Digital Media and Technology in Arabic Language Learning

Putri Kholida Faiqoh[1], Hamida Gadoum[2], Anggi Nurul Baity[3]
[1,2]UIN Syaikh Wasil Kediri, Indonesia
[2]Emir Abd El Kader University for Islamic Sciences, Constantine, Algeria
✉ Email: putrikholidafaiqoh@iainkediri.ac.id[1], gadoumhamida@hotmail.fr[2],
anggibaity@iainkediri.ac.id[3]

Abstract:
Media and technology have brought significant transformations in Arabic language learning, creating new opportunities to improve the quality, accessibility and effectiveness of learning. This study uses a library research method to explore media and technology in Arabic language learning. Data were collected from various relevant written sources, including books, scientific journals, and online articles that discuss media and technology in language education. Various findings show that the integration of technologies, such as e-learning platforms, mobile applications, gamification, as well as Virtual Reality (VR) and Augmented Reality (AR), has successfully increased students' motivation, engagement, and Arabic language competence. Digital media not only makes learning more engaging and interactive, but also allows personalization of learning according to individual needs and learning pace. Some key recommendations include teacher training in the use of technology, development of quality digital content, and collaboration between the government, educational institutions and the private sector.

Introduction

In the era of globalization, learning Arabic is becoming increasingly important—not only as a means of communication for more than 400 million native speakers but also because it plays a key role in understanding *Islamic* culture, religion, and civilization (Elnagar et al., 2021). Arabic is an official language in 25 countries and is widely used in diplomacy, international trade, and *Islamic* studies (Keshav et al., 2022). Moreover, with the growing interest in economic development and investment in the Middle East, mastering Arabic presents significant opportunities for global careers and business ventures (Asmawati et al., 2020). At the same time, Arabic serves as a gateway to classical and contemporary scholarly treasures in literature, philosophy, science, and *Islamic* law (Mahmudah et al., 2025; Zurqoni et al., 2020). Thus, learning Arabic enhances an individual's linguistic competence, broadens their global perspective, and facilitates cross-cultural interaction in an increasingly interconnected world.

The development of media and technology has brought significant transformations to

language learning, enhancing interactivity, personalization, and accessibility. According to research by (Zou, et. al., 2021), artificial intelligence (AI)--based applications such as Duolingo and ChatGPT can provide adaptive feedback, accelerating vocabulary and grammar acquisition. Meanwhile, (Parmaxi, 2023) found that virtual reality (VR) offers an immersive environment that enables more realistic conversational practice without the pressure of social judgment. In addition, (Chen, M. R. A., & Hwang, 2020) demonstrated that gamification in language learning significantly boosts students' motivation and memory retention. Finally, a recent study by (Kohnke, et. al., 2024) revealed that mobile-assisted language learning (MALL) provides greater learning flexibility, especially for learners in remote areas. These findings confirm that integrating modern technology makes language learning more dynamic, inclusive, and effective.

In Arabic language learning, the development of media and technology has significantly transformed the educational landscape by introducing more interactive, inclusive, and effective methods in the teaching and learning process (Muthmainnah & Annas, 2020; Sutaman & Febriani, 2021). Students can access Arabic learning materials anytime and anywhere through digital platforms such as e-learning, learning videos, and educational applications, thereby overcoming temporal and geographical barriers. Technology also enables personalized learning, where adaptive Artificial Intelligence (AI) systems can tailor content to each student's needs and learning pace (Farida et al., 2024; Nur et al., 2023). In addition, interactive media such as gamification (Hamari, 2013; Anggraeni & Sujatmiko, 2021), Virtual Reality (VR), and Augmented Reality (AR) offer more engaging and immersive educational experiences, especially in fields that require visualization and hands-on practice. Thus, media and technology enhance the quality of education and create opportunities for a more dynamic, collaborative, and student-centered learning environment.

Therefore, learning Arabic is more complex and demanding because it requires adjusting the native language system to align with the Arabic language system. This includes adaptations in phonetics, word structure, sentence structure, and the thought patterns used. Mastering word concepts is key to understanding a reading passage (Ritonga et al., 2016). Mastering word concepts is an essential foundation for comprehending reading materials during the learning process. Students who do not understand word concepts will face difficulties grasping the rules of language, as these rules are constructed from a sequence of words that form meaningful sentences (Heniverawati, 2021). A person's innate ability to acquire their *mother tongue* tends to be higher, particularly in childhood, when the brain is still unexposed to other languages. This makes the learning process faster and more effective. However, when learning Arabic, this basic ability tends to be lower, as the individual has already developed proficiency in their *mother tongue*, both in spoken language and cognitive patterns.

