

Ethics of Using Artificial Intelligence in Islamic Education

Muhammad Yusuf Qona'ah¹, Abhirup Sarkar²

¹Lambung Mangkurat University, ²University Of Tartu

*Corresponding author: myq@ulm.ac.id

Abstract

This article provides a comprehensive ethical analysis of the use of Artificial Intelligence (AI) in Islamic education. AI technologies such as ChatGPT, personalized learning algorithms, automated assessment systems, and learning analytics have entered Islamic schools (madrasas) and pesantren, offering both opportunities and moral challenges. This study aims to: (1) identify the main ethical challenges of AI from an Islamic perspective; (2) formulate ethical principles derived from the Quran, Hadith, and maqashid al-shariah; (3) offer practical implementation scenarios. The research uses a qualitative library research method, analyzing international and national literature published in the last five years (2021-2026). Data analysis employs thematic content analysis. Findings reveal six core ethical challenges: opacity of algorithms, algorithmic bias, data privacy, diminished teacher authority, commodification of knowledge, and unequal access. In response, six corresponding Islamic ethical principles are developed: transparency (al-shafafiyyah), justice (al-adl), responsibility (al-masuliyyah), privacy (al-khusushiyyah), human autonomy (al-istiklaliyyah al-bashariyyah), and social solidarity (al-taawun). These principles are operationalized through three case studies: AI chatbots in pesantren, AI-based student grouping systems, and automated Quranic pronunciation assessment. The article concludes that AI can be integrated into Islamic education if guided by these principles, with the teacher remaining the ultimate moral and pedagogical authority.

Keywords: AI Ethics, Islamic Education, Maqashid al-Shariah

Introduction

The development of artificial intelligence (AI) technology has brought significant changes to the world of education as a whole. Unlike conventional automation systems that only execute fixed commands, AI has the ability to learn from existing data, adjust responses flexibly, and make predictions or suggestions that were previously only possible by humans. In the education sector, AI has now been applied in various areas such as learning management systems, virtual tutors, chatbots, automated assessment tools, and content recommendation systems tailored to the needs of individual students. According to UNESCO data from 2023, more than 60% of higher education institutions in G20 countries have used at least one form of generative AI. Meanwhile, at the secondary school level, the adoption rate of AI technology has surged by more than 200% since 2020.¹

¹ Wayne Holmes et al., "Ethics of AI in Education: Towards a Community-Wide Framework," *International Journal of Artificial Intelligence in Education* 32, no. 3 (2022): 504–26.



The world of Islamic education, as part of an educational system that has its own distinctive characteristics related to normative and spiritual values, is also not immune to this wave of change. In Indonesia, the Ministry of Religious Affairs recorded that by 2024, around 35% of junior high schools and 50% of state senior high schools have used AI-based platforms for administrative purposes, evaluation, and additional learning.² Some modern pesantren have also begun to utilize AI-based Arabic language learning applications and chatbots to train students' speaking skills. However, there is a fundamental question that differs from general education: is the use of AI in accordance with Islamic ethics? Can a computer program that lacks moral awareness and will not be held accountable in the afterlife be part of an educational process aimed at shaping a perfect human being?

From the literature review, there appears to be a significant gap. On one hand, studies on AI ethics globally have developed rapidly with various ethical frameworks from international organizations such as IEEE, OECD, and the European Union.³ On the other hand, research on AI ethics from an Islamic perspective is still very limited. Existing works such as Bunt's research on the cyber-Islam environment and Mahmud's study on AI fatwas have not specifically addressed the realm of Islamic education.⁴ Research on Islamic educational technology has mostly focused on practical aspects such as the use of multimedia or e-learning, without deeply discussing the ethical implications of autonomous and adaptive AI technology.⁵

Based on this, this research is very urgent to be conducted in order to fill that gap. More specifically, this research aims to: (1) identify and analyze the main ethical challenges of using AI in Islamic education; (2) formulate ethical principles based on Islamic sources such as the Quran, hadith, maqashid al-shariah, and relevant Islamic scholarly traditions that align with the characteristics of AI technology; (3) provide real examples of how these principles can be applied in various Islamic educational situations in madrasahs, pesantrens, and Islamic universities.

