

AI-Assisted Maharah Kalam Learning at STIT Al Muslihuun Tlogo Blitar in the Society 5.0 Era

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ABSTRACT

This study examines the use of artificial intelligence in maharah kalam (Arabic speaking skills) learning at STIT Al Muslihuun Tlogo Blitar within the context of the Society 5.0 era. It aims to explore how artificial intelligence supports speaking practice, facilitates learning interactions, and contributes to students' oral communication skills. The study employed a qualitative descriptive approach. Data were collected through observation, interviews, and documentation, and analyzed descriptively to identify patterns in the implementation of artificial intelligence and the challenges encountered during the learning process. The findings indicate that artificial intelligence has the potential to support students' speaking practice and provide additional opportunities for learning interaction. However, its use remains constrained by users' adaptation to the technology and the availability of supporting resources. These findings suggest that the integration of artificial intelligence into Arabic speaking instruction requires careful consideration of students' learning needs, technological readiness, and institutional conditions. The study provides practical considerations for designing artificial intelligence-assisted speaking activities that complement lecturers' roles and support meaningful interaction in Arabic language learning.

Keywords: Arabic Language Learning; Artificial Intelligence; Maharah Kalam; Society 5.0

ABSTRAK

Penelitian ini mengkaji pemanfaatan kecerdasan buatan dalam pembelajaran maharah kalam di STIT Al Muslihuun Tlogo Blitar dalam konteks Era Society 5.0. Penelitian ini bertujuan untuk mengeksplorasi pemanfaatan kecerdasan buatan dalam mendukung latihan berbicara, memfasilitasi interaksi pembelajaran, dan menunjang keterampilan komunikasi lisan mahasiswa. Penelitian menggunakan pendekatan kualitatif dengan desain deskriptif. Data dikumpulkan melalui observasi, wawancara, dan dokumentasi, kemudian dianalisis secara deskriptif untuk mengidentifikasi pola penerapan kecerdasan buatan serta kendala yang muncul selama proses pembelajaran. Hasil penelitian menunjukkan bahwa kecerdasan buatan berpotensi mendukung latihan berbicara mahasiswa dan memberikan kesempatan tambahan untuk berinteraksi dalam pembelajaran. Namun, pemanfaatannya masih menghadapi kendala berupa proses adaptasi pengguna terhadap teknologi dan ketersediaan sumber daya pendukung. Temuan ini menunjukkan bahwa integrasi kecerdasan buatan dalam pembelajaran keterampilan berbicara bahasa Arab perlu mempertimbangkan kebutuhan belajar mahasiswa, kesiapan teknologi, dan kondisi institusi. Penelitian ini memberikan pertimbangan praktis dalam merancang kegiatan pembelajaran maharah kalam berbantuan kecerdasan buatan yang melengkapi peran dosen dan mendukung interaksi pembelajaran bahasa Arab yang bermakna.

Kata-kata Kunci: Kecerdasan Buatan; Maharah Kalam; Pembelajaran Bahasa Arab; Society 5.0

INTRODUCTION

The Society 5.0 era encourages changes in the implementation of education through the use of digital technology, including artificial intelligence (AI). The presence of this technology opens up opportunities for educators to develop a more adaptive learning experience that is in accordance with the needs of students. In Arabic language learning, one of the skills that has the potential to benefit from the use of AI is maharah kalam, which is the ability to express ideas orally. These skills are not enough to be developed

through mastery of vocabulary and language rules alone, but also require speaking practice and opportunities to interact on an ongoing basis. At STIT Al Muslihuun Tlogo Blitar, the development of maharah kalam is an important aspect of learning Arabic. However, its implementation can face obstacles in the form of limited opportunities for students to practice orally and limited interaction time during lectures. This condition raises the need to examine how AI can be used as a means of supporting speaking exercises, as well as identifying opportunities and obstacles to its application in the context of learning at the university (Mufid & Muassomah, 2025; Shao et al., 2022; Zikrillah et al., 2026).

