

## **THE USE OF ARTIFICIAL INTELLIGENCE IN TEACHING AND LEARNING IN HIGHER EDUCATION INSTITUTION FROM ISLAMIC PERSPECTIVE**

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### **ABSTRACT**

In recent years, artificial intelligence (AI) has become an increasingly important aspect of education, including teaching and learning in higher education institution. This paper explores the use of AI in teaching and learning from an Islamic perspective, focusing on its potential benefits and challenges. The paper discusses the role of AI in improving the quality of teaching and learning in higher education institution from Islamic view of point. By examining the current state of AI in higher education and its potential future impact, this paper aims to provide a comprehensive understanding of how AI can be integrated into the education system while adhering to Islamic principles and values. The findings of this study show that AI in education requires collaboration to ensure fairness, transparency, and alignment with ethical, cultural, and religious values, while maintaining the role of teachers through professional development.

**Keywords:** Artificial intelligence, AI, teaching and learning, Islamic perspective.

### **INTRODUCTION**

Artificial intelligence (AI) has emerged as a prominent subject of fascination in diverse domains, encompassing education. According to Al-Haimi (2021), AI has the capacity to revolutionise higher education in several ways. The author underscores the significance of equipping students with the necessary skills to harness these advantages in the realm of higher education. AI has the capacity to significantly revolutionise higher education by facilitating customised learning experiences, optimising administrative procedures, forecasting and resolving student difficulties using analytics, and promoting worldwide accessibility to education.

Akinwalere (2022) examines the prospects and obstacles associated with AI in higher education, encompassing its capacity to enhance educational achievements and foster educational excellence. The utilisation of AI-driven technology simplifies the process of generating captivating and interactive instructional content, while virtual and augmented reality enrich the quality of immersive learning encounters. Crompton (2021) emphasises the capacity of AI to enhance teaching and learning in higher education, citing instances such as intelligent tutoring and automated grading. Furthermore, AI simplifies administrative duties and empowers educators to dedicate more attention to teaching and

research. Collectively, these advancements enhance the efficacy, productivity, and learner-focused instructional setting, hence augmenting the overall standard of education.

Within the framework of Islam, AI offers both advantageous prospects and formidable obstacles. It is important for educators and learners to take advantage of the advantages of AI while also safeguarding themselves from its possible hazards (Al-Ubaydli, 2023). The absence of transparency in AI decision-making processes gives rise to ethical problems around accountability and responsibility. The Islamic viewpoint on AI underscores the significance of upholding ethical values and advancing education and awareness on the utilization of AI (Wazir, 2023). As AI progresses, it will be crucial to address these dangers in order to guarantee appropriate and advantageous incorporation into many aspects of teaching and learning in the higher education system.

### **BENEFITS OF AI IN HIGHER EDUCATION SYSTEM**

AI has the potential to improve the quality of higher education in various aspects, such as teaching and learning. Kshirsagar (2022) and Chen (2020) both emphasize the potential of AI to improve the quality of education, with applications in administration, teaching and learning. This is further supported by Alalawi (2021) who highlights the opportunities for development and transformation in education. Liu (2021) expands on this and discusses how AI can promote the innovative development of teaching resources and methods as well as the reform of subject structure and educational content.

It can also help teachers and students in various aspects of education, from the learning process to assessment (Karim & Sugianto, 2023). In learning, AI enables personalized learning experiences by analyzing individual student data to customize educational content and adapt to different learning styles and speeds. Automated assessment tools optimize grading processes and provide students with timely feedback. Agarwal (2022) and Slimi (2022) both emphasize the potential benefits of AI in higher education, including improved learning and teaching processes and assessments. Virtual tutors and AI-powered chatbots provide instant support and improve student engagement and access to resources. AI-driven content creation tools generate interactive and tailored teaching materials.

Furthermore, AI has the potential to improve the effectiveness, efficiency and quality of higher education and lead to the production of more qualified graduates. Automated assessment tools streamline grading processes and provide students with timely feedback. Predictive analytics help identify students at risk of falling behind and enable targeted interventions.

There is no evidence that Islam prohibits or discourages AI, which has many benefits for humans. Furthermore, Allah states in the Quran that man-made objects and inventions, such as ships and tanks, have also been described as Allah's blessings and signs. Likewise, AI applications and other products of human intellect can be viewed as favors from Allah that facilitate us in the various aspects of our lives. However, AI should only be used in a way that is beneficial to people in general, as Allah states in the Quran (Awais, 2022).

AI is increasingly recognized as a transformative force in various areas of society, including education. From an Islamic perspective, the role of technology, especially AI, is seen as crucial in improving the quality of education. By using AI, Muslims can improve

the quality of education and make it more accessible to a wider audience (Karim & Sugianto, 2023).