In this theme, the author wants to explore more about; 1) Arabic Language Learning: Theoretical Review; 2) Development of Media and Technology in Arabic Language Learning; 3) Solutions and Recommendations related to the Integration of Media and Technology in Arabic Language Learning.

Method

This study uses a library research method to examine the role of media and technology in Arabic language learning. This topic is selected based on the rapid advancement of information and communication technology, which presents significant potential for innovation

in language education, including Arabic. Integrating digital media into language learning is the central focus, driven by the need to modernize teaching methods, increase student engagement, and address the limitations of traditional approaches. This study aims to identify emerging trends, existing challenges, and potential opportunities from this integration by analyzing various academic perspectives. The research is conducted as a literature review, with primary data consisting of a wide range of written sources relevant to the topic.

The data sources for this research include textbooks, reputable scientific journals, and online articles that discuss technological innovations in Arabic language education. These sources were carefully selected based on their relevance to the research topic, the credibility of the authors and publishers, and their emphasis on theoretical concepts, practical applications, and empirical findings related to the integration of digital media in Arabic language learning. The data collection involved a systematic search using specific keywords across academic databases and scientific search engines. Relevant literature was then identified, and key information was extracted for further analysis (Musthafa & Hermawan, 2018).

The data analysis in this study was conducted in two main stages: descriptive and interpretive. The descriptive stage involved mapping findings from various literature sources, including different types of media (e.g., applications, virtual reality, online platforms) and their impact on various Arabic language skills—listening, speaking, reading, and writing (Agustin & Bukhori, 2025; Taufiq, 2018). Subsequently, the interpretive stage connected these descriptive findings with relevant theoretical frameworks, such as *Technology-Enhanced Language Learning* (*TELL*), while also considering current contexts, including adaptation challenges teachers and students face. The results of this analysis are expected to provide a comprehensive overview of the development and potential of technological media in modernizing Arabic language education.

Results and Discussion

Result

Arabic Language Learning: A Theoretical Overview

Learning comes from the word "teach" which is often defined as the process, method, and action of making people or living things learn. The term has different definitions according to experts. According to Gagne, (1985), learning is a process that causes changes in a person's ability or behavior that are relatively permanent and not just the result of growth or development. Skinner concluded that learning is a process of adaptation or behavioral adjustment that takes place progressively. The changes in behavior in question are obtained from the results of reinforcement and punishment (Skinner, 1953)

According to Bruner, (1966), learning is an active process where individuals construct new knowledge based on existing knowledge. The emphasis here is that the result of learning is lasting behavior and not just the result of biological maturity. Meanwhile, according to Bandura, learning is a process in which individuals acquire knowledge and skills through observation and imitation of others, which emphasizes social learning theory and role modeling (Atman Said, n.d.; Bandura, 1977). Experts reveal definitions according to the relevance of their respective fields. However, in general, a common thread can be drawn that learning is the process of acquiring new knowledge, skills, or attitudes through practice, interaction, which results in changes in the way of thinking, acting, or understanding something.

Arabic Language Subjects in madrasah and Indonesian schools equip students to be

skilled in practicing Receptively and Productively. Receptive Skills are Listening Skills (*Maharah Istima`*) and Reading Skills (*Maharah Qira`ah*), while Productive Skills are Speaking Skills (*Maharah Tahadduts/Kalam*) and Writing Skills (*Maharah Kitabah*). David Nunan in his book Second Language Teaching and Learning states that receptive and productive skills are complementary, because they include the linkage of activities with one another (Ashari et al., 2024; Nunan, 1999; Soleha et al., 2025). Like two sides of a coin, receptive skills provide the foundation of understanding, while productive skills give learners the opportunity to use language actively. Both must be taught and practiced in a balanced way to achieve full language proficiency.

Every individual has the ability to master several languages, albeit at different levels. One of the factors that distinguishes one's ability from another is based on the goals to be achieved. Basic skills, motivation to learn, and perseverance are the keys to mastering Arabic (Prananingrum et al., 2020). Historically, the purpose of learning Arabic for non-Arabic people is generally for communication. In Indonesia itself, the majority of people learn Arabic with the aim of studying Islam. Arabic is an access to authentic sources such as the Qur'an and *Hadith*, as well as *kutub al-Turats* (classical books). One's understanding of Arabic also affects the quality of worship and spiritual understanding. This kind of motivation to learn Arabic greatly affects the achievement or results to be achieved.