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Arabic language learning has also experienced significant development over time, especially in this era of Society 5.0. Educators need to adapt to the changes that occur in order to open students' insights into digital literacy (Anwar & Ahyarudin, 2023; Valtonen et al., 2022). With the opening of access to digital literacy and artificial intelligence, it is hoped that the quality of Arabic language learning will increase, supported by the integration of technology in education. Meanwhile, educational technology is a discipline that focuses on the application and management of technology to support the learning process and improve performance by utilizing, applying, and empowering relevant technology resources (Jafar et al., 2026; Moustafa et al., 2026).

The professionalism of lecturers is reflected in several aspects that support the implementation of quality educational tasks. First, lecturers are able to utilize information and communication technology to develop self-competence and improve the quality of learning. Second, lecturers show personal characters that support the implementation of their duties, such as patience, confidence, courage, enthusiasm, perseverance, and seriousness in work. Third, lecturers have a high sense of responsibility and work ethic in carrying out their professional obligations. Fourth, lecturers uphold good personalities, noble morals, and noble ethics by emulating the exemplary values of the Prophet Muhammad SAW (Iqbal et al., 2026; Khatimah et al., 2025; Purwaningsih & Muliyardari, 2025).

The development of society in the era of Society 5.0 led to the formation of a life order known as a super smart society. In contrast to Society 4.0 which is synonymous with the use of information technology and the development of an information-based society, Society 5.0 emphasizes the use of technology to support human life. In this framework, the advancement of digital technology, including artificial intelligence, is not only seen as a means to increase efficiency, but also as an instrument to answer social needs. The use of technology is expected to expand access to services, reduce gaps between community groups, and accommodate differences in age, gender, and language. Thus, the orientation of Society 5.0 is to encourage the use of technological innovation so that its benefits can be felt by individuals and society more broadly, equitably, and inclusively (Gobinath, 2024; Narvaez Rojas et al., 2021; Patrikakis & Law, 2022).

In the concept of Society 5.0, the use of technology is directed to build a more inclusive and equitable community order. This orientation is realized through the development of innovations, products, and services that take into account the diversity of characteristics and needs of society. Differences in social conditions, age groups, genders, and languages should not be an obstacle for a person to benefit from technological developments. Therefore, the integration of technology in social life is expected to expand access to various opportunities and services equally, while encouraging the creation of a participatory society and ensuring that technological progress can be felt by all groups of people (Bartoloni et al., 2022; Nota et al., 2023; Troisi et al., 2023).

The development of digital technology has encouraged the use of Artificial Intelligence (AI) as one of the innovations that has the potential to support transformation in various fields, including education. In Arabic language learning, AI technology can be used to support the learning process to be more adaptive,

effective, and interactive. This technology also allows the presentation of materials and feedback tailored to the needs and abilities of each student. The implementation of AI in the field of education has been developed in a number of countries with diverse approaches. One example is Australia, which has developed an Intelligent Tutoring System (ITS) based learning system to support the learning process of students (Hannan & Bokhove, 2026; Létourneau et al., 2025).

The use of technology in education is increasingly relevant as digital transformation takes place. The presence of technology provides opportunities for educators to design learning activities that are more varied, participatory, and in accordance with the needs of students. In addition to supporting the process of delivering materials, technology integration can also encourage the development of competencies needed to face various challenges in daily life. Through a technology-based learning approach, the knowledge learned in the classroom can be linked to the real-life context, so that students not only understand concepts theoretically, but are also able to identify their application in various situations. Thus, the learning process is expected to build a deeper understanding and provide relevant benefits for students' lives (Godsk & Møller, 2025; Mallek et al., 2024).

Digital literacy is one of the important competencies in dealing with the development of information technology, which includes the ability of individuals to access, understand, select, and utilize information from various digital sources appropriately and efficiently. In the context of learning, digital literacy is realized through the use of digital platforms and devices, the use of technology-based media, and the search for knowledge sources through websites and various other digital services. The mastery of these competencies can support students' independence in obtaining teaching materials, expanding academic references, and finding information that is relevant to their learning needs (Smith & Storrs, 2023).

