms, virtual assistants, and personalized Qur'anic learning tools. In contrast, many traditional *madāris* and rural educational institutions still lack the necessary infrastructure, funding, and digital capacity to adopt such technologies.

Participants identified key barriers, including limited internet connectivity, outdated hardware, insufficient technical support, and a widespread lack of awareness or trust in AI among religious educators. These findings reflect broader global challenges in edtech implementation, especially within under-resourced and marginalized educational contexts. Addressing these disparities is crucial to ensuring equitable and inclusive access to AI-enhanced Islamic education.

3.6. Curriculum and Faculty Preparedness

The study also identified a significant gap in curriculum readiness for AI integration. While many institutions have incorporated general ICT skills into Islamic studies programs, few have developed curricula that meaningfully integrate AI in ways aligned with core Islamic educational objectives. Teachers frequently expressed discomfort or uncertainty when using AI-based tools, citing inadequate training and concerns about diminished control over the delivery and interpretation of religious content.

Participants recommended integrating AI literacy and Islamic digital ethics into pre-service and in-service teacher education programs. Such training would equip future educators to critically engage with AI technologies and apply them appropriately within faith-based pedagogical frameworks. As emphasized by [41] and [42], educator readiness is a pivotal factor in the sustainable and contextually appropriate adoption of educational technology.

3.7. Strategic Collaboration and Infrastructure Development

To enhance institutional readiness, participants recommended cross-sector collaboration among Islamic educational institutions, edtech companies, government agencies, and research centers. Such partnerships can facilitate resource sharing, co-developed content, and institutionalized ethical review mechanisms. For example, theological review boards could be integrated into Islamic AI startups to ensure continuous alignment with Islamic legal and ethical principles.

Furthermore, there is an urgent need for strategic investment in digital infrastructure, including reliable high-speed internet, cloud-based learning platforms, and localized AI training datasets in Arabic and other languages of Islamic scholarship. Governments and NGOs involved in Islamic education reform should prioritize funding for capacity-building initiatives, particularly in underserved and rural communities.

3.8. Policy Frameworks and Governance

Another critical dimension of institutional readiness is the development of policy frameworks to govern the integration of AI in Islamic educational contexts. At present, most institutions operate without clear guidelines on data privacy, algorithmic transparency, theological vetting, or content accuracy. In the absence

of robust governance mechanisms, AI tools risk misuse or misalignment with institutional missions and Islamic educational values.

Participants called on Islamic educational authorities and ministries of education to establish national or regional guidelines for the ethical adoption of AI in religious instruction. Such frameworks should prioritize equitable access, pedagogical effectiveness, and theological integrity, grounded in core Islamic ethical principles of *amānah* (trustworthiness), *hikmah* (wisdom), and *adl* (justice).

3.9. Vision for the Future

Looking ahead, the future of AI in Islamic education does not lie in technology alone, but in a vision that is theologically grounded, socially responsible, and pedagogically transformative. AI must be positioned not as a replacement, but as a servant of Islamic educational goals, enhancing, rather than replacing, the moral, spiritual, and relational dimensions of *tarbiyah*.

The ideal Islamic learning environment of the future may integrate AI-powered tools to support personalized and adaptive learning, while preserving the irreplaceable role of spiritually grounded educators as mentors and moral guides. Institutions that thoughtfully combine classical Islamic knowledge with ethically guided AI integration will be best equipped to serve the needs of a new generation of Muslim learners in an increasingly digital world.

4. Conclusion

This study examined the intersection of Artificial Intelligence (AI) and Islamic education, uncovering both the transformative potential and the profound complexities of integrating emerging technologies into faith-based pedagogy. The findings demonstrate that AI holds significant promise for enhancing accessibility, personalization, and learner engagement within Islamic educational contexts. From AI-powered Qur'anic recitation applications to intelligent tutoring systems, these tools are already reshaping how religious knowledge is delivered, accessed, and experienced.

However, the integration of AI in Islamic education is accompanied by significant theological, ethical, and pedagogical challenges. Concerns regarding doctrinal accuracy, the erosion of human mentorship, data privacy, and spiritual authenticity demand careful consideration. The effectiveness of AI depends not only on technological sophistication but also on the intentional design of educational systems rooted in Islamic epistemology, values, and pedagogical principles. Institutions that adopt AI without robust theological oversight risk undermining the integrity and authenticity of religious instruction.

For practical implementation, Islamic educational institutions are encouraged to establish interdisciplinary review committees composed of

Islamic scholars ('ulamā'), educators, and AI technologists to evaluate and approve AI tools prior to adoption. Teacher training programs should integrate modules on ethical AI use and digital literacy, equipping educators with the competencies to integrate technology responsibly. Curriculum developers are advised to create flexible frameworks that harmonize AI-driven personalization with time-tested pedagogical methods, ensuring alignment with the *maqāṣid al-sharī'ah* (higher objectives of Islamic law). Furthermore, institutions should adopt clear policies on data privacy, algorithmic transparency, and the preservation of spiritual mentorship to safeguard learners' holistic development.

This study has several limitations, including its focus on a purposively selected sample of institutions and reliance on qualitative data, which may affect generalizability. Future research could employ mixed-methods designs and larger, more diverse samples to validate and expand upon these findings. Longitudinal studies are recommended to assess the long-term impact of AI integration on faith formation, identity development, and academic outcomes. Additionally, comparative studies across different cultural, linguistic, and denominational contexts would deepen the understanding of effective and ethically grounded approaches to ethical integration of AI in Islamic education.

Declarations

Author Contributions

Conceptualization, Z.A.A. and A.T.H.R.; methodology, Z.A.A.; software, K. and L.J.; validation, Z.A.A., A.T.H.R., and K.; formal analysis, L.J.; investigation, Z.A.A., A.T.H.R., and D.K.R.; resources, A.T.H.R., and Z.A.A.; data curation, Z.A.A., and L.J.; writing—original draft preparation, all authors contributed equally; writing—review and editing, Z.A.A.; supervision, A.T.H.R.; project administration, Z.A.A. All authors have read and agreed to the published version of the manuscript.

Data Availability Statement

The data presented in this study are available on request from the corresponding author.

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Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki and was approved by the Review Committee of Universitas Islam Malang, Indonesia.

Informed Consent Statement

Informed consent was obtained from all the subjects involved in the study.

Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this manuscript.

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