The Development of Media and Technology in Arabic Language Learning

1. Definition and Types of Media

Media originates from the Latin word; Medium, meaning 'intermediary' or conveyor'. Terminologically, it is defined as a means of channeling information from a source to the recipient of that information. Heinich et al. define instructional media as tools used to convey information in the learning process, which can influence the effectiveness of achieving learning objectives (Heinich, et. al., 1999). According to Arsyad, who also refers to the views of Gerlach and Ely, learning media encompasses everything used to channel messages from the sender to the receiver, thereby stimulating students' thoughts, feelings, attention, and interest in the learning process (Arsyad, 2011).

Heinich et al. define instructional media as tools used to convey information in the learning process, which can influence the effectiveness of achieving learning objectives. Gagne, as stated by Rani, posits that media encompasses all types of components within the student's environment capable of stimulating them to learn (Rani, 2017). More specifically, citing Arief Sadiman who also references NEA (National Education Association), media is a means of communication comprising print, audio, and audio-visual forms along with their instruments, utilized in teaching and learning activities (Sadiman, 2011).

While according to Steffi Adam and Muhammad Taufik Syastra, instructional media are everything physical and technical in the teaching and learning process that can assist teachers, thus making it easier to convey lesson material to students, so that the formulated learning objectives can be achieved (Adam, et. al., 2015). From several opinions above, it can be concluded that media are all forms of instruments or stimuli provided by teachers to arouse students' interest and learning motivation, to achieve learning objectives effectively and efficiently. Instructional media is understood as everything that can be used to channel messages from the sender to the receiver so that it can stimulate students' thoughts, feelings, attention, and interest in the learning process.

According to Arsyad, (2011), there are various kinds of media that can be used in Arabic language learning. First, there is visual media (*bashariyah*). Visual media relates to the sense of sight, namely visual aids. Visual media plays an important role in the learning process because it can facilitate understanding, strengthen memory, foster student interest, and connect lesson material with the real world. For visual media to be effective, it must be placed in a meaningful context, and students need to interact with the media to ensure the process of information comprehension occurs.

2. Educational Technology: Concept and Development

The concept and development of technology in education have undergone significant transformations in line with the progress of the times. Educational technology refers to the use of technological tools, systems, and resources to enhance the processes of learning, teaching, and educational administration (Azhar et al., 2023). Conceptually, technology is used as an interactive learning tool, enabling students to understand material in a more engaging and easily comprehensible manner. Furthermore, technology also facilitates distance learning, allowing students to access materials from anywhere and at any time through online platforms such as e-learning and virtual classrooms.

One important concept in educational technology is personalized learning, where instruction is tailored to the individual needs of students. Artificial intelligence (AI)-based systems can analyze students' learning progress and provide recommendations for materials that align with their level of understanding (Zikri et al., 2024). Furthermore, technology also enables access to Open Educational Resources (OER), such as digital textbooks and instructional videos, which can be accessed free of charge. Collaboration and communication among students, teachers, and related parties are also increasingly facilitated through platforms like discussion forums and online collaboration tools.

The development of technology in education began in the era of simple aids such as blackboards and slide projectors. Then, with the emergence of computers and the internet, education experienced a major revolution. Computers enabled the use of learning software, while the internet opened access to global information and learning resources (Sholihah et al., 2019). In the subsequent era, the development of smartphones and cloud computing enabled more flexible learning, where students could access materials through mobile devices and store data online.

In the modern era, artificial intelligence (AI) and data analytics play an important role in education. AI is used to develop adaptive learning systems that adjust to student needs, while data analytics helps teachers analyze student performance. Technologies such as virtual reality (VR) and augmented reality (AR) also bring immersive learning experiences, such as virtual tours of museums or science experiments in a virtual environment. In addition, gamification is increasingly popular in learning, increasing student motivation through game elements such as challenges and reward systems (leaderboards, badges, scores).

