

Utilization of Technology in Arabic Language Learning to Support Qur'anic Understanding in Islamic Elementary Schools

Received: 02/11/2025 ¹Kasmudi, ²Munawaroh, ³Amanda Eka, ⁴Natasya
Institut Agama Islam Darul Fattah Lampung, Indonesia

Accepted: 27/12/2025 ¹kasmudi@darulfattah.ac.id *Corresponding author
²munaw3382@gmail.com

Published: 31/12/2025 ³ekaa4294@gmail.com
⁴natasyaarlta2004@gmail.com

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Abstract

The development of digital technology provides opportunities for Arabic language learning, but its use in Islamic elementary schools still needs to be studied, especially in supporting the understanding of the Qur'an. This study aims to describe the forms and purposes of technology utilization in Arabic language learning, the opportunities and obstacles to its use, and its role in supporting the understanding of the Qur'an at SDIT Nurul Ilmi Aini. The study used a qualitative approach with a case study design. Subjects were selected purposively, involving Arabic language teachers, students, and school officials. Data were collected through semi-structured interviews, observation, and documentation, then analyzed using the Miles, Huberman, and Saldaña model. The results show that learning videos, audio, digital dictionaries, and Qur'an applications are used to deliver material, practice listening and pronunciation skills, enrich vocabulary, provide learning resources, and review material. Audio specifically supports Arabic listening and pronunciation practice, while the Qur'an application helps students find and understand vocabulary in the context of verses. Technology helps connect Arabic vocabulary with Qur'anic verses through activities of finding vocabulary, searching for meaning, and understanding the context of verses. Barriers include limited devices, internet networks, digital competencies, and the suitability of learning resources.

Keywords: Quran, Digital Literacy, Arabic Language Learning, Digital Technology

Abstrak

Perkembangan teknologi digital memberikan peluang bagi pembelajaran bahasa Arab, akan tetapi pemanfaatannya di sekolah dasar Islam masih perlu dikaji, khususnya dalam mendukung pemahaman Al-Qur'an. Penelitian ini bertujuan untuk mendeskripsikan bentuk dan tujuan pemanfaatan teknologi dalam pembelajaran bahasa Arab, peluang dan hambatan pemanfaatannya, serta perannya dalam mendukung pemahaman Al-Qur'an di SDIT Nurul Ilmi Aini. Penelitian ini menggunakan pendekatan kualitatif dengan rancangan studi kasus. Subjek dipilih secara purposif, melibatkan guru bahasa Arab, siswa, dan pejabat sekolah. Data dikumpulkan melalui wawancara semi-terstruktur, observasi, dan dokumentasi, kemudian dianalisis menggunakan model Miles, Huberman, dan Saldaña. Hasil penelitian menunjukkan bahwa video pembelajaran, audio, kamus digital, dan aplikasi Al-Qur'an digunakan untuk menyampaikan materi, melatih keterampilan menyimak dan pelafalan, memperkaya kosakata, menyediakan sumber belajar, serta mengulas materi. Audio secara khusus mendukung latihan menyimak dan pelafalan bahasa Arab, sedangkan

aplikasi Al-Qur'an membantu siswa menemukan dan memahami kosakata dalam konteks ayat. Teknologi membantu menghubungkan kosakata bahasa Arab dengan ayat-ayat Al-Qur'an melalui kegiatan menemukan kosakata, mencari makna, dan memahami konteks ayat. Hambatan yang dihadapi meliputi keterbatasan perangkat, jaringan internet, kompetensi digital, serta kesesuaian sumber belajar.

Kata Kunci: Al-Qur'an, Literasi Digital, Pembelajaran Bahasa Arab, Teknologi Digital

Introduction

The development of digital technology has transformed learning practices, including Arabic language learning in Islamic educational institutions (Sutopo et al., 2024). Technology is no longer limited to delivering material, but can be used to provide learning resources, provide practice, facilitate communication, provide feedback, and expand students' learning opportunities (Bosch et al., 2025). In Arabic language learning, the use of technology is relevant because language learning requires repeated practice, access to authentic sources, and the use of various representations such as text, audio, video, and interactive media (El-Henawy & Suárez, 2023).