The successful implementation of these three objectives provides hope that this research can serve as a guide for educators, institutional leaders, technology developers, and policymakers in responsibly integrating AI into the educational realm, particularly in Islamic education.

To strengthen the position of this research, here is a summary of several key studies in the last 5 years (2021–2026) that are relevant:

1. The research by Nguyen et al. (2023) titled "Ethical Framework for AI in Education: A Global Review" analyzes 127 ethical frameworks for AI in the field of education. The results show that transparency, fairness, privacy, and accountability are the most widely adopted principles. However, this research notes that very few frameworks consider the specific religious or cultural values applicable in a

² Kementerian Agama Republik Indonesia, "Laporan Tahunan Digitalisasi Madrasah 2024" (Jakarta: Pusdatin Kemenag, 2025).

³ Anna Jobin, Marcello Ienca, and Effy Vayena, "The Global Landscape of AI Ethics Guidelines," *Nature Machine Intelligence* 1, no. 9 (2019): 389–99.

⁴ A Mahmud, "Fatwa and Artificial Intelligence: Can a Machine Issue Religious Edicts?," *Islamic Law and Society* 29, no. 3 (2022): 245–71.

⁵ A Rahman and M Abdullah, "AI-Based Personalized Learning in Indonesian Madrasahs: Opportunities and Teacher Resistance," *Asian Journal of Islamic Education* 6, no. 1 (2024): 88–106.

society.

2. Al-Khaldi & Bououd (2022) in their study "Islamic Ethics of AI: A Maqashidi Perspective" offer a different approach. They develop an AI ethics framework based on maqashid al-syari'ah, which emphasizes the protection of religion, life, intellect, lineage, and property. Although conceptually comprehensive, this framework has not elaborated in detail on its application in the field of education.
3. The study conducted by Hassan & Aziz (2024) titled "The Use of ChatGPT in Islamic Higher Education: Student Perceptions and Ethical Concerns" provides an interesting overview of the use of AI technology in Islamic higher education institutions. Based on a survey in Malaysia, the research reveals that 78% of students have used ChatGPT to complete their assignments. However, 62% of them express concerns regarding the accuracy of information and the risk of plagiarism. Interestingly, only 20% of users are aware of the potential for algorithmic bias in AI systems.
4. Sulaiman (2025) in his study "Digital Fatwa and AI: Can a Chatbot Issue a Fatwa?" conducts a legal analysis regarding the capacity of AI to issue fatwas. His study concludes that AI cannot yet replace the role of a mujtahid due to the lack of intention and spiritual depth that are prerequisites for issuing a fatwa.
5. Meanwhile, Rahmawati & Hidayat (2024) conducted a pilot study titled "AI for Personalized Learning in Indonesian Madrasas: A Pilot Study." Their findings indicate that AI-based personalized learning can enhance students' motivation to learn. However, teachers expressed concerns about the diminishing control they have over the moral guidance process for students.

Based on the literature review above, it can be identified that there has not been any research that specifically integrates global AI ethical principles with the unique values of Islamic education, such as ta'dīb, tazkiyah, and adab. Similarly, operational guidelines based on real case studies are still rarely found. This research is designed to bridge that gap.

Methodology

Type and Approach of Research

This research employs a qualitative method with a literature study approach. This choice is based on the consideration that the focus of the research is more on the development of concepts and normative frameworks, rather than on the direct collection of field data. Through literature study, an in-depth exploration of various normative Islamic texts such as the Al-Qur'an, hadith, and ushul fiqh can be conducted systematically. Additionally, this approach also allows for the examination of contemporary literature on artificial intelligence ethics and Islamic education.

Research Problems and Objectives

The main issues to be researched include three aspects. First, what ethical challenges arise with the use of AI in Islamic education, including aspects of transparency, bias, privacy, teacher authority, commodification, and access to technology. Second, what ethical principles can be formulated based on Islamic

sources to address these challenges. Third, how these principles can be applied in three common scenarios of Islamic education.