3. Concept of Technology-Enhanced Learning (TEL)

The concept of Technology-Enhanced Learning (TEL) (Reiser, R. A., & Dempsey, 2018) refers to the utilization of technology to enhance and facilitate the learning process. TEL does not merely replace conventional methods but also enriches the learning experience through the use of digital tools and platforms. This concept aims to create a learning environment that is more effective, engaging, and adaptive. The fundamental principles of TEL include enhanced interactivity, where technology enables more dynamic interaction among students, teachers,

and learning materials. Furthermore, TEL emphasizes accessibility, allowing learning to take place anytime and anywhere, thus eliminating geographical and temporal limitations. Personalization is also a crucial principle, where technology allows learning to be tailored to the needs, pace, and learning styles of each individual. Collaboration is also facilitated through technological tools, enabling cooperation between students and teachers, even across different locations (Beetham, H., & Sharpe, 2013).

Several key components of TEL include online learning platforms such as Learning Management Systems (LMS), for example, Moodle, Google Classroom, or Canvas. These platforms function as virtual spaces for managing materials, assignments, assessments, and communication. Digital content, such as e-books, instructional videos, podcasts, and interactive simulations, is also a crucial part of TEL, presenting learning materials in more engaging and easily understandable formats. Collaboration tools like Zoom, Microsoft Teams, and Google Docs enable real-time discussions and project collaboration.

Immersive technologies, such as Virtual Reality (VR), Augmented Reality (AR), and Mixed Reality (MR), create deep and realistic learning experiences, such as virtual tours or virtual laboratory experiments. Adaptive learning systems, for example, AI-based platforms like Khan Academy or Duolingo, adjust learning materials based on students' level of understanding and progress. Gamification, which uses game elements such as points, levels, and rewards, is also an important component for increasing student motivation and engagement. Thus, technology-enhanced learning is not just about replacing traditional methods, but about creating a richer, more interactive, and student-centered learning environment.

4. Utilization of Digital Media and Technology in Arabic Language Learning

Digital media offers a variety of interactive, flexible, and easily accessible tools and platforms, making it a popular choice for modern learners, including:

a. Language Learning Applications

Language learning applications, such as Duolingo, Rosetta Stone, and Memrise, have become effective tools for learning Arabic. These applications are designed with a gamification approach, where learning is presented in the form of enjoyable and challenging games. For example, Duolingo provides vocabulary, grammar, and pronunciation exercises with a point and level system, which motivates users to continue learning, and access is easy.

b. YouTube, Podcasts, and Educational Blogs

Online platforms such as YouTube, podcasts, and educational blogs are also popular learning resources for Arabic. YouTube offers a variety of instructional videos, ranging from grammar tutorials and everyday conversations to Arabic cultural content. These videos are often presented by native speakers or language experts, thus providing authentic examples of pronunciation and language usage. Examples include: Arabicpod101, Master Arabic, Marhaban Academy, etc.

c. Virtual Reality (VR) and Augmented Reality (AR)

Virtual Reality (VR) and Augmented Reality (AR) are immersive technologies that create deep and realistic learning experiences. In Arabic language learning, VR can be used to simulate Arabic-speaking environments, such as traditional markets (*suuq*), mosques, or classrooms in Arab countries. For example, students can "visit" a market in Morocco through VR and interact with vendors using Arabic. Augmented Reality (AR), on the other hand, adds digital elements to the real world. For example, an AR application can display three-

dimensional objects labeled with Arabic vocabulary, such as household furniture or parts of the human body. This allows students to learn vocabulary visually and contextually.

   d. E-Learning Platforms

      E-learning platforms such as Moodle, Edmodo, and Google Classroom provide virtual spaces where teachers and students can interact, share materials, and carry out learning activities. Moodle, for example, offers features such as discussion forums, online quizzes, and learning progress tracking. Meanwhile, Google Classroom allows integration with other Google tools, such as Google Docs and Google Drive, making it easy to manage assignments and documents.

Solutions and Recommendations for Integrating Media and Technology in Arabic Language Learning

To address the challenges in integrating media and technology in Arabic language learning, comprehensive and collaborative solutions are needed. Key recommendations include teacher training in technology utilization, the development of high-quality digital content, and collaboration among the government, educational institutions, and the private sector. By implementing these solutions, Arabic language learning can become more effective, inclusive, and aligned with the needs of the digital age.

