Chapter 7

AI for English Learning in Islamic Higher Education

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1. INTRODUCTION

Artificial Intelligence (AI) has become a pivotal innovation in the field of language pedagogy. With the recent developments in AI, particularly reinforcement learning techniques, the future holds exciting possibilities of where AI will take education (Chaudhry & Kazim, 2022). In the context of English language learning within Islamic higher education, AI serves not only as a technological tool but also as a pedagogical driver capable of transforming both learning and instructional methodologies. Employing this technology not only enhances English language skills but also expands pupils' intellectual and religious perspectives (Efrizal, 2024).

The integration of AI in English language learning has triggered a significant paradigm shift globally, including within the scope of Islamic Higher Education (PTKI). The emergence of Generative AI-based tools provides solutions to common obstacles in mastering a foreign language, namely limited classroom interaction time and restricted involvement of students with their desired language.

GenAI tools are changing the way teaching and learning content can be generated and provided, also in the future, content generated through human-AI conversations may become one of the main sources of knowledge production (UNESCO, 2023). However, the utilization of AI still leaves several problematic issues that require in-depth examination, ranging from the conceptual framework and practical applications to ethical challenges and appropriate pedagogical strategies (Alhusaiyan, 2024; Zawacki-Richter et al., 2019). Islamic higher education needs to formulate appropriate pedagogical strategies so that the integration of AI is not merely a technological trend, but truly supports the achievement of students' academic and spiritual goals.

This chapter aims to comprehensively map the use of AI in English language learning at Islamic higher education. Thus, this entire discussion is expected to provide a comprehensive overview of the strategic role of AI in English language learning at PTKI, while also offering relevant directions for development in the field of Islamic education in the digital age.

2. DISCUSSION

The integration of Artificial Intelligence (AI) into English language learning at Islamic Higher Education (PTKI) presents both significant opportunities and challenges. The discussion will begin by establishing a conceptual framework for AI in language learning, and then analysing various hands-on uses specifically for learners. Next, this chapter will examine the challenges and crucial ethical considerations from an Islamic educational perspective, before finally formulating effective pedagogical strategies for integrating AI into the curriculum.

2.1 Conceptual Framework of AI in Language Learning

The use of Artificial Intelligence (AI) in language learning is increasingly becoming an Artificial Intelligence (AI) has become a significant breakthrough in language learning processes in higher education. At Islamic higher education, AI can improve English

language learning and integrate academic knowledge with Islamic principles. The basic structure of AI in language learning generally consists of four interconnected elements: AI technology, the integration of teaching methods, learner involvement, and educational achievements.

First, artificial intelligence technology serves as the cornerstone of this framework. Various tools such as smart tutoring systems, natural language processing, machine learning, and speech recognition technology help create a more personalized and a successful language-mastery journey. These systems can assess student responses, identify errors in language usage, and provide immediate feedback on grammar, pronunciation, and writing skills. In this way, students can be more independent in learning English and receive ongoing learning support outside of class hours. Artificial intelligence is considered important in education because it can build learning systems that adapt to students' needs and academic growth (Luckin et al., 2016).

Second, pedagogical integration ensures that AI technology is utilized effectively in the learning process. AI serves as a tool, not a replacement for instructors. Instructors design learning activities that combine AI technology with interactive and collaborative methods (Hasbi, 2025). For example, AI-based chatbots or writing aids can help students practice academic English, while instructors continue to provide guidance and assessment. In an Islamic higher education setting, English language learning materials can also incorporate themes or texts related to Islam, thereby reinforcing religious and cultural values while learning the language.

Third, student engagement and the personalization of the learning experience are crucial elements in an AI-supported learning environment. AI technology can analyse data from the learning process and tailor content, homework assignments, and feedback to match students' abilities and learning pace. This personalized approach can boost students' motivation and confidence because

they receive support that is better tailored to their needs (R. Zawacki, et al., 2019).

Finally, the primary goal of AI integration is to enhance learning outcomes. AI-supported learning can improve students' English proficiency and encourage them to engage in independent learning, critical thinking, and digital literacy. These skills help students participate in global academic communication without neglecting their ethical awareness and cultural identity.

Overall, this conceptual framework demonstrates the interconnection between AI technology, teaching methods, student participation, and learning outcomes in enhancing the English language learning process at Islamic higher education.

2.2 Applications of AI in English Learning

Artificial Intelligence (AI) is increasingly being used to help people master English through a variety of digital apps that support interactive, personalized learning. Some apps commonly used by students include Duolingo, Grammarly, and ELSA Speak (Hasbi et al., 2024). Duolingo uses AI algorithms to tailor learning tasks to a student's progress. Grammarly provides automatic feedback on grammar, vocabulary, and writing clarity, while ELSA Speak utilizes speech recognition technology to help students improve their pronunciation and speaking accuracy. These tools give students the opportunity to practice English more independently and receive real-time feedback during the learning process.