These technological developments have spurred various innovations in Arabic language learning. A systematic review (Lubis & Nasution, 2025) shows that the use of Artificial Intelligence (AI), Augmented Reality (AR), gamification, and online learning platforms has the potential to increase student engagement, understanding, motivation, and learning flexibility. However, the review also indicates that the use of technology faces challenges such as limited infrastructure, teacher readiness, and gaps between technology and culture and the learning curriculum.

The use of technology in Arabic language learning is also beginning to evolve toward more personalized and adaptive learning (Raji et al., 2025). Research on AI in Arabic language learning shows that technology can be used to assist students in learning activities, support language development, and provide a more flexible learning experience. However, recent research also indicates that the use of AI still presents issues related to technology dependence, learning autonomy, and the pedagogical relevance of its use (Sutisna & Al-Fahim, 2024).

In addition to AI-based technology, Arabic language learning also utilizes various forms of digital technology to support language skills. Studies on Computer-Aided Arabic Language Learning show that technology has been used in various aspects of Arabic language learning and has the potential to expand access, increase interactivity, and provide more diverse learning experiences (Asy'ari et al., 2025). However, these studies also indicate that the application of technology must consider pedagogical aspects, student characteristics, and the learning environment so that technology is not merely an additional tool in the learning process (Bacha, 2024).

The issue of technology utilization is becoming increasingly important in the context of Islamic education because technology needs to be aligned with educational goals and values. Research (Mintasih et al., 2024) shows that the use of digital technology in Islamic Religious Education is related not only to the availability of devices but also to teachers' digital competencies and models of technology implementation in learning. These findings confirm that the success of technology utilization is influenced by educators' ability to select and use technology in accordance with pedagogical goals and student characteristics.

The context of Islamic education also demands that the use of technology not eliminate the value dimension of the learning process. Research on digital media in Islamic

Religious Education shows that technology can be used to create more relevant and interactive learning that is aligned with student development (Susanti et al., 2024). Therefore, technology should not be positioned as a learning objective, but rather as part of a pedagogical design that helps students gain meaningful learning experiences while remaining oriented toward the goals of Islamic education (Neni et al., 2024).

This situation has particular relevance for Arabic language learning in integrated Islamic elementary schools. Arabic, in the context of Islamic education, serves not only as a language learned for communication purposes but also closely relates to students' ability to understand Islamic sources, particularly the Quran (Aman & Amin, 2024). The ability to read or memorize Quranic verses does not automatically indicate that students understand the vocabulary, sentence structure, and meaning of the Arabic contained within those verses. Therefore, Arabic language learning needs to be developed contextually so that students' language skills can support the process of understanding the Quran (Rais et al., 2025).

The use of technology can provide opportunities to build connections between Arabic language learning and Quranic understanding. Digital Quran applications, Arabic dictionaries, audio, video, mobile learning, and learning platforms can be used to help students learn vocabulary, recognize language structures, listen to pronunciation, and discover connections between Arabic vocabulary and Quranic verses (Fauzi et al., 2025). The use of various digital resources allows for more varied learning and provides opportunities for students to interact with the material through various forms of representation. However, the use of technology still requires teacher guidance to ensure that the information students receive aligns with learning objectives and relies on reliable Islamic sources.

The aspect of digital literacy becomes increasingly important when students use technology to learn Arabic and understand the Quran. Digital literacy is not only related to the ability to operate devices but also includes the ability to search, select, evaluate, verify, and use information responsibly (Reksiana et al., 2024). In the context of Quranic learning, these skills are necessary because information from machine translation, digital applications, and AI cannot always be directly understood without considering the language context and validity of the source. Research on digital literacy in Islamic education also shows that digital literacy is a crucial factor in addressing the opportunities and challenges of learning in the technological era (Kurniawan et al., 2024).

Although research on technology in Arabic language learning continues to grow, limitations remain in previous research. Some studies focus on the effectiveness of specific technologies, such as AI, mobile learning, gamification, or learning platforms, while others examine user perceptions of technology (Setiadi et al., 2025). Studies specifically describing the use of various technologies in Arabic language learning at the integrated Islamic elementary school level and their relationship to Quranic understanding are still relatively limited. Thus, there is a need to understand the use of technology not only based on learning outcomes or student perceptions, but also on the learning practices that occur in the actual school context.

This gap is also evident in the context of the research subjects and environments. Research on AI in Arabic language learning has largely been conducted with university students or students at secondary and tertiary levels, while research on elementary school students still requires further attention. Furthermore, research on technology in Islamic education generally focuses on Islamic Religious Education learning in general, rather than

on the relationship between Arabic language learning and Quranic understanding (Yaqin et al., 2025). This situation suggests that there is room for research to examine how technology is used in Arabic language learning in Islamic elementary schools and how its use can support students' experiences in understanding the Quran (Setiadi et al., 2025).

Based on these gaps, this research offers novelties in the context, focus, and relationships between the aspects studied. Contextually, the research was conducted at SDIT Nurul Ilmi Aini, an Islamic elementary school characterized by the simultaneous learning of Arabic and the Quran. Focus-wise, the research was not directed at testing a specific application, but rather at mapping the forms of technology utilization, the purposes of use, the experiences of teachers and students, and the opportunities and obstacles that arise in the learning process. Relationally, the research connects technology utilization, Arabic language learning, and Quranic understanding as three interrelated aspects of the student learning experience.

The research's novelty also lies in its effort to understand technology as part of the pedagogical process, not simply as a learning tool. Teachers play a role not only in selecting digital media but also in determining how technology is deployed within learning activities, how students interact with digital resources, and how these activities are directed toward achieving Arabic learning objectives. This perspective aligns with research findings on technology in Islamic Religious Education (Mintasih et al., 2024), which demonstrates that technology utilization needs to be systematic, from the planning, implementation, and evaluation stages.

Based on the above description, the research "The Use of Technology in Arabic Language Learning to Support Understanding of the Qur'an at SDIT Nurul Ilmi Aini" is important to conduct to gain an empirical understanding of the practice of using technology in Arabic language learning. This research aims to describe the forms and objectives of technology use in Arabic language learning, analyze the opportunities and obstacles faced by teachers and students, and identify how the use of technology supports the process of understanding the Qur'an. The results of the research are expected to provide conceptual and practical contributions to the development of technology-based Arabic language learning that is contextual, pedagogical, and aligned with the goals of Islamic education.

Research Method

This research uses a qualitative approach with a case study design to describe the use of technology in Arabic language learning at SDIT Nurul Ilmi Aini. This design was chosen because the research focuses on an in-depth understanding of the forms of technology use, benefits, obstacles, and its role in supporting Quranic comprehension.

The research subjects were selected purposively and consisted of one Arabic language teacher, 14 students, and one school official, the curriculum coordinator, who provided information on learning policies and implementation, as well as technology utilization in the school. The involvement of these informants was intended to obtain diverse perspectives and support source triangulation. Data were collected through semi-structured interviews, observation, and documentation. Interviews were used to explore informants' experiences and perspectives, observations to observe the practice of technology utilization in learning, and documentation served as supporting data.

Data validity was ensured through source and technique triangulation by comparing information from teachers, students, and school officials, along with the results of interviews, observations, and documentation. Data analysis used the model of (Miles et al.,

2018), which includes data condensation, data presentation, and drawing and verifying conclusions. The analysis was conducted in stages to identify patterns of technology utilization, opportunities, obstacles, and its contribution to Arabic language learning and Quranic understanding. A limitation of the study lies in the involvement of only one Arabic language teacher in one school, so the findings primarily represent the practices and experiences of that teacher and cannot be considered representative of the practices of other Arabic language teachers in different schools or contexts.

Results

Forms of Technology Utilization in Arabic Language Learning

Research results indicate that technology has been used in Arabic language learning at SDIT Nurul Ilmi Aini through several forms, including learning videos, audio, digital dictionaries, Quran applications, and smartphones. This utilization is primarily to assist in delivering material, providing pronunciation examples, introducing vocabulary, providing reading materials, and providing opportunities for students to review the material independently (Putri et al., 2025).

Observations indicate that the use of digital media makes learning activities more varied. Teachers not only deliver material verbally and through textbooks, but also utilize audio, images, videos, and digital resources as part of the learning activities. In vocabulary learning, students are directed to pay attention to word forms, listen to pronunciation, repeat pronunciation, and then connect vocabulary with examples of its use.

The use of technology is also found in activities connecting Arabic language material with the Quran (Marwah et al., 2025). Teachers use Quran applications and digital dictionaries to help students find vocabulary within verses. Students are then directed to recognize the meaning of words and relate them to the Arabic material being studied.

Table 1 Forms of Technology Utilization in Arabic Language Learning

No.	Technology Type	Benefit	Learning activities
1	Learning videos	Presentation of visual material	Observing material and examples of the use of Arabic
2	videos	Examples of pronunciation and listening	Listen and imitate pronunciation
3	Digital Dictionary	Vocabulary search	Finding the meaning and use of words
4	Al-Quran Application	Access to Qur'anic text and vocabulary	Searching for words in a verse

Utilizing Technology to Support Quranic Understanding

Research results show that the use of technology in Arabic language learning is not only directed at mastering language skills but also helps students understand vocabulary found in the Quran (Roseandree et al., 2024). This activity is carried out by connecting Arabic language material with words or phrases found in the verses. Thus, students gain a learning experience that connects the language material with the Quranic text.

Based on observations, this process occurs through several activities: finding vocabulary in the verses, looking up the meaning of words, examining their usage, and connecting them to Arabic language material. These activities provide students with the opportunity to directly observe the use of Arabic in the Quranic text, rather than simply studying vocabulary in the form of stand-alone word lists (Suwardy & Ahkas, 2024).

The use of technology also makes it easier to access learning resources. Students can use digital dictionaries or Quranic applications when they encounter unfamiliar vocabulary. The teacher then provides an explanation and directs students so that the information obtained through digital sources is understood according to the learning context.

The Teacher'S Role in Technology Utilization

Research shows that teachers play a primary role in determining the use of technology in Arabic language learning ([Asyiq, 2025](#)). Teachers determine the type of media used, adapt it to the learning material, provide instructions to students, and direct the use of digital resources throughout the learning process.

Teachers also select digital resources before using them in learning ([Munawaroh & F, 2023](#)). This selection is made by considering the suitability of the material, the students' ability level, the learning objectives, and the clarity of the information presented. Thus, technology use remains under the teacher's direction and is not entirely left to digital devices or applications.

When students use digital dictionaries or Quran applications, teachers provide guidance when they encounter information or vocabulary they don't understand ([Sutopo et al., 2025](#)). Teachers also provide additional explanations to help students connect the digital information to the Arabic language material and the context of the verses being studied.

Opportunities and Barriers to Technology Utilization

Research results indicate that the use of technology offers several opportunities in Arabic language learning. These opportunities include easy access to learning resources, varied presentation of materials, opportunities for repetition, increased student activity, and the connection between Arabic language materials and the Quran ([Kurniawan et al., 2024](#)). Students have the opportunity to obtain information in various formats and re-access the material when they encounter difficulties.

The use of technology also provides space for students to be more actively involved in learning activities. Students not only receive teacher explanations but can also look up vocabulary, listen to pronunciation, watch videos, and use digital resources to supplement the information gained during the lesson.

On the other hand, the study identified several barriers to technology utilization. These barriers include limited devices, internet network quality, technological capabilities, and the suitability of digital resources for learning needs. These conditions mean that not all digital activities can be implemented optimally in each lesson.

Barriers were also found in the process of selecting digital resources. The abundance of available resources requires teachers to determine materials that truly align with students' ability levels and learning objectives ([Sutinalvi et al., 2025](#)). Therefore, the use of technology still requires teacher guidance to ensure that the resources used are not only visually appealing but also relevant to Arabic language and Quranic learning.

Table 2 Opportunities and Barriers to Technology Utilization

Category	Aspect	Research Findings
Opportunities	Access learning resources	Learning resources are more diverse and easier to access
	Interactivity	Material can be presented through text, audio, images and video.
	Flexibility	Students can repeat the material
	Independence	Students can search for vocabulary and information independently
Barriers	Relation to the Qur'an	Arabic vocabulary can be learned through verses
	Digital competency	User capabilities are not evenly distributed
	Content	Not all digital resources are suitable for learning objectives.

Digital Literacy in Arabic and Quranic Learning

Research results show that the use of technology in Arabic language learning is also related to students' ability to select and use digital information (Ramadona et al., 2023). Students not only use applications to look up vocabulary, but also need guidance on how to use that information appropriately. This is particularly evident when students use digital dictionaries, Quranic applications, and internet-based learning resources (Rahmaati & Munawaroh, 2024).

Teachers provide guidance in determining which sources to use and provide explanations if information is inconsistent with the learning material. Students are also advised not to immediately accept digital search results, especially when the information relates to vocabulary meanings or understanding Quranic verses.

These findings indicate that the use of technology in learning requires digital literacy, which includes the ability to access, select, use, and verify information. These skills are crucial in ensuring that technology is used to support Arabic language learning and Quranic understanding, not simply as a means of quickly obtaining information.

Synthesis of Research Findings

Based on the overall findings, the use of technology in Arabic language learning at SDIT Nurul Ilmi Aini can be summarized in four main findings: (1) technology is used as a learning resource and medium; (2) technology helps connect Arabic language learning with Quranic vocabulary; (3) teachers remain the primary guides in the use of technology; and (4) the usefulness of technology is influenced by the opportunities and obstacles that arise in its use.

These four findings demonstrate a pattern of interconnected relationships. Digital technology is used as a resource and medium in Arabic language learning to help students acquire, understand, and review material, particularly vocabulary. Vocabulary mastery is then connected to Quranic verses through activities such as finding vocabulary, searching for meaning, and understanding its use within the context of the verses. This process supports Quranic understanding, while teachers act as guides, determining technology selection, managing its use in learning activities, and ensuring its suitability for learning objectives. The effectiveness of technology utilization throughout this process is influenced by opportunities, such as the availability of diverse learning resources and learning

flexibility, as well as obstacles such as limited digital competency and content suitability. Thus, the pattern of relationships among the findings can be formulated as follows figure 1.

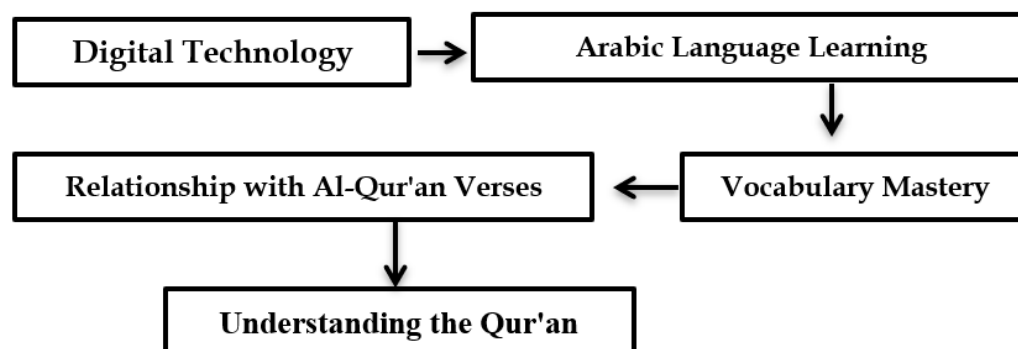


Figure 1 Relationship Pattern of Technology Utilization in Arabic Language Learning and Its Contribution to Qur'anic Understanding

Conclusion

This study aims to describe the forms and purposes of technology use in Arabic language learning, identify opportunities and barriers to its use, and analyze its contribution to Quranic understanding at Nurul Ilmi Aini Islamic Elementary School. The results indicate that technology, in the form of instructional videos, audio, digital dictionaries, Quranic applications, and smartphones, has been utilized as learning resources and media to support vocabulary mastery, pronunciation, access to learning resources, and independent review of material. The use of technology also helps connect Arabic language learning with the Quran through activities such as finding vocabulary in verses, searching for meaning, examining their usage, and connecting them to Arabic language materials. These findings demonstrate that technology can enrich the learning experience and support more contextual Arabic language learning, with the teacher remaining the primary facilitator, source selector, and primary facilitator in technology use.

This study has limitations due to its qualitative approach with a case study design in a single school, making the findings not generalizable to other Islamic school contexts. Furthermore, the study focused on technology utilization practices and learning experiences without quantitatively measuring improvements in Arabic language skills or Quranic understanding. Future research is recommended to involve more schools with diverse characteristics and employ a mixed-method approach or longitudinal research to obtain a more comprehensive picture of the effectiveness of technology utilization. Future studies could also develop a technology-based Arabic language learning model that systematically integrates digital literacy, language proficiency, and Quranic understanding.

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