  1. Teacher Training in Technology Utilization

One of the keys to the successful integration of technology is the ability of teachers to use digital tools effectively. Therefore, teacher training becomes a crucial step that must be taken. This training can include the use of e-learning platforms such as Moodle or Google Classroom, Arabic language learning applications, and collaboration tools like Zoom or Microsoft Teams. The training not only focuses on technical aspects but also on teaching strategies that utilize technology. For example, teachers can be taught how to integrate gamification or instructional videos into the curriculum. Furthermore, ongoing support such as mentoring or online learning communities can help teachers overcome difficulties they encounter in using technology. By enhancing teachers' digital competence, the Arabic language learning process can become more interactive and engaging for students.

  2. Development of High-Quality Digital Content

High-quality digital content is a crucial foundation for technology-enhanced learning. This content must be designed considering students' needs, proficiency levels, and cultural contexts. For example, Arabic language learning videos can include everyday conversations, clear pronunciation, and easily understandable grammar explanations.

The development of digital content should also involve Arabic language experts, instructional designers, and technology developers to ensure that the resulting material is not only accurate but also engaging and interactive. Furthermore, digital content should be accessible to all students, including those with limited internet or device access. For example, content can be designed for download and offline use.

  3. Collaboration Among the Government, Educational Institutions, and the Private Sector

Collaboration among various stakeholders, including the government, educational institutions, and the private sector, is crucial to support the integration of technology in Arabic language learning. The government can play a role in providing basic infrastructure, such as internet access and technological devices, as well as creating policies that support the use of technology in education.

Educational institutions, such as schools and universities, can collaborate with technology companies to develop learning tools and platforms that suit students' needs. For example, universities can partner with application developers to create specific mobile applications for Arabic language learning. In addition, the private sector can provide financial or technical support, such as providing devices or organizing training for teachers and students.

This collaboration can also include the exchange of knowledge and resources between countries that have experience in the integration of educational technology. For example, Middle Eastern countries that have successfully integrated technology into Arabic language learning can share best practices with other countries.

Discussion

The theoretical overview of Arabic language learning highlights its multidimensional nature, encompassing receptive (listening and reading) and productive (speaking and writing) skills that must be taught in balance (Wright, 2010). Learning is a behavioral and cognitive adaptation process influenced by reinforcement, social observation, and active knowledge construction (Atman Said, n.d.; Bruner, 1966). The integration of media and technology, such as visual aids, language applications (e.g., Duolingo), and immersive tools (VR/AR), enhances engagement and accessibility (Arsyad, 2011). However, challenges like teacher readiness, content quality, and infrastructure gaps persist, necessitating collaborative solutions among educators, policymakers, and technologists (Sholihah et al., 2019).

Multiple factors, including pedagogical approaches, technological integration, and learner motivation, shape the effectiveness of Arabic language learning. Traditional methods often fail to engage students due to a lack of interactivity, while limited teacher training in digital tools restricts the adoption of innovative media (Rani, 2017). Additionally, socioeconomic disparities hinder equal access to technology, exacerbating learning inequalities (AlSadrani et al., 2020). The dominance of religious motivations in learning Arabic, rather than communicative proficiency, further narrows instructional focus (Prananingrum et al., 2020). These issues stem from systemic gaps in curriculum design, resource allocation, and professional development, underscoring the need for structural reforms.

The reliance on conventional teaching methods and uneven technology adoption leads to suboptimal language acquisition, particularly in productive skills like speaking and writing. Students struggle with contextual language use without adaptive learning tools, reducing fluency and confidence (Beetham, H., & Sharpe, 2013). Moreover, the scarcity of localized digital content limits relevance for non-Arabic learners, while high-quality platforms like Rosetta Stone remain inaccessible to many due to cost (Sadiman, 2011). These shortcomings perpetuate disparities, where only well-resourced institutions benefit from advanced media, leaving others behind. Consequently, learners may disengage, viewing Arabic as overly academic rather than a practical skill.

Existing research supports the efficacy of technology in language learning but reveals disparities in implementation. For instance, Huang et al., (2023) emphasize that Technology-Enhanced Learning (TEL) improves retention through interactivity, yet many Indonesian madrasahs still rely on textbooks (Arifin, 2022). Similarly, while VR/AR has proven effective in immersive language environments (Xie et al., 2022), most studies focus on higher education, neglecting primary-level adaptations. Contrastingly, Middle Eastern nations integrate AI-driven platforms like Alef Education for personalized Arabic instruction (AlSadrani et al., 2020), whereas Indonesia lags in systemic adoption. These gaps highlight the need for context-

sensitive strategies rather than replicating foreign models.