### **CHALLENGES OF USING AI IN HIGHER EDUCATION SYSTEM**

There are potential and challenges that come along with incorporating AI into educational settings. Al-Ubaydli (2023) states that AI raises doubts about the sanctity of trustworthy sources and the legitimacy of valid materials. This can also result in the distortion of messages and the dissemination of false information. The trustworthiness of credible sources and the validity of valid texts are both challenged by AI, particularly due to the possibility of misinformation and the manipulation of information obtained by AI. Automated content generation technologies that are powered by AI have the ability to produce writings that appear convincing and logical, while simultaneously blurring the distinctions between legitimate and created material. The rapid transmission of information through systems driven by AI can increase the likelihood of the spread of false information and pose a danger to the reliability of sources. The implementation of rigorous fact-checking methods, the mitigation of bias, and the verification of sources are all necessary steps in order to guarantee the legitimacy of accurate information in this age of artificial intelligence.

This article by Pedro (2022) presents an overview of the uses of AI in higher education and explores the prospects, evidence, and obstacles connected with the implementation of AI. The use of AI in higher education carries with it a multitude of consequences as well as ethical problems. Concerns about bias and fairness, privacy issues related to the collection and analysis of student data, transparency and accountability in algorithmic decision-making, risks to academic integrity, and the impact of reliance on technology on critical thinking skills are some of the ethical risks associated with the use of artificial intelligence in higher education. All of this necessitates an approach that is both comprehensive and proactive in order to handle and mitigate these risks in a responsible manner.

In his article from 2021, Xing underlines the importance of maintaining a healthy balance between the responsibilities of human teachers and AI in the evaluation of instruction. This narrow focus has the potential to oversimplify the assessment process and pay insufficient attention to the many different characteristics of good teaching, such as the capacity to interact with others, creativity, and adaptability. When it comes to evaluating instructors, placing an excessive amount of dependence on AI run the danger of weakening the role of human judgment and contextual awareness, which are both necessary for conducting comprehensive evaluations. This might potentially result in a decrease in the quality and accuracy of assessments.

Providing mentors to each learner and developing interaction data to enhance learning are two of the primary problems that Woolf (2013) cites as being associated with the use of AI in education. The present challenges in AI education are brought to light by Kay (2012). These challenges include the creation of tailored teaching systems and the consideration of the learning context. When it comes to personalising educational content, relying on past data might lead to unequal learning experiences and reinforce biases that are already present in the data collection process. Maintaining a balance between individualisation and avoiding reinforcing stereotypes or restricting educational variety is one of the most important challenges that must be overcome in order to achieve individualised instruction through the use of artificial intelligence.

## **ISLAMIC VIEWS ON USING AI IN TEACHING AND LEARNING**

It is generally accepted that Islam promotes the pursuit of knowledge, and technology advancements, particularly the application of AI, are frequently regarded as instruments that can make learning and education easier. The Quran says: Allah will raise by many degrees the believers among you and those who have been given knowledge. And Allah is aware of everything you do (Quran, 58:11). There is a virtue in the pursuit of knowledge through the appropriate methodologies. The person who seeks it will be rewarded in numerous ways. The aforementioned explanation demonstrates that AI has the ability to enhance the learning experience by delivering tailored learning paths, interactive information, and effective evaluation tools.

The Islamic teachings place a strong emphasis on taking responsibility and acting ethically. It is consistent with Islamic beliefs to make ethical use of AI in education in a way that guarantees fairness, openness, and accountability. In Islam, fairness and justice are considered to be vital principles. The Quran says that you who believe stand steadfastly for Allah and are witnesses of justice (Quran, 4:135). When it comes to all elements of life, including education and learning, the Quran places a strong emphasis on the significance of righteousness and fairness. As the verse implies, Muslims are obligated to maintain their steadfastness in the pursuit of justice and to serve as witnesses to it.

Another verse of the Quran mentions the importance of accountability. This is what it says, and do not pursue what you have no knowledge of. Verily, the hearing, the sight and the heart - all of these are called into question (Quran, 17:36). As a result, it is essential for researchers and educators to emphasise the significance of ethical norms in the process of developing and utilising AI systems.

Islam places a high importance on human interaction and personal relationships, despite the fact that technology has the potential to improve education. A number of people could be wary about placing an excessive amount of dependence on AI in the field of education since it might be regarded as having the potential to damage the personal connection that exists between teachers and students. The fact that people possess a brain and five senses is one of the reasons why communication is regarded as being significant from an Islamic context. Additionally, communication is a significant and crucial component in the process of bringing individuals together (Ghani, 2009).

The Islamic religion encourages the dissemination of information for the betterment of society. The application of AI in education has the potential to make learning more accessible to a wider audience, including individuals who may have difficulties in accessing traditional educational resources due to factors such as geography or economics. This has the potential to eliminate the notion of exclusivity for everyone, without permitting any individual to fall behind in their pursuit of knowledge.

## **CONCLUSION AND RECOMMENDATION**

The implementation of AI in the classroom necessitates the participation of educators, educational leaders, policy makers, researchers, and innovators and providers of educational technology in order to address the critical policy concerns that are a direct result of the implementation of AI in educational settings. The purpose of this policy is to ensure that AI applications in education are fair, transparent, and respect the rights of

both students and teachers. It should also address issues relating to the preservation of data, the transparency of algorithms, and the minimisation of bias.