In addition, technology in learning is also able to encourage the creation of reflective thinking in students. With access to various digital information sources and technology-based learning tools, students can more freely explore various perspectives and information. This triggers them to think more critically and reflectively about the material studied, as well as develop their analytical skills. This reflection process not only helps students understand the material more deeply, but also trains them to become independent learners who can think critically in solving problems (Liu et al., 2023; Sabbah et al., 2023).

The integration of technology in learning also opens up a wider space for student participation during the educational process. The support of digital devices and services allows for more flexible interactions between students, educators, and resource persons who have certain skills. Various facilities, such as video conferences, virtual discussion rooms, and digital-based simulations, can be used to provide a learning experience that goes beyond the limitations of face-to-face interaction in the classroom. The use of these facilities provides opportunities for students to exchange ideas, work together, and engage in learning activities more intensively. Thus, technology can support the formation of an interactive, collaborative learning atmosphere and provide a space for participation for every student.

The effectiveness of technology-based learning can be supported by three main aspects. First, learning needs to be directed at the development of students' ability to analyze and solve authentic problems related to daily life. This contextual approach allows learning materials to be closer to the reality faced by students, so that it can increase the relevance of the curriculum while encouraging the growth of interest and motivation to learn. Second, learning activities need to provide space for students to reflect on the knowledge, experience, and learning process that have been passed. Third, the use of technology should support the development of students' potential while strengthening their active participation in each stage of learning.

METHOD

A qualitative-descriptive approach was chosen to understand in depth how Artificial Intelligence (AI)-based maharoh kalam learning is implemented at STIT Al Muslihuun Tlogo Blitar. This study aims to explore the experiences, views, and learning outcomes of the application of AI technology in learning speaking skills among students.

The collection of research data was carried out comprehensively, which was carried out by direct observation in class to see how the maharoh kalam learning process using AI takes place. In-depth interviews with lecturers, students, and technology managers involved, to gain perspectives on the effectiveness and challenges that arise from the application of AI. The documentation used in this study includes student learning outcome reports, learning syllabus, and teaching materials developed using artificial intelligence (AI) technology. These documents serve as additional sources of information to complement and confirm the data obtained through observation and interviews. Meanwhile, Arikunto

explained that the data source in the research refers to the subject or party from which the data needed to answer the research problem is obtained.

Data analysis using the Miles and Huberman model. At data reduction, the data collected from observations, interviews, and documentation is filtered to retrieve information relevant to the research objectives. Data reduction is carried out gradually during the data collection process, so that researchers can focus more on important aspects of the implementation of AI in maharoh kalam learning. For example, data on technical challenges, effectiveness in learning, and students' responses to the use of AI will be filtered and selected according to the focus of the research.

The next stage is data presentation, which is the process of arranging information that has gone through a reduction stage so that it is systematically arranged and easy to interpret. The information can be presented in the form of narrative descriptions, tables, and diagrams according to the characteristics of the research data. In the study of the use of AI in learning, data presentation can be done by categorizing interview results based on the contribution of technology to the development of students' speaking skills and describing the results of observations regarding the patterns of student interaction with AI applications. The organization of the data helps researchers identify the relationships between findings, understand emerging patterns, and obtain a more complete picture of the learning dynamics being studied.

The final stage of data analysis is carried out through the formulation of conclusions based on information that has been selected and systematically compiled in the previous stage. At this stage, the researcher interprets the research findings to answer the formulation of the problem, including examining the contribution of the use of AI to the development of students' speaking skills (maharah kalam). The conclusions formulated are then re-examined to ensure their suitability with the available empirical evidence. One of the efforts that can be made is triangulation of sources and techniques, which is to examine the suitability of information obtained through interviews, observations, and documentation. This process helps the researcher assess the consistency of the findings and increase the credibility of the research results.

RESULT AND DISCUSSION

The results of the study show that the implementation of maharoh kalam learning supported by Artificial Intelligence (AI) technology at STIT Al Muslihuun Tlogo Blitar has shown significant results to form maharoh kalam skills for students. From observations and interviews, it can be seen that students are more actively participating in the learning process. With the interactive features of AI-based applications, students can practice speaking independently and receive instant feedback, which increases their confidence when communicating in Arabic.

One of the prominent aspects of the use of AI in learning is its ability to support the presentation of material related to real-life contexts. Based on students' experiences, learning materials that are close to everyday situations can create a more interesting and meaningful learning process. The application of this approach can be realized through conversational exercises in various social situations, discussions about cultural diversity, and communication simulations that reflect interactions in the community. The connection between learning materials and real experiences has the potential to boost students' motivation while helping them understand the use of speaking skills in daily communication.

However, this study also identified several challenges in the implementation of AI. Some teachers expressed difficulties in integrating this technology into their conventional teaching methods. The limited technical understanding and inadequate hardware in some classes are obstacles to the development of more optimal learning. Therefore, training for lecturers on the use of AI technology and the provision of adequate facilities in the success of this program are very important to continue to be monitored and receive serious attention from all parties.

Beyond technical constraints, the implementation of AI-based learning also shows a difference in the level of adaptation and student participation. Students who already have experience and skills in using digital technology generally find it easier to follow the learning process, while students with limited digital skills tend to need additional time and assistance. This condition shows the need for a learning strategy that pays attention to the diversity of individual abilities and needs. Providing appropriate direction, mentoring, and support can help students overcome obstacles in utilizing AI technology. Therefore, strengthening digital literacy needs to be integrated into learning planning so that every student has a more equal opportunity to benefit from the use of this technology.

Based on the overall findings, the use of AI in maharah kalam learning at STIT Al Muslihuun Tlogo Blitar shows the potential to support the development of students' speaking skills through a more contextual and interesting learning experience. In order for its implementation to run optimally, continuous efforts

from educational institutions are needed, including through periodic reviews of the implementation of technology-based learning, improving lecturers' competence in utilizing AI, and providing adequate facilities and infrastructure. The synergy between educator readiness, institutional support, and the use of technology in accordance with learning needs is expected to improve the quality of the educational process. Thus, AI-based learning has the opportunity to be an alternative to prepare graduates who have communication skills and are able to adapt to the demands of technological developments in the Society 5.0 era.

Here are some types of Artificial Intelligence (AI) that can be implemented for learning maharoh kalam (speaking skills) along with examples of their applications:

Table 1. Types of Artificial Intelligence and Their Applications in Mahārat al-Kalām Learning

Type of AI	Implementation in Learning	Example Application
Adaptive Learning System	This application allows the adjustment of learning materials based on the progress and individual needs of students. In the context of maharoh kalam, this application can provide speaking exercises that suit students' abilities, so that each individual gets a personalized learning experience.	Smart Sparrow
Virtual Assistants (Chatbots)	The app uses chatbots designed to help students practice conversations in Arabic. Students can interact with the chatbot in everyday situations, receive instant feedback on pronunciation and grammar, and improve their speaking skills practically	Duolingo Chatbot
Voice Analysis	The app uses voice analysis technology to provide feedback on students' pronunciation and intonation. By doing speaking exercises, students can get an analysis of the clarity and accuracy of their pronunciation, which helps them improve their speaking skills.	SpeechAce
Game-Based Learning	The app offers interactive learning through games and conversational scenarios. Students can practice speaking in a fun context, thus increasing their motivation and engagement in language learning.	Rosetta Stone
Online Learning Platforms	The platform allows teachers to upload learning materials, quizzes, and speaking activities that students can access online. Using AI, Edmodo can recommend relevant content based on student progress, making the learning experience more adaptive.	Edmodo
Interactive Simulation	The app offers AI-based simulations to practice speaking in real-life situations. College students can interact with virtual characters in realistic conversation scenarios, getting live feedback on their speaking performance.	Engage
Sentimen Analysis	Although it is more commonly used in the context of writing, it can also analyze students' emotional reactions to learning materials. By monitoring students' verbal responses in discussion forums, these applications can help teachers understand students' levels of engagement and understanding.	Textio
Automatic Translation	Although it is not a hands-on teaching tool, it helps students understand the Arabic text they are learning. With the instant translation feature, students can enrich their vocabulary and improve their language understanding.	Google Translate