To address these challenges, a multi-stakeholder approach is essential. First, mandatory teacher training in digital pedagogy should be institutionalized, incorporating LMS and gamification tools. Second, governments and ed-tech firms must collaborate to develop affordable, localized content, such as interactive e-books with culturally relevant examples. Third, policies should prioritize infrastructure equity, ensuring rural schools access offline-compatible resources (Ndubuisi et al., 2021). Finally, further research should explore hybrid models blending traditional and digital methods, particularly for religiously motivated learners. By aligning technology with pedagogical and cultural needs, Arabic education can become more inclusive and effective.

Conclusion

The advent of media and technology has fundamentally reshaped the landscape of Arabic language education, ushering in a new era of possibilities for improved learning outcomes. These advancements have not only broadened access to educational resources but have also paved the way for more effective and engaging instructional methodologies. The integration of diverse technological tools and platforms holds the promise of overcoming traditional limitations and fostering a more dynamic learning environment for students of Arabic.

Empirical evidence increasingly demonstrates the positive impact of technology integration in Arabic language learning. E-learning platforms provide structured virtual spaces for content delivery and interaction, while mobile applications offer flexible and gamified learning experiences. Immersive technologies like Virtual Reality (VR) and Augmented Reality (AR) create realistic and engaging simulations, enhancing comprehension and retention. Furthermore, the personalization capabilities of digital media cater to individual learning styles and paces, ensuring a more tailored and effective educational journey for each student.

To fully realize the potential of media and technology in Arabic language instruction, several key recommendations emerge. Firstly, comprehensive training programs are essential to equip educators with the skills and confidence to effectively utilize digital tools in their teaching practices. Secondly, the development of high-quality digital learning content, tailored to specific learning objectives and cultural contexts, is paramount. Finally, a collaborative approach involving governmental bodies, educational institutions, and the private sector is crucial to establish the necessary infrastructure, resources, and policies to support the widespread and effective integration of technology in Arabic language education.

Acknowledgment

References

Adam, Steffi & Syastra, M. T. (2015). Pemanfaatan Media Pembelajaran Berbasis Teknologi Informasi Bagi Siswa Kelas X SMA Ananda Batam. *CBIS Journal*, *3*(2).

Agustin, B. N., & Bukhori, E. M. (2025). *Integration of Interactive Lumio Media for the Development of Arabic Listening Skills in Islamic Senior High Schools*. *9*(1), 1–26. https://doi.org/10.29240/jba.v9i1.12441

AlSadrani, B., Alzyoudi, M., Alsheikh, N., & Elshazly, E. E. (2020). The Digital Divide in Inclusive Classrooms. *International Journal of Learning, Teaching and Educational Research*, *19*(3), 69–85. https://doi.org/10.26803/ijlter.19.3.5

Anggraeni, Y., & Sujatmiko, B. (2021). Studi Literatur Pengaruh Penggunaan Gamifikasi Dalam Pembelajaran Ilmu Komputer Di Perguruan Tinggi. *Jurnal IT-EDU*, *05*, 614–620.

Arifin, M. Z. (2022). The Traditionalism of the Islamic Boarding School Education System in the Era of Modernization. *Scaffolding: Jurnal Pendidikan Islam Dan Multikulturalisme*, *4*(1), 286–396. https://doi.org/10.37680/scaffolding.v4i1.1367

Arsyad, A. (2011). *Media Pembelajaran*. PT Rajagrafindo Persada.

Ashari, M. Y., Huda, M. M., & Mahfudhoh, R. (2024). Enhancing Arabic Writing Skills Through the Genre-Based Approach in Senior High School. *Journal of Arabic Language Teaching*, *4*(2), 121–134. https://doi.org/10.35719/arkhas.v4i2.2137

Asmawati, A., Asy'ari, A., & Malkan, M. (2020). Active Learning Strategies Implementation in Arabic Teaching at Senior High School. *International Journal of Contemporary Islamic Education*, *2*(1), 1–20. https://doi.org/10.24239/ijcied.vol2.iss1.10

Atman Said, S. (n.d.). Pengelolaan Lingkungan Berbahasa Arab Dalam Meningkatkan Kemampuan Berbicara Siswa Madrasah Aliyah Insan Cendikia Halmahera Barat. *Jurnal Ilmiah Wahana Pendidikan, Januari*, *2022*(1), 600–608. https://doi.org/10.5281/zenodo.7554152

Azhar, M., Wahyudi, H., Promadi, & Masrun. (2023). Penggunaan Teