INTEGRATION OF AI IN ISLAMIC EDUCATION: ETHICAL OPPORTUNITIES AND CHALLENGES

Zaenal Mukarom[1], Imron Heriyanto[2], Yus Hermansyah[3], Anan Baehaqi[4], Mohamad Yudiyanto[5], Budi Setiawan[6]
UIN Sunan Gunung Djati Bandung[1],
Sekolah Tinggi Agama Islam Sabili Bandung[2,3,4,5,6]
*Correspondence: budisetiawan01166@gmail.com

Abstract

The study discusses the integration of artificial intelligence (AI) in Islamic education, with a focus on emerging ethical opportunities and challenges. AI offers a variety of opportunities in enriching the learning experience, such as adaptive learning, personalized education, and access to science globally. However, the application of AI also raises a number of ethical questions related to privacy, dependence on technology, and the potential for algorithmic bias that can affect Islamic values. This research uses a qualitative approach, by reviewing related literature and case studies of AI implementation in Islamic educational institutions. The findings suggest that while AI can improve the effectiveness of education, a strong ethical framework is needed for its application to be in line with the principles of Islamic teachings. Thus, this research offers an important perspective for policymakers, educators, and technology developers in integrating AI responsibly in the Islamic education environment.

Keywords: Artificial Intelligence, Islamic Education, Ethics, Technology, AI Integration

INTRODUCTION

The development of artificial intelligence (AI) technology has opened up new opportunities in various fields, including education. AI has the potential to change the way teaching and learning is done by presenting more adaptive, personalized, and efficient solutions (Ahmad, 2021; Begum, 2024). In various countries, this technology has been used to improve access to education, improve teaching methods, and accelerate the learning process. In the context of Islamic education, the integration of AI can help in distributing religious learning materials, introducing interactive learning methods, and facilitating access to Islamic literature globally (Azizul & Sakuri, 2023).

However, the integration of AI in Islamic education is not without its challenges, especially in terms of ethics. Islamic education has moral principles based on the values of the Quran and Hadith (Fauzian & Fauzi, 2018). Therefore, the question arises about how AI can be applied without violating these principles (Ahmad, 2021; Vodenko & Lyausheva, 2020). Some of the prominent ethical challenges include student data privacy, potential bias in AI algorithms that may not align with Islamic values, and the risk of reliance on technology that could reduce the role of humans in the educational process. Additionally, with the increasing reliance on technology, it is important to ensure that AI does not replace the role of teachers as the primary source of education and character development for students. In Islamic education, teachers have a significant role in instilling moral and spiritual values in students, which may be difficult for technology to replicate (Abrar, 2022). Given these opportunities and challenges, this research is important to examine how AI can be ethically integrated in Islamic education, as well as how the right framework can be

developed so that this technology supports the goals of Islamic education without violating its basic principles.

This research makes a new contribution by examining the integration of artificial intelligence (AI) in Islamic education from an ethical perspective, a topic that has not been discussed in depth in the academic literature. The research combines Islamic technology, education, and ethics to offer a comprehensive analysis. Most of the previous studies of AI in education focused more on technical and pedagogical aspects, while this research provides a new perspective by integrating Islamic ethical values and principles in the context of technology. Much of the research on AI focuses on general education, but few specifically explore its impact in Islamic education. The research provides a unique view of how AI can be integrated in faith-based education, which has different needs, values, and challenges compared to general education.

One of the main novelties is an effort to formulate an ethical framework in the application of AI in the Islamic educational environment. The framework includes ethical principles consistent with Islamic teachings, which can serve as a guide for policymakers, technology developers, and Islamic educational institutions in integrating AI responsibly. By focusing on ethical opportunities and challenges in the context of Islamic education, this research offers a new perspective that is relevant for the development of educational technology based on religious values, as well as provides a foundation for further research in this field.

METHOD

This research uses a qualitative approach with the aim of exploring in depth the ethical opportunities and challenges in the integration of artificial intelligence (AI) in the Islamic education environment (Sugiono, 2015). This approach was chosen because qualitative research allows for a richer and more comprehensive understanding of the social, cultural, and religious contexts associated with the use of AI in Islamic values-based education.

This research began with an in-depth literature review related to the concept of AI, Islamic education, and ethics. The literature reviewed includes previous research, books, journal articles, and official documents related to AI and Islamic ethics. The purpose of this literature study is to identify various perspectives on the opportunities and challenges of applying AI in education as well as how the principles of Islamic ethics can guide the use of such technologies.

This research also utilizes the analysis of documents related to Islamic education policies, technology regulations, and Islamic ethical guidelines in the application of technology. The documents analyzed include regulations issued by the ministry of education and Islamic educational institutions, including guidelines relating to the use of technology in education. Data collected from literature, documents, case studies, and interviews were analyzed using a thematic approach. Each data is organized around key themes, such as AI opportunities in Islamic education, ethical challenges, potential biases, as well as proposed ethical solutions. This analysis aims to produce an ethical framework that is in accordance with Islamic principles in integrating AI into education.

RESULTS AND DISCUSSION

Opportunities for AI in Islamic Education

AI allows for a more adaptive learning process, where teaching materials and methods can be tailored to the individual needs of students (Thantawi & Indriyati, 2022). In the context of Islamic education, AI can help in personalizing the curriculum based on each student's ability and learning speed, especially in the teaching of the Qur'an, Hadith, and other religious sciences (Begum, 2024). For example, AI-based applications can provide direct feedback on Qur'anic readings or guide students in understanding complex theological concepts.

AI also enables wider access to Islamic education globally. AI-based platforms can provide access to students in different corners of the world to learn from digital resources, including classical and modern Islamic literature (Iriyani dkk., 2023). This opens up opportunities for students who do not have access to formal educational institutions, especially in remote areas, to still get quality religious education.

AI technology can provide interactive learning, such as chatbots or virtual tutors, that are able to answer students' questions about Islamic teachings (Sahroni dkk., 2022; Thantawi & Indriyati, 2022). This feature can increase student engagement in the learning process and encourage deeper understanding. Several Islamic education platforms have adopted AI to answer questions surrounding fiqh, Islamic history, and various other topics.

AI allows the creation of a learning system that can be adapted to the individual needs of students. In Islamic education, AI can help personalize learning, for example in the teaching of the Qur'an, Hadith, and fiqh, so that students can learn according to their abilities and speed. AI technology can also provide real-time feedback regarding the reading of the Qur'an or students' understanding of religious topics. AI provides an opportunity to expand access to Islamic education globally. With AI-based technology, students from all over the world can access Islamic education materials online, without being hindered by geographical restrictions. This is especially useful for those who live in remote areas or in countries with limited access to formal Islamic education.

AI offers a more engaging and interactive teaching method. For example, AI-based chatbots or virtual tutors can be used to answer questions about Islamic teachings or provide explanations about religious texts (Azizul & Sakuri, 2023). This can increase student engagement in the learning process and encourage a deeper understanding of complex religious concepts (Amriani dkk., 2023). AI technology can help speed up and simplify administrative tasks in Islamic educational institutions, such as automated assessments, student data management, and distribution of learning materials. This allows teachers and educators to focus more on spiritual teaching and guidance, while technical tasks are managed by technology.

AI can also be used to develop educational content relevant to Islamic education, such as simulations, educational games, and online learning platforms based on religious values. This technology can appeal to the younger generation and help them learn the teachings of Islam in a more modern and fun way. By utilizing AI, Islamic educational institutions can

analyze student learning data to identify the needs and development potential of each student. This allows for the development of more effective and evidence-based learning strategies, which are aligned with the goals of Islamic education. This opportunity shows that AI can be a powerful tool to improve the quality and reach of Islamic education, provided it is used with the right ethical and sharia principles.

Ethical Challenges in AI Integration

One of the main ethical challenges is the issue of data privacy and security. The use of AI in education entails the collection of students' personal data, such as learning patterns, academic achievement, and even biometric data. From an Islamic perspective, privacy protection is an important value that must be respected. AI technology is not completely neutral, and the algorithms used in educational applications can carry certain biases. If not carefully examined, AI can deliver material or guidance that may not be in accordance with Islamic values. For example, an algorithm may filter content or suggest material that is not in line with Islamic teachings. Therefore, it is important to ensure that the development of AI algorithms for Islamic education is based on strong sharia principles (Louhenapessy, 2021).

AI has the potential to partially replace teachers' roles in the educational process, which could pose a risk of reducing human interaction in Islamic education. In the tradition of Islamic education, the role of teachers is not only as a teacher, but also as a moral and spiritual guide (Firdaus & Fauzian, 2020). Over-reliance on AI can reduce this personal dimension, which is an important element in religious values-based education.

Islamic ethics emphasizes the importance of moral responsibility in every action, including the use of technology. The application of AI in Islamic education must consider its impact on students' moral and spiritual development (Amriani dkk., 2023; Thadi, 2022). AI should be used as a tool to support the goals of Islamic education, not just for efficiency or technological innovation. Technology developers and educators must be responsible for ensuring that the use of AI does not conflict with the purpose of Islamic character building.

AI, with all its advantages, may not be able to capture the spiritual nuances, emotions, and religious experiences that are at the core of Islamic education. Islamic education not only focuses on teaching material, but also on the development of faith, morals, and spiritual experience. The ethical challenge that arises is how AI can support these aspects without eliminating spiritual values that are personal. AI requires adequate technological infrastructure, which is not always available everywhere, especially in less developed areas. Inequality of access to AI technology can exacerbate gaps in Islamic education. This raises ethical issues in terms of fairness and equal access to educational resources. Those who do not have access to technology are at risk of falling behind in the educational process (Alstra & Susanti, 2024).

AI that over-controls the learning process can reduce students' autonomy in determining how they learn and process information. This can hinder creativity and critical thinking that are important in Islamic education. Students can become overly reliant on AI for quick answers without understanding the substance of the material, potentially reducing

the deep understanding and internalization of religious values. AI can be used for decision automation, including decisions related to assessment and learning. Ethical challenges arise when AI makes wrong or potentially misleading decisions. Who is responsible? In an Islamic perspective, moral responsibility is essential, and technology cannot replace the role of humans in making decisions that have an ethical or spiritual impact. To ethically integrate AI in Islamic education, a framework that balances technological advancements and sharia principles is needed. This includes protecting privacy, avoiding bias, and maintaining the important role of humans in education, especially in moral and spiritual aspects. AI should be seen as a tool that supports the goals of Islamic education, not as a complete replacement.

Development of AI Ethical Framework in Islamic Education

To ensure the integration of artificial intelligence (AI) in Islamic education in accordance with sharia principles, a clear ethical framework is needed. This framework should include moral principles based on Islamic teachings, while maintaining a balance between technological advances and Islamic educational values (Ahmad, 2021; Louhenapessy, 2021). The ethical framework must ensure that any use of AI in Islamic education adheres to sharia principles. AI technology must be used as a tool to support the goal of Islamic education, which is to form a strong character and faith based on the Qur'an and Hadith. In this case, AI must be developed and applied by avoiding content or methods that are contrary to Islamic teachings.

Privacy is one of the fundamental rights that are upheld in the teachings of Islam. Therefore, in the application of AI, it is important to protect students' personal data from misuse or privacy violations. The ethical framework should include clear guidelines on how student data is collected, stored, and processed, and guarantee that all data is managed securely (Novita, 2023; Romlah & Rusdi, 2023). The data processing must be carried out with the full consent of the student or their guardian, and only be used for legitimate educational purposes.

Any AI technology applied in Islamic education must be transparent in how it works. AI developers and service providers must be open about how algorithms work, what AI decisions are based on, and how data is processed and analyzed. This transparency is important so that AI users—especially educators and students—can understand the limitations and potential risks that may arise. Accountability must also be applied, so that there is a responsible party if there is a mistake in the application of AI that has an impact on students or educational institutions.

In Islamic education, every student has the right to fair treatment without discrimination. Therefore, AI development must be designed to avoid algorithmic biases that can result in injustices in the educational process. For example, algorithms should be tested to ensure that AI does not provide preferential treatment or discrimination based on race, ethnicity, gender, or religious background (Balogun, 2012). This ethical framework should also consider the potential cultural biases that may arise in algorithms designed outside of the Islamic context.

AI should be seen as a tool that supports teachers in the learning process, not as a substitute for their role. Islamic education highly values the interaction between teachers and students, especially in instilling moral and spiritual values. Therefore, the ethical framework must affirm the importance of human supervision in every stage of AI implementation. Teachers must remain in control of the process of teaching, grading, and spiritual guidance of students, while AI only serves as a complement.

The ethical framework of AI in Islamic education must maintain a balance between technological innovation and the traditional values of Islamic education (Rinaldi, 2023). AI can indeed speed up the learning process and make it more interactive, but it must still support the main goals of Islamic education: the formation of Islamic character and the inculcation of moral values. Technology must not replace the spiritual and emotional interactions that are the basis of Islamic education. In Islam, every action must be morally accountable, including the use of technology. Therefore, the application of AI in Islamic education must consider the social and moral impact on students and society. This ethical framework should ensure that technology is used to support students' moral development and does not produce negative effects that could damage the social order or neglect moral responsibility.

Along with technological developments, the ethical framework of AI in Islamic education must be evaluated and updated regularly. This is important to ensure that the framework remains relevant to technological changes and ethical challenges that may arise in the future. These periodic evaluations also allow for improvements in implementation and ensure that the use of AI continues to be in accordance with Islamic principles. The development of an AI ethical framework in Islamic education is essential to ensure that this technology can support education without violating the basic values of Islamic teachings. With principles such as sharia compliance, privacy protection, transparency, and human supervision, AI can serve as a tool that enriches the learning process without sacrificing the essential moral and spiritual dimensions of Islamic education.

CONCLUSION

This research reveals that the integration of artificial intelligence (AI) in Islamic education offers great opportunities in improving the quality and access to education. AI can provide more personalized and adaptive learning, expand the reach of Islamic education around the world, and introduce more interactive and innovative teaching methods. This technology allows students to access religious knowledge in a more flexible and in-depth way. However, behind this opportunity, there are ethical challenges that need to be considered. Some of the key challenges include the issue of privacy and security of student data, the potential for algorithmic bias that could run counter to Islamic values, and concerns that reliance on technology could reduce teachers' important role as moral and spiritual guides. AI, if not used carefully, can have a negative impact on the personal and human dimensions of Islamic education. To address these challenges, it is necessary to develop a strong ethical framework, which ensures that AI is used in accordance with Islamic principles. The framework should include privacy protection, transparency in data use, and

human oversight that ensures AI remains a tool, not a substitute for the role of teachers. With the application of this ethical framework, AI can become an instrument that supports religious and moral teaching that is in line with Islamic teachings. This research confirms that although AI can bring great benefits in Islamic education, its application must be accompanied by ethical prudence so that the core values of Islamic education are maintained.

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