The use of AI in language acquisition can also be understood through the concept of AI-based adaptive learning, which emphasizes the importance of intelligent systems in tailoring instructional materials to students' needs and performance. This method creates a more personalized learning experience, increases student engagement, and improves the efficiency of the learning process in language education (Holmes, Bialik, & Fadel, 2017).

2.3 AI Barriers and Ethics

The integration of Artificial Intelligence (AI) into English language learning offers many benefits, but it also presents several challenges

and ethical issues. One of the main challenges is data security, as AI-based learning systems often collect and analyse large amounts of data about students to make the learning process more personalized. Another challenge is overreliance on AI technology, which can diminish students' ability to learn independently and think critically (Hasbi et al., 2025). Additionally, unequal access to digital technology can create a digital divide, where some students have more opportunities to enjoy the benefits of AI-based learning than others.

In the context of Islamic higher education, ethical issues also encompass efforts to uphold academic integrity, the wise use of technology, and alignment with Islamic values in the learning process. AI should serve as a tool that enriches the learning process, while ensuring that the role of instructors remains crucial in guiding students' academic and moral development.

These challenges can be understood through the Technology Pedagogical Content Knowledge (TPACK) framework, which emphasizes the importance of a balance between technological knowledge, pedagogical knowledge, and content knowledge in the effective application of technology in education (Islamiah et al., 2026). Without proper integration, the use of technologies such as AI can lead to learning difficulties and ethical issues in educational practice (Koehler & Mishra, 2009).

2.4 Pedagogical Strategies for AI Integration

The integration of Artificial Intelligence (AI) into English language learning at PTKI requires a pedagogical framework that encourages students to learn independently. This approach can be grounded in Self-Directed Learning theory, where AI functions as a personal tutor that allows students to control the pace and depth of their own language learning (Knowles, 1975). In this way, this strategy has the potential to create a flexible learning environment at PTKI, where AI technology helps students achieve academic independence consistent with the values of discipline and personal responsibility.

Beyond autonomy, the effectiveness of AI integration depends on how users perceive it, as explained by the Technology Acceptance

Model. Teaching strategies must ensure that AI tools are viewed not only as beneficial but also as easy to use for language tasks (Davis, 1989). At PTKI, this ease of use is intended to help students access English-language Islamic materials from around the world. Therefore, the success of AI implementation at PTKI is measured not only by how advanced the technology is, but also by how much these tools facilitate students in using language as a key to exploring global Islamic intellectual insights.

Furthermore, this integration must follow a constructivist learning approach, in which AI serves as a tool for building knowledge through interaction, rather than merely as a machine that answers questions (Vygotsky, 1978). In this context, AI acts as a "Know-More," providing intellectual support to students when they encounter language difficulties or new vocabulary. Interacting with AI creates a digital Zone of Proximal Development, an area where students can surpass their current language abilities through active collaboration with an intelligent system (Crompton & Burke, 2023). At PTKI, constructivist thinking aligns with Islamic intellectual traditions that emphasize discussion and critical thinking. Students do not merely passively receive information from AI; rather, they engage it as a dialogue partner to clarify and better understand Islamic concepts in English. In this way, AI serves as a tool that supports the development of both language skills and critical thinking skills.

Thus, the integration of AI into English language learning at PTKI is a combination of self-directed learning, technology adoption, and knowledge enhancement. Functioning as a personal tutor and dialogue partner, AI helps students access global resources and develop critical thinking skills aligned with Islamic intellectual values.

3. FUTURE DIRECTION

The integration of artificial intelligence into English language instruction at Islamic higher education will, in the future, evolve from the use of generative tools as passive aids to more autonomous collaborative partners. The current main discussion centres on the

tension between “AI-giarism” and the importance of AI literacy as a future skill. On one hand, there is concern that excessive reliance on AI could diminish students’ theological and critical thinking abilities when dealing with complex religious texts. Conversely, AI offers an unprecedented level of personalization. In the future, the curriculum must prioritize digital ethics aligned with Islamic principles, ensuring that technology serves to enhance—rather than replace—the authenticity of human thought (Miao et al., 2021).

Furthermore, long-term success depends heavily on a shift in the role of educators in managing the interaction between humans and machines. This requires the design of reflective tasks in which students can critically evaluate the results produced by machines. One of the primary concerns is the “black box” nature of AI algorithms, which may lack transparency and contain cultural biases that conflict with Islamic values. Therefore, a forward-looking vision must prioritize the protection of academic freedom as well as the essence of humanity in the learning process. As explained by Popenici and Kerr (2017), higher education must ensure that the implementation of AI does not lead to the commercialization of learning or the elimination of human interaction, which is at the core of the educational relationship.

Ultimately, the implementation of AI in Islamic higher education is not merely about adopting the latest technology, but rather about how we navigate this digital transformation without compromising the ethical principles and spiritual depth that lie at the heart of Islamic education.

Author

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