This research also establishes the following primary and secondary sources:

1. Primary sources: The Qur'an with thematic translation and interpretation, collections of hadith from Imam Bukhari and Muslim, and the book *al-Muwafaqat* by Imam al-Syatibi as the main reference for *maqashid al-shari'ah*.
2. Secondary sources: Recent scientific journal articles from 2021 to 2026 from databases such as Scopus, Web of Science, Google Scholar, and DOAJ. The keywords used include "AI ethics," "Islamic education," "maqashid sharia," "algorithmic bias," "generative AI in education," and "digital pesantren." Additionally, books from reputable publishers such as Springer, Routledge, and Oxford University Press are also included.

Data Collection Techniques

The technique used is documentation by systematically applying the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) strategy. The steps taken include identification, screening, and eligibility assessment.

In the identification stage, searches were conducted in several databases using the following Boolean keywords: ("AI ethics" OR "artificial intelligence ethics") AND ("Islamic education" OR "pesantren" OR "madrasah") AND ("personalized learning" OR "chatbot" OR "automated assessment"). The time limit applied is from 2021 to 2026 in English and Indonesian.

The screening stage is conducted by examining titles and abstracts to ensure relevance to the focus on ethics and Islamic education. Articles that only discuss technical aspects of AI without touching on ethical dimensions, or that discuss ethics in general without relating it to Islam, are excluded from this research.

In the eligibility stage, the full texts of the remaining 45 articles are evaluated based on inclusion criteria: discussing at least one ethical challenge, having relevance to Islamic education either explicitly or implicitly, and published within the time frame of 2021-2026. As a result, 28 articles meet these criteria.

As supplementary materials, books and book chapters from the last five years, as well as official reports from UNESCO, OECD, and the Ministry of Religious Affairs of the Republic of Indonesia, are also referenced in this research.

Data Analysis Techniques

Data analysis uses qualitative content analysis techniques with a thematic approach. The analysis procedure refers to the model developed by Miles, Huberman, and Saldaña (2014), which includes data reduction, data presentation, and conclusion drawing and verification. In the data reduction stage, all documents are read thoroughly. Paragraphs discussing ethical challenges or ethical principles are initially coded with labels such as "opacity-blackbox", "bias-gender", "privacy-student data", "teacher replacement", and "access inequality".

Data presentation is carried out by organizing the codes into a thematic matrix. Similar codes are grouped into categories. From 14 initial codes, 6 main challenge

categories are produced. Then, for each challenge, relevant Islamic ethical principles are sought through the exploration of primary and secondary sources. In the conclusion drawing and verification stage, initial conclusions regarding ethical principles are discussed and compared with the literature to ensure consistency. Source triangulation is conducted by comparing opinions from at least three experts or different sources for each principle.

Validity of Data

To ensure the validity of the findings, this research applies source triangulation by comparing information from the Al-Qur'an, hadith, and contemporary scholars' opinions. Additionally, validation is also conducted by involving two experts in the fields of Islamic philosophy and educational technology from Lambung Mangkurat University (ULM). They provide a critical review of the draft ethical principles produced.

Results and Discussion

This section presents the research results thematically, followed by an analysis that connects the findings with the framework of Islamic ethics.

1. Ethical Challenges of AI Use in Islamic Education

After analyzing 28 literatures and reviewing various normative sources, I identified six main ethical challenges that are highly relevant to Islamic education.

a. Transparency and Accountability

Current AI systems, especially those using deep learning with millions of parameters, are often described as "black boxes." Even the developers themselves cannot explain why a particular model produces a certain output. In the world of Islamic education, teachers have the role of murabbī (spiritual caregivers) whose every step can be held accountable before Allah and the community. A teacher who gives a low grade to a student can certainly explain the reasons based on direct observation. However, it is a different story if an AI system suggests that a student should drop out of the tahfidz program due to "low probability of success" without a clear explanation. This is what I refer to as a crisis of accountability.

Case studies show that a pesantren uses an AI chatbot to answer students' questions about the fiqh of worship. At one point, the chatbot provided an incorrect answer regarding the validity of wudhu using water mixed with najis. Who should be held responsible? The AI developer, the pesantren manager, or the supervising teacher? This case proves that without clear transparency and accountability, the use of AI can violate the principle of al-mas'uliyah (responsibility), which is fundamental in Islam.⁶

b. Algorithm Bias and Fairness

AI algorithms learn from historical data. If that data contains bias, then AI will actually reinforce or exacerbate that bias. In the context of Islamic

⁶ N A Hassan and A Aziz, "The Use of ChatGPT in Islamic Higher Education: Student Perceptions and Ethical Concerns," *International Journal of Islamic Educational Psychology* 5, no. 1 (2024): 45-67.

education, this bias can manifest in various forms:

- 1) Gender bias: AI assistants that tend to recommend religious majors such as tafsir or fiqh more often to males, simply because the training data shows a male dominance in those fields.
- 2) Madhhab bias: Recommendation systems that only present fiqh material based on the majority madhhab in a region (e.g., Shafi'i) can overlook other madhhabs, causing students in the pesantren who follow the Hanafi Madhhab to feel marginalized.
- 3) Social-economic bias: Automated assessment algorithms that take into account typing speed or internet connection quality clearly disadvantage students from low-income families.

Islam places justice (al-'adl') as the highest value. In Q.S. al-Maidah verse 8, Allah states: "Let you be just; that is closer to piety." Justice in the context of AI means that all students are treated equally, without hidden discrimination. However, in reality, many commercial AI systems have not been adequately tested for cultural or religious bias.⁷

c. Privacy and Data Security

AI-based education requires data. The data collected can be very sensitive: student behavior records, conversations with chatbots (which may contain confessions or personal issues), psychological test results, and even biometric data such as fingerprints or voice recordings while reading the Quran. In Islam, maintaining privacy (sitr) is an obligation. The Prophet Muhammad said: "The blood, property, and honor of every Muslim is sacred to another Muslim." (HR. Muslim). Personal data includes honor that must be protected.

Ironically, many educational AI platforms are not transparent about their privacy policies, storing data indefinitely, or even selling data to third parties. An investigation in 2024 by The Markup found that 80% of the most popular learning apps in Indonesia send user data to third-party servers without explicit parental consent.⁸ In Islamic education, parents have a moral responsibility for the upbringing of their children. Providing children's data to AI without control is a violation of hifzh al-nasl (preserving lineage).

d. Teacher Authority and Educational Humanism

One of the biggest concerns is the displacement of the teacher's role by machines. Some radical AI supporters even predict that by 2030, "human teachers will become obsolete." In Islamic education, a teacher is not just an information provider; he is *uswah hasanah* (a role model), *murabbī* (spiritual caregiver), and *mu'allim* (moral guide). The process of *ta'dīb* (character development) cannot be replaced by algorithms because it requires direct exemplification, empathy, and compassion.⁹

A patient teacher guides a student who struggles to memorize the

⁷ Safiya Umoja Noble, *Algorithms of Oppression: How Search Engines Reinforce Racism*, 2nd Edition (New York University Press, 2023).

⁸ F Rachman, "Data Privacy in Indonesian EdTech Apps: A Consumer Rights Investigation," *The Markup Indonesia*, 2025, <https://themarkup.id/investigation/edtech-privacy-2025>.

⁹ Rose Luckin, *AI for School Teachers* (Routledge, 2022).

Qur'an, a teacher who cries upon hearing a student's complaints, a teacher who gives personal advice—all of these cannot be replaced by AI. If AI takes over most pedagogical functions, Islamic education risks losing its soul. Research in a madrasa in East Java shows that when teachers rely too much on AI dashboards that suggest materials, they tend to neglect direct observation of students' emotional and spiritual needs. As a result, although academic scores rise, reports of moral degradation among students also increase.¹⁰

e. Commodification of Knowledge

AI, especially large models like GPT-4, are trained on data from the internet that is dominated by Western and capitalist perspectives. Knowledge in Islam is a divine gift that has worship value, not merely a commodity. However, AI-based learning platforms often reduce the Qur'an and hadith to "datasets" or "tokens" that can be predicted. This can undermine the respect (adab) for sacred knowledge.

In fact, some technology companies offer "AI subscription packages for Islamic education" with varying access based on price. Students with premium subscriptions receive interactive tafsir features, while free students only get plain text. This practice undermines the Islamic principle of easy access to religious knowledge, which should not be hindered by financial capability.

f. Access Inequality

The final but equally important challenge is access inequality. AI requires hardware (computers, tablets), stable internet connections, and reliable electricity. Traditional pesantren in remote areas often lack this infrastructure. If national exams or entrance selections for Islamic universities begin to use AI-based assessments, these pesantren will fall further behind. Islam teaches al-ta'awun (mutual assistance) and social justice. Unwise implementation of AI can deepen the divide between wealthy and poor pesantren, between madrasahs in cities and in villages.

2. Principles of AI Ethics in Islamic Education: A Maqashidi Framework

Based on the six challenges above, this research formulates six ethical principles derived from the Qur'an, hadith, and the theory of maqashid al-syari'ah (protecting religion, life, intellect, lineage, property, and honor)

Table 1. Principles of AI Ethics in Islamic Education Based on Maqashid al-Syari'ah

Principle (Indonesia n)	Principle (Arabic/English)	Normative Basis	Protected Maqashid	Implications for AI

¹⁰ S Rahmawati and T Hidayat, "AI for Personalized Learning in Indonesian Madrasahs: A Pilot Study," *Journal of Educational Technology and Islamic Studies* 3, no. 2 (2024): 34–52.

Transparency	<i>Al-Shafaiyyah</i> (Transparency)	Q.S. Al-Baqarah (2): 42 (do not mix truth with falsehood)	Hifzh al-'Aql (Preserving the mind)	Algorithms must be explainable; audit logs must be available; teachers can raise objections to AI decisions.
Justice	<i>Al-Adl</i> (Justice)	Q.S. Al-Maidah (5): 8; Hadith: "Indeed, those who are just will be on pulpits of light." (HR. Muslim)	Hifzh al-Nafs (Preserving the soul)	Routine bias testing; training data must be representative; equal access for all sects/genders/economic statuses.
Responsibility	<i>Al-Masuliyyah</i> (Responsibility)	Q.S. Al-Isra' (17): 36; Hadith: "Each of you is a leader and will be held accountable."	Preservation of Religion	There must be a human responsible (teacher/institution) for every AI decision; mechanisms for appeal and correction.
Privacy	<i>Privacy</i>	Q.S. Al-Hujurat (49): 12; Hadith about the prohibition of spying	Preservation of Lineage and Honor	Student data is for educational purposes only; anonymization; explicit consent; right to be deleted (right to be forgotten).
Human Autonomy	<i>Human Autonomy</i>	Q.S. Al-Baqarah (2): 30 (humans as vicegerents); Hadith about the	<i>Preservation of the Mind & Preservation of Religion</i>	AI is an assistant, not a replacement; the final decision on value, graduation, and moral guidance lies in the hands of the teacher.

		virtues of teachers		
Social Solidarity	Al-Taawun (Social Solidarity)	Q.S. Al-Maidah (5): 2 (helping one another in goodness); the concept of sadaqah	Preservation of Wealth (Collectively safeguarding property)	AI developers must provide free/affordable access for underprivileged pesantren; there should be no price discrimination for religious content.

These six principles are interconnected. Transparency, for example, serves as a foundation for achieving justice because we need to see if there is bias in the system. Meanwhile, accountability is fundamental and supports the other principles. Here is a more detailed explanation of each principle.

a. Principle 1: Transparency

The AI system used must be explainable in a way that educators can understand, not just by technology experts. In Islamic tradition, hiding the truth or mixing what is true with what is false is considered a reprehensible act (Q.S. Al-Baqarah: 42). Therefore, whenever AI provides recommendations, the system must provide logical reasons that can be verified. Islamic educational institutions are advised to choose AI that is explainable or at least provides local explanations for every important decision.

b. Principle 2: Fairness

The AI system must not treat individuals differently based on gender, theological beliefs, ethnic background, economic conditions, or disabilities. To ensure this fairness is upheld, institutions need to conduct regular algorithm audits involving sharia experts and student representatives. If any bias is found, the system must be corrected or its use discontinued. Islam teaches that justice must be upheld and enforced, whether towards oneself or others (Q.S. An-Nisa': 135).

c. Principle 3: Accountability

Every decision or recommendation generated by AI must be traceable to the human responsible. In other words, teachers or administrators cannot simply blame the "AI decision" to evade responsibility. They are required to review and approve AI decisions before implementation. In case of errors, there should be procedures for complaints and corrections. This principle also requires AI developers to be accountable for the quality of their training data and model design.

d. Principle 4: Privacy

Students and parents have the right to know what data is collected, how it is stored, who can access it, and for what purposes the data is used. In Islam, exposing the faults of others without permission is a major sin. Educational institutions need to have privacy policies that align with the principles of *al-darurah* (emergency needs) and *al-hajah* (necessity) where data is only collected as long as it is needed for legitimate educational purposes. Sensitive data, such as confessions in counseling sessions with chatbots, must be encrypted and automatically deleted after the session ends.

e. Principle 5: Human Autonomy

This principle emphasizes that the final decisions regarding academic values, grade promotion, graduation, scholarship recommendations, and especially moral guidance remain in the hands of humans, namely teachers. AI should not have the authority to make decisions that can permanently change a person's life. Furthermore, students have the right to choose not to use AI if they object, for example, due to privacy concerns or learning preferences. This principle also prohibits designs that create psychological dependence on AI for students.

f. Principle 6: Social Solidarity

This last principle reminds us that AI technology should be used to reduce gaps, not widen them. Islamic educational institutions and technology developers are encouraged to provide free or subsidized versions for less privileged educational institutions, such as *pesantren* and *madrasah*. Partnerships with the government and Islamic philanthropic organizations, such as the management of *zakat*, *infak*, and *sedekah*, can continue to fund equitable access to AI. Equally important, AI content needs to be available in various local languages so that it does not only benefit English speakers.

3. Case Study of Ethical Principles Implementation in Islamic Education

Here, the author presents three real examples from field research conducted in the last two to three years. These three cases were chosen because they have direct relevance to the ethical challenges that often arise in the application of AI in Islamic education, while also illustrating how ethical principles are translated into practice or have not been well implemented.

a. The First Case is the AI Chatbot at MTsN 3 South Jakarta

This research took place at MTsN 3 South Jakarta in 2025, conducted by Rizka Syifania from the Institute of Qur'anic Sciences Jakarta. The goal is simple: to identify the extent to which the AI chatbot can be accepted and used by *madrasah* residents as one of the learning resources that support the achievement of learning objectives in Islamic Religious Education, particularly in the subject of *Akidah Akhlak*.

This research uses a qualitative approach with a fieldwork method. Data collection was conducted through documentation, in-depth interviews,

and direct observation. Primary data was sourced from interviews with 17 individuals including the Deputy for Curriculum, Moral Education Teachers, and 15 students at the school. Secondary data includes textbooks, chat records between students and the chatbot, and official school documents.

The results are quite interesting. The AI chatbot has proven to assist in achieving PAI learning through four main features: content personalization, ease of access, interactivity, and task assistance features. Students demonstrated significantly better abilities in re-explaining material, providing relevant examples, and self-reflecting on the values learned.

However, this research also identifies several challenges that cannot be overlooked. First, the school still prohibits the use of digital devices in the classroom, limiting the potential of the chatbot. Second, there is a risk of misuse, especially among students who merely copy answers without truly understanding. Therefore, the role of teachers as guides for the ethical use of AI becomes crucial. Third, some students feel confused when the chatbot's answers do not align with what has been taught by the teacher, indicating the need for alignment between AI content and the applicable curriculum.

In conclusion, Syifania's research shows that AI chatbots have great potential in supporting PAI learning, especially in terms of personalization and interactivity. However, their success heavily relies on the active role of teachers in guiding responsible use. Issues of misuse and lack of transparency need to be anticipated through clear policies and more mature technical designs.

b. The Second Case Is Algorithmic Bias in AI-Based Student Grouping Systems

This second case is multi-locational, involving various Islamic educational institutions in Indonesia—both madrasahs and pesantrens. The analysis was conducted on secondary data from various studies published between 2024 and 2025. Some Islamic educational institutions in the country have begun to adopt AI systems to group students based on learning styles, skill levels, or individual preferences. These systems generally use machine learning algorithms trained with data on exam scores, response times, and other behavioral parameters.

Research conducted by Rahman and Abdullah in 2024 revealed quite concerning facts. Although AI-based personalization has proven to enhance learning motivation, teachers feel they are losing control over their moral guidance processes when grouping is fully delegated to algorithms. Meanwhile, another study by Elihami, Mas'ud, and Darmawan in the same year used a combined method of literature review, case studies, and expert consultations to map the landscape of Islamic educational technology more comprehensively.

Analysis of secondary data reveals several concerning forms of bias:

- 1) Infrastructure Bias: Algorithms that use the feature of "response speed" to form groups are found to be more related to the quality of students' internet connections rather than their cognitive abilities. Students in pesantren located in remote areas with slow connections often automatically fall into the "remedial" group, even though their written

exam scores are equivalent to those of students in urban areas.

- 2) **Gender Bias:** In one documented case, the recommendation system more frequently offered religious career paths—such as interpretation, jurisprudence, or ushuluddin—to male students compared to female students. This occurred because the training data reflected the historical male dominance in the field, even though the school policy accepted female students on an equal basis.
- 3) **School of Thought Bias:** A pesantren that uses a fiqh content recommendation system found that the algorithm tends to present material exclusively based on the Shafi'i school of thought—mostly in Indonesia. Meanwhile, some students in that pesantren come from families that adhere to the Hanafi school of thought. As a result, they feel confused and marginalized.

It can be concluded that AI algorithms are not truly neutral. Without careful design and ongoing monitoring, AI is at risk of reinforcing existing injustices. The principle of justice (al-'adl) in Islam demands that AI systems be actively designed to detect and mitigate bias rather than inadvertently discriminate. Research by Elihami et al. reinforces that while AI opens up great opportunities for the advancement of Islamic education, its implementation must be carried out with careful ethical considerations and in alignment with Islamic values.

c. **Case Three: The UAE National Experiment in AI-Based Quran Learning**

The third case takes us to the United Arab Emirates (UAE), where the government is taking a leading role in integrating artificial intelligence into Quran learning and Islamic education. This field research involved interviews with developers, educators, and policymakers, published in 2026 by Hamad bin Mubarak bin Rashid Al-Shamsi from Al Qasimia University.

Through religious and educational authorities, the UAE government has developed and implemented AI applications for automatic tajwid evaluation, personalized memorization pathways, and adaptive learning analytics. Flagship programs such as "Mutawwa' Al-Freej" have been launched to instill Emirati identity and Islamic values in children through a safe learning platform.

This research reveals that AI can enhance efficiency, accessibility, and motivation to learn—especially among digital generation students. Now students can practice Tajweed independently with instant feedback, something that was previously only possible through direct guidance from certified teachers. However, three main concerns have emerged:

- 1) **Data Privacy:** The collection of students' recitation voice recordings on a national scale raises serious questions: who owns the data, how long is it stored, and can third parties access it? Many parents have expressed objections due to concerns that their children's voice recordings may be misused.
- 2) **Algorithmic Bias:** The Tajweed evaluation system turns out to be less accurate for students with certain regional accents or medical conditions that affect pronunciation, such as lisping or speech disorders. In some

cases, AI gives unfairly low scores, while human teachers assess that the students' readings meet the standards.

- 3) Reduction of Spiritual Guidance: The most fundamental concern is the decrease in spiritual guidance from humans. Educators report that students are becoming overly reliant on AI applications and are less likely to seek guidance from teachers on spiritual aspects of recitation, such as concentration, understanding of meaning, and the etiquette of reading the Quran that cannot be measured by algorithms.

In conclusion, the UAE national experiment proves that AI can be a highly effective tool for Quran learning, especially in terms of accessibility and personalization. However, long-term success heavily depends on the transparent and responsible management of ethical concerns. As emphasized by Al-Shamsi, the ethical deployment of AI in Islamic education requires responsible design, a clear regulatory framework, and the role of teachers to remain complementary rather than a replacement.

Discussion and Integration with Theoretical Framework

The three case studies outlined earlier demonstrate that the ethical challenges of AI in Islamic education are not merely technical issues, but touch upon deeper moral and theological aspects. This aligns with the six principles framework established in this research, which also complements the global AI ethics framework. For example, IEEE (2021) emphasizes the importance of transparency, accountability, and privacy; all these values are included in the principles we propose.

Nevertheless, the Islamic-based ethical framework adds a broader dimension, namely in the spiritual and communal aspects. From an Islamic perspective, human autonomy is not just an individual right, but a trust of caliphate that must be accounted for. Similarly, social solidarity (*al-ta'awun*) is not merely a secular value, but a religious command that must be adhered to. Compared to the research by Al-Khalidi & Bououd (2022), it is evident that although they also use a *maqashid* approach, they do not elaborate on operational principles in the context of education.¹¹

This research advances by linking each principle to concrete indicators such as bias audits, opt-out rights, and appeal mechanisms, while demonstrating its application through real case studies. One important finding from the three cases is that the success of AI implementation is highly determined by the level of "AI literacy" among educators. At MTsN 3 South Jakarta, teachers who actively guide the use of chatbots have a positive impact on learning. In contrast, in the UAE case, educators who are concerned about the reduction of spiritual guidance become the most critical figures regarding the use of AI.

The case of algorithmic bias also proves similar: teachers who have a limited understanding of how AI works tend to rely too much on system recommendations, while trained teachers can utilize AI as an intelligent assistant without losing their moral authority. This finding indicates that investment in the professional development of teachers is a crucial component in the implementation of AI ethics. Furthermore, this research identifies an ethical dilemma that still requires further

¹¹ M Al-Khalidi and I Bououd, "Islamic Ethics of Artificial Intelligence: A Maqashidi Perspective," *Journal of Islamic Ethics* 6, no. 2 (2022): 211–36, <https://doi.org/10.1163/24685542-12340068>.

resolution, namely how to balance the personalization offered by AI with the risks of social fragmentation. Islamic education places great emphasis on the importance of jama'ah (community) and ta'awun (cooperation). Based on this, we suggest that AI personalization be limited to cognitive aspects only, such as learning speed and practice questions, while for affective and spiritual aspects like group discussions, joint reflections, and community service, AI should not intervene.

Conclusions and Recommendations

The use of AI in the world of Islamic education is not something that is absolutely prohibited. However, this technology cannot simply be allowed to operate without clear ethical controls. AI can actually be a very powerful tool to assist the teaching and learning process, from personalizing lesson materials according to the needs of each student, streamlining administrative affairs, to expanding public access to Islamic knowledge.

But there is one important principle that must always be upheld: AI is merely an assistant, not a replacement for authority. Teachers remain the central figures in Islamic education, as only humans can provide examples of morals, empathy, and truly authentic spiritual guidance. In other words, the principle of human autonomy must be established as the main guardian of all other principles. The suggestions and recommendations that the author offers:

1. For Islamic educational institutions: Immediately create internal policies on AI ethics that adopt the six principles mentioned earlier. This policy must include rules on periodic audits, the right to opt-out for those who do not wish to use AI, and a complaint mechanism in case of issues. The policy should be built based on concrete evidence from existing case studies.
2. For teachers and educators: Enhance AI literacy skills through intensive training. Do not hesitate to use AI, but it must be done with critical thinking: always verify information, always ask "why," and never delegate moral decisions to machines. Training should also include ways to understand and detect potential hidden algorithmic biases.
3. For technology developers: Involve experts in Islamic education and Ushul Fiqh early in the design process. Prioritize the principles of privacy by design and fairness by design. Provide clear documentation about the sources of data and the potential biases that may exist. A real example of the NURRA system developed by Prayoga et al. (2025) can serve as a reference, as they integrate well-curated Islamic sources.
4. For policymakers (Ministry of Religious Affairs, Ministry of Education): Create national standards for the use of AI in Islamic education that refer to an ethics framework based on maqashid. Facilitate fair access by providing infrastructure and subsidies for pesantren that still have limited facilities, and support further research on ethical and responsible AI implementation.

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