It is also essential to build ethical and regulatory frameworks in order to oversee the use of AI in education. Additionally, it is essential to make certain that AI systems are in accordance with religious and cultural views in order to guarantee that they will be accepted by society. For the purpose of guiding the ethical development and application of AI technologies, Islamic scholars and professionals should design a complete framework. Transparency, fairness, and accountability should be emphasised within this framework, and AI systems should be aligned with Islamic concepts of justice and justice.

In addition, methods for ongoing study and evaluation should be established in order to monitor the influence that AI has in educational settings. This will ensure that policies continue to respond to new issues and are consistently aligned with the ideals of fairness, accountability, and inclusion.

In spite of the fact that AI has demonstrated a good impact on education, it is essential to strike a balance between the incorporation of technology and ethical issues, and to make certain that the human element of teaching and learning is not neglected. Instead of focusing on replacing teachers, educational institutions should make it a priority to build AI systems that assist and augment the talents of teachers. A collaborative atmosphere can be fostered through the implementation of ongoing professional development programs for educators that center on the ethical and efficient application of AI.

## REFERENCES

- Agarwal, N., Kumar, S., Anand, S.K., Dharwal, M., & Vatsa, M. (2022). Artificial Intelligence and Higher Education Institutions. *International Conference on Smart and Sustainable Technologies in Energy and Power Sectors (SSTEPS)*, 185-187.
- Akinwalere, S.N., & Ivanov, V. (2022). Artificial Intelligence in Higher Education: Challenges and Opportunities. *Border Crossing*.
- Alalawi, Z., Ramachandiran, C. R. & Arabee, Z. (2021). The impact of using artificial intelligence applications in teaching. *Journal of Applied Technology and Innovation*. (pp.63-68)
- Al-Ubaydli, O. (2023, April 10). *While embracing its benefits Muslims must be wary of artificial intelligence*. Alarabiya News.
- Retrieved from <https://english.alarabiya.net/views/2023/04/10/While-embracing-its-benefits-Muslims-must-be-wary-of-artificial-intelligence->
- Al-Haimi, B., Hujainah, F., Nasir, D., & Alhroob, E. (2021). Higher Education Institutions with Artificial Intelligence: Roles, Promises, and Requirements. *Applications of Artificial Intelligence in Business, Education and Healthcare*.
- Awais, A. (2022). *Islam on Artificial Intelligence*. Islam Explained.
- Retrieved from <https://islamexplained.info/2022/11/05/islam-on-artificial-intelligence/>
- Chen, L., Chen, P., & Lin, Z. (2020). Artificial Intelligence in Education: A Review. *IEEE Access*, 8, 75264-75278.

- Crompton, H. & Song, D. (2021). The Potential of Artificial Intelligence in Higher Education. *Revista Virtual Universidad Católica del Norte*.
- Ghani, Z. A. (2009). Dasar komunikasi negara dalam konteks pendekatan Islam Hadhari. Bangi: Universiti Kebangsaan Malaysia.
- Karim, A. R. & Sugianto, H. (2023). Measuring the Future Needs of Islamic Education Through the Role of Artificial Intelligence. *Proceedings of 1<sup>st</sup> International Conference on Education, Society and Humanity*. Vol. 1 No. 1, (pp.1082-1091)
- Kay, J. (2012). AI and Education: Grand Challenges. *IEEE Intelligent Systems*, 27, 66-69.
- Kshirsagar, P.R., Jagannadham, D.B., Alqahtani, H., Noorulhasan Naveed, Q., Islam, S., Thangamani, M., & Dejene, M. (2022). Human Intelligence Analysis through Perception of AI in Teaching and Learning. *Computational Intelligence and Neuroscience*, 2022.
- Laura Jimenez and Ulrich Boser, 2021. Future of Testing in Education: Artificial Intelligence. Retrieved from <https://www.americanprogress.org/article/future-testing-education-artificial-intelligence/>
- Liu, Y., Saleh, S., & Huang, J. (2021). Artificial Intelligence in Promoting Teaching and Learning Transformation in Schools. *International Journal of Innovation, Creativity and Change*.
- Pedró, F., Subosa, M., Rivas, A., & Valverde, P. (2019). Artificial intelligence in education: challenges and opportunities for sustainable development.
- Slimi, Z. (2022). The Impact of Artificial Intelligence on Higher Education: An Empirical Study. *European Journal of Educational Sciences*. Vol. 10 No.1. (pp.17-33)
- U.S. Department of Education, Office of Educational Technology, Artificial Intelligence and Future of Teaching and Learning: Insights and Recommendations, Washington, DC, 2023.
- Woolf, B., Lane, H., Chaudhri, V.K., & Kolodner, J.L. (2013). AI Grand Challenges for Education. *AI Mag.*, 34, 9-.
- Wazir, S. (2023, June 7). *The Muslim Perspective on Artificial Intelligence: Embracing Technology with Ethical Considerations*. LinkedIn.  
Retrieved from <https://medium.com/@shahhassanwaxir/title-the-muslim-perspective-on-artificial-intelligence-embracing-technology-with-ethical-c2e51524995f>
- Xing, H. (2021). Challenges and Countermeasures of artificial intelligence in classroom teaching. *Frontiers in Educational Research*.