By applying various types of AI and its applications in learning maharoh kalam, educational institutions are able to create a creative, innovative and effective learning atmosphere in order to encourage students to develop their maharoh kalam better. Based on interviews with lecturers who teach maharoh kalam, the application of AI is very helpful, especially in providing real-time feedback to students. Previously, the time to provide corrections was very limited, but now AI applications can directly assess students' pronunciation and point out their mistakes. This speeds up their learning process.

Meanwhile, other lecturers also mentioned that AI helps lecturers in monitoring the development of each student more specifically. With the existing analytics feature, it can be seen where each student's

weaknesses lie, so that they can emphasize the aspects they need more. However, they also feel that there are challenges in learning this technology, especially because some lecturers are still not familiar with digital applications.

Another source also mentioned that the main challenge for us is the limited facilities and understanding of technology. Some classrooms do not have adequate technology infrastructure, and there are also lecturers who find it difficult to adapt their teaching methods to AI technology. However, over time, we see that the benefits are immense for students, so lecturers continue to learn and adapt.

Based on the information obtained through interviews, students felt an increase in confidence in communicating using Arabic after using AI applications as a means of independent practice. The flexibility of using this technology allows them to practice without being bound by a certain time. In addition, the feedback provided directly, especially related to the accuracy of pronunciation and the use of grammar rules, helps students recognize and correct mistakes before practicing speaking in front of the class. Thus, AI acts as a supporting medium that provides opportunities for students to prepare themselves more independently before engaging in oral communication activities.

Other students also explained that AI is very helpful, especially because it allows me to learn outside of the classroom. The AI application used in the classroom gave me the flexibility to practice at home, so I didn't have to wait for lecture time. In addition, AI also provides detailed explanations when it is wrong, so it is easier to learn.

Another source also mentioned that initially, they felt a bit awkward because this technology was quite new to college students. Sometimes, when interacting with virtual assistants or apps, there were some words that weren't recognized correctly, so I had to repeat them a few times. But overall, AI helps college students in learning faster.

The findings of the interviews indicate that the use of artificial intelligence in maharah kalam learning at STIT Al Muslihuun Tlogo Blitar contributes to the provision of a more flexible learning experience. These benefits are reflected in the availability of direct feedback, opportunities to practice independently, and support for the development of students' Arabic speaking skills. However, its implementation still faces a number of obstacles, especially related to the availability of technological facilities and the readiness of teachers to integrate AI into learning activities.

Therefore, it is necessary to strengthen lecturers' competencies through continuous training, accompanied by the provision of adequate facilities and assistance. From the student side, the use of AI tends to be perceived positively because it provides a training space that can support their confidence. However, some students still need time to adapt to the technology in the early stages of its use.

Discussion

The use of Artificial Intelligence (AI) in maharah kalam learning at STIT Al Muslihuun is a form of educational adaptation to technological advances in the Society 5.0 era. This paradigm emphasizes the use of technology while remaining oriented to human needs, including in the implementation of learning. In learning Arabic speaking skills, AI has the potential to provide a more flexible learning experience through material adjustments, opportunities to practice independently, and providing feedback according to student needs. However, the application of this technology needs to be critically studied to find out the extent to which its use supports the development of students' speaking skills, as well as identify various obstacles that arise during the learning process.

The use of Artificial Intelligence (AI) in maharah kalam learning provides opportunities for students to develop speaking skills more independently. The practice process is no longer limited to face-to-face activities with lecturers, but can be done flexibly through AI-based applications according to the time and needs of each student. This technology can also provide direct feedback related to aspects of pronunciation, grammatical accuracy, and intonation, so that students have the opportunity to evaluate the results of exercises on an ongoing basis. This flexibility is one of the advantages of digital learning, especially for students who have activities outside of lectures. However, the use of AI still has limitations, especially in understanding cultural nuances, contextual meanings, and complex communication situations. Therefore, the use of AI needs to be combined with direct interaction and mentoring of lecturers so that learning Arabic is not only oriented to linguistic accuracy, but also to the ability to communicate according to the context.

Although AI improves efficiency in learning, there is a risk of dehumanization in the educational process. Direct interaction with lecturers and classmates in the context of real conversations often involves emotional and social factors that AI cannot simulate. Human communication is not just about pronouncing words correctly, but also about meaningful expressions, nuances, and intonation. Therefore, if AI

technology dominates too much, students may miss out on important interpersonal aspects of the learning process, which can only be gained from direct interaction with humans.

The application of AI in maharah kalam learning also highlights the inequality in technology literacy among teachers and students. Some lecturers and students may have difficulty adapting to this technology, especially if they are less familiar with the use of AI-based applications. This can be a significant obstacle to the effective application of the technology. Without adequate training, for both lecturers and students, the potential of AI to improve the learning process will not be fully realized. This digital literacy gap can also create inequalities in access to quality education.

The infrastructure aspect is one of the important factors that need to be considered in integrating Artificial Intelligence (AI) into maharah kalam learning at STIT Al Muslihuun Tlogo Blitar. The implementation of this technology requires the support of digital devices, such as computers or smartphones, as well as an adequate internet network so that students can access learning features optimally. However, differences in students' socio-economic conditions have the potential to cause inequality in device ownership and ease of internet access. If these obstacles are not anticipated through the provision of appropriate facilities and support, the use of AI can take place unevenly and affect students' opportunities to obtain a quality learning experience. Therefore, institutions need to consider equitable access to technology as part of AI-based learning planning.

Thus, the use of Artificial Intelligence (AI) in maharah kalam learning needs to be accompanied by a proportionate management between digital technology and learning that involves direct interaction. AI can be used to support independent speaking practice and provide feedback in a short time, while lecturers still have an important role in providing direction, building communication, and explaining the use of language in accordance with social and cultural contexts. The combination of these two approaches can be realized through a hybrid learning model, namely by placing AI as a means of supporting learning activities designed and guided by lecturers. Through this approach, learning is expected to not only help students develop linguistic aspects, but also build the ability to communicate appropriately and effectively in various situations. Therefore, the success of AI integration is not solely determined by technological sophistication, but also by the ability of teachers to use it appropriately according to learning goals and needs.

CONCLUSION

The application of Artificial Intelligence (AI) in learning maharah kalam at STIT Al Muslihuun Tlogo Blitar in the Society 5.0 era opens up opportunities for the development of Arabic language learning that is more flexible and oriented to student needs. The use of this technology can support the creation of interactive learning activities through adaptive learning features, virtual assistants, and voice recognition. These features allow students to practice speaking independently and obtain input on the use of Arabic. If used appropriately, these facilities have the potential to support students' confidence and communication skills. However, its application also needs to consider the readiness of lecturers in operating and integrating technology, as well as differences in students' levels of participation and digital skills. For this reason, institutions need to provide training to lecturers and strengthen students' digital literacy, while ensuring the availability of adequate supporting facilities. These efforts are expected to expand students' opportunities to utilize technology in the learning process. Overall, AI integration can be an alternative in the development of Arabic language learning that is adaptive to technological changes. However, its use needs to be directed at achieving learning goals, namely mastery of linguistic aspects and communication skills in accordance with the social context. Thus, the use of AI is not only oriented to the use of digital devices, but also supports the implementation of Arabic language education that pays attention to the needs and characteristics of students.

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