



The Role of Artificial Intelligence (AI) in Islamic Religious Education Learning: Solution or Challenge?

Meriyati¹, Azet Sampurna^{2✉}, Angga Pratama³, Figo Rangga Bagaskara⁴, Fadila Rahmah⁵, Agus Jatmiko⁶, Chairul Amriyah⁷

^{1,2,3,4,5,6,7}Master's Program in Islamic Religious Education, State Islamic University (UIN) Raden Intan Lampung, Jl. ZA. Pagar Alam, Labuhan Ratu, Kedaton District, Bandar Lampung City, Lampung 35142, Indonesia

✉Corresponding Address: azetsampurna17@gmail.com

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Abstract

The rapid development of technology continues to influence education. Advanced technology can be a solution or even a challenge in education. This study aims to understand and describe the solutions and challenges of using Artificial Intelligence (AI) in Islamic Religious Education Learning. The results of the study indicate that the use of AI in Islamic religious education learning has great potential in Islamic religious education learning. However, there are also challenges related to the use of AI in learning activities. In the long term, AI can be a very valuable tool to support Islamic religious education learning, as long as it is used wisely and well integrated into the learning system. Personalized learning, automated assessments, virtual tutoring, intelligent content, and presentation translation are some examples of the benefits of AI for education. AI can be a solution, but by paying attention to the challenges of using AI in Islamic Religious Education learning.

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INTRODUCTION

In the 21st century, increasingly rapid technological developments are being used to make work easier and meet human needs (Syazali et al., 2021). One of the technological developments utilized in life is Artificial Intelligence (AI) in the field of educational technology (Huda & Suwahyu, 2024). The use of AI in education has penetrated a number of developed countries in recent years and continues to experience rapid development. The use of artificial intelligence in the context of education can already be identified in several countries. For example, in Australia, an Intelligent Tutoring System has been developed which helps overcome

the problem of imbalance between the number of educators and students (Luckin et al., 2016).

In Japan, there has even been an artificial intelligence robot that took part in the national college entrance exam and managed to obtain a score that qualified for admission to 404 of Japan's 744 private universities (Fauziyati, 2023). This technology opens up new opportunities in the learning process, both inside and outside the classroom, and improves the overall quality of learning. AI has the capability to provide a personalized learning experience that is tailored to the needs of each student. With the support of AI, educators can provide more focused learning guidance that is tailored to the

learning style, abilities, and interests of each student. Islamic Religious Education has a crucial role in shaping character and religious values in a society that is increasingly digitally connected. This digital era has brought significant changes in almost all aspects of life, including in the context of education. The use of technology in Islamic Religious Education is something that can be accessed and enjoyed by anyone. However, in its use, each individual has the freedom to see technology as something that provides positive benefits or actually has negative impacts.

Therefore, the management of technology in the context of Islamic Religious Education must be accompanied by a deep understanding so that education with the use of technology can be realized effectively and efficiently, in accordance with the demands of developments in the current digital era (Ilham, 2022). Therefore, the rapid development of technology must be utilized as well as possible to provide convenience in learning Islamic religious education. Studies on the application of Artificial Intelligence (AI) in the field of education have become an increasingly popular research topic (Huda & Suwahyu, 2024).

Several studies involve recent research, highlighting changes in the learning process in the digital era by describing the competencies of Islamic Religious Education teachers in the digital era. In addition, in an article titled "Utilization of Artificial Intelligence (AI) in the World of Education," author Diantama discusses how the use of AI in education can provide benefits for students and teachers. Another article titled "Impact of artificial intelligence on assessment methods in primary and secondary education: Systematic literature review" by Comesana et al. discusses the use of AI in evaluating student performance and learning outcomes at the elementary and

secondary school levels (Eraku et al., 2021).

Next, in the article "Proposed artificial intelligence algorithm and deep learning techniques for development of higher education" by Al Ka'bi, a model of AI implementation in higher education is discussed with the aim of improving students' cognitive abilities (Al Ka'bi, 2023).

Based on the results of the literature review, research on the challenges or solutions to the use of AI in Islamic religious education learning has not been widely carried out, in addition, education in the Merdeka Belajar era also requires teachers in schools to master innovative technology, so that teachers can apply various technologies to support their learning activities.

The existence of AI will be able to help teachers in designing Islamic religious education learning activities to be more effective. However, behind the convenience offered by AI, there is also another problem, namely that if it is used continuously, it will make students lazy to learn because they are used to getting instant answers without any thinking process, so this research which aims to analyze and describe the use of AI as a solution or challenge in Islamic education will be a novelty for further research.

RESEARCH METHODS

This research is a qualitative research, which is a research procedure that produces descriptive data in the form of words, images, and not numbers, from people or observable behavior. The qualitative approach was chosen because it allows for in-depth exploration and detailed analysis of the implementation of artificial intelligence (AI) in Islamic Religious Education (IRE) learning. This method allows researchers to gain a comprehensive understanding of the practices, challenges, and benefits of using AI in Islamic Religious Education.

The data collection method is carried out by reading, reviewing, and recording various literature materials, scientific journals, and online news that are in accordance with the main topic of

discussion, then filtered and poured into a theoretical framework so that a conclusion can be drawn. Primary and secondary sources are summarized in Table 1.

Table 1. Primary and Secondary Sources

Source Type	Author Name	Book Title	Publisher	Year
Primary	Patrick Henry Winston	Artificial intelligence (3rd ed.)	Addison-Wesley Longman Publishing Co., Inc., United States	1992
Secondary	Earl B Hunt	Artificial Intelligence	Department of Psychology University of Wasingthon Seattle, Washington	2014

The data analysis technique used in this study is thematic analysis. This process involves several stages, including data transcription, repeated reading, coding, grouping codes into themes, and interpretation of findings.

RESULTS AND DISCUSSION

Islamic Religious Education plays an important role in shaping the character and morals of students. Along with the development of the times, the IRE learning method has also changed. One of the innovations that has emerged is the application of AI technology in the learning process. AI offers various conveniences, such as personalization of materials, automatic evaluation, and wider access to information. However, the application of this technology also presents challenges, especially related to ethics, infrastructure, and human resource readiness.

Artificial Intelligence (AI)

Artificial Intelligence (AI) is a branch of science that enables machines, such as computers, to perform tasks and functions as humans can. More specifically, AI involves efforts to develop intelligence in machines based on human-like behavior (Eriana & Zein, 2023).

In the context of AI, there are several important concepts such as machine learning, neural networks, natural

language processing, and many more. The development of AI has had a major impact in various fields such as speech recognition, facial recognition, autonomous cars, medicine, and many more. The application of Artificial Intelligence (AI) can involve various technologies such as machine learning, chatbots, augmented reality (AR), virtual reality (VR), and various other technologies (Tjahyanti et al., 2022).

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education can have a positive impact on student learning outcomes. By utilizing technology, teachers can make the learning process more interactive, interesting, and can help students understand the material better. Technology can enable the use of more innovative and effective learning methods, such as project-based learning, problem-based learning, or adaptive learning (Tanjung et al., 2024).

The development of technology offers many conveniences in student learning that allow for a shift in learning orientation from the process of presenting various knowledge to the process of guidance in conducting individual exploration of science. Technology can be used as an alternative learning media other than conventional learning media such as textbooks. This media can be used

as a support for the learning process so that learning is more effective and efficient, thus facilitating the learning and teaching process in the classroom. Technology for the world of education should mean the availability of channels or facilities that can be used to broadcast educational programs. The use of technology in the field of education is commonplace, namely to help facilitate participants in obtaining current information regarding the subject matter received (Lucky, 2024).

Artificial Intelligence (AI) in Islamic Religious Education Learning Plays a Role as a Solution

In the application of Artificial Intelligence (AI) in learning activities, there are two approaches that can be used. The first approach is the transfer of tasks that are usually done by teachers to AI systems that act as individual tutors for each student. The use of intelligent technology that can adjust learning content for each student has become common in many classrooms, through smart tutor systems (Molenaar, 2021). AI can be a solution for Islamic religious education learning by: 1) Personalization of AI learning. 2) Automatic Assessment. 3) Virtual Tutor. 4) Smart Content. 5) Voice Assistant.

Personalization of AI learning

Personalized learning AI plays an important role in personalized learning by collecting and analyzing data on students' individual needs, preferences, and development. Based on this data, Artificial Intelligence (AI) then provides a learning experience tailored to the needs of each student (Wasehudin et al., 2024). AI can be used to evaluate students' understanding and interests in Islamic Religious Education subjects. Therefore, the curriculum and learning materials can be tailored to individual needs, allowing each student to learn more effectively.

Automatic Assessment

AI is often used for assessment purposes and automatic question assessment through online platforms. This feature makes it easier for teachers and instructors to compile and conduct quizzes and tests in a simpler and more practical way. Teachers and instructors no longer need to create questions and correct answers manually, because the AI system can work according to programmed instructions and can learn from user or student habits (Tjahyanti et al., 2022). Thus, AI can be used to automate assignment assessments and exams in Islamic Religious Education subjects.

Virtual Tutor

This system operates by utilizing machine learning technology, which allows the system to understand teaching patterns and techniques through interactions with students. The AI tutor system can provide automatic feedback and suggestions, as well as provide additional materials and exercises to help students improve their understanding of a particular topic (Mustoip et al., 2024). The AI system can function as a virtual tutor who is ready to guide students in understanding the concepts of Islamic religious education, answer student questions, and provide guidance in carrying out religious practices.

Smart Content

The use of artificial intelligence in smart content makes it easier to search, group, and find digital materials and books that have been programmed virtually faster and more efficiently. Examples of the use of this technology can be found in various digital libraries, both in schools, colleges, and public libraries. Artificial intelligence can help find and categorize the books needed quickly and in an organized manner. In fact, recommendations for books and related

content can be provided according to the search conducted.

Voice Assistant

Voice Assistant is also one of the most well-known AI technologies and is widely used in various fields, including education. Common examples of Voice Assistants are Google Assistant (Google), Siri (Apple), and others. Voice Assistant allows students to search for materials, question references, articles, and books on Islamic Religious Education simply by speaking or mentioning keywords.

Challenges of Artificial Intelligence (AI) in Islamic Religious Education Learning

The use of AI to improve human intelligence and support humans in carrying out the learning process more effectively and efficiently. In addition to being a solution in learning Islamic Religious Education, it must be realized that AI also has its challenges in learning Islamic Religious Education. Some of these challenges are as follows:

Lack of preparation for mastering infrastructure and Internet access, the use of AI technology require thorough preparation and the ability to manage infrastructure, IT, human resources, and others. Therefore, the work of a teacher in preparing infrastructure is fundamental to the success of utilizing AI in Islamic Religious Education learning, because with thorough preparation, a teacher can participate significantly in innovating the Islamic education system in the digital era (Wasehudin et al., 2024).

There is a lot of content that is not relevant to the teachings and curriculum of Islamic education, AI technology provides increasingly global information. With this sophistication,

Students can access various content they want; Therefore, the role of teachers is not only to teach students to integrate technology, but also to guide students to be able to integrate AI technology with the Islamic education curriculum and Islamic

values, and not to deviate from Islamic teachings (Eriana & Zein, 2023).

Interaction problems in the learning process in the classroom, the digital era does provide convenience for everyone who is a member of an educational institution, but the presence of AI also has a negative impact that affects the interaction between students and teachers. Of course, the role of teachers as educators must be able to establish good interactions with students, so that harmony is maintained in the education process.

Data privacy and ethics issues, a teacher should keep student data safe and confidential. The role of teachers in utilizing AI is to teach ethics in utilizing AI. This means that AI can be used to seek knowledge universally, not to create student assignments instantly without studying the material provided, so that there is no misunderstanding in filtering incoming information and knowledge (Farida & Makbul, 2024).

AI Challenges in Human Resources Perspective

The use of AI in human life certainly requires access and availability of resources in implementing AI into religious education, which requires access to technology and adequate mastery of resources, which may be a challenge in areas or communities with limited resources

The challenges faced in presenting AI in religious education will mainly be related to the nature and values of religion, closely attached to humans as God's creatures. Therefore, one of the main challenges is maintaining the human side in the religious learning process, with the presence of AI technology in the learning process, which has penetrated all lines of education, especially religious education

Concerns about the replacement of the role of educators by AI and reduced

interaction between humans in the context of religious education. Concerns that AI will have an impact on the shift in values that are following religion. The challenge is how to ensure that the use of AI in religious education does not reduce or disrupt the process of character formation and values that are taught by religious teachings.

One of the main challenges in integrating AI into religious education is maintaining human values such as emotional nuances, interpersonal relationships, and quality empathy. Religious education is not only about sharing knowledge, but also character formation and forming spiritual values that are difficult to fully imitate by AI

The lack of involvement of religious stakeholders is a challenge in the integration of AI and Religious Education. The challenge is how to involve religious stakeholders in developing and evaluating AI systems for religious education (Raquib et al., 2022).

CONCLUSIONS AND SUGGESTIONS

Artificial Intelligence (AI) holds significant potential to enhance Islamic Religious Education through personalized learning, automated assessments, and virtual tutoring that supports students in understanding religious concepts and practices. Its integration encourages curriculum reform and shifts the role of teachers into facilitators. To ensure effective implementation, it is essential to develop ethical and transparent AI models aligned with Islamic values, enabling technology to serve as a supportive tool without diminishing the human and spiritual dimensions of religious education.

Nevertheless, several challenges hinder the integration of AI. These include the difficulty of conveying deep moral and spiritual values, concerns about AI replacing teachers, cultural resistance to technology, and issues related to data

privacy and ethics. Additional obstacles such as limited infrastructure, internet access, and the abundance of irrelevant content also need to be addressed. Therefore, a comprehensive and value-sensitive approach is necessary to ensure that AI contributes meaningfully and responsibly to religious learning.

That way, AI can serve as a solution to support Islamic Religious Education, as long as the challenges related to its use, such as ethical concerns, cultural resistance, and the preservation of spiritual and human values are carefully addressed. The author's suggestion for further research is that future studies should examine the impact of AI use on teachers and the learning process in greater depth through case studies. This includes exploring changes in teacher roles, the quality of student-teacher interaction, and effective strategies for integrating Islamic values into AI design and implementation within diverse educational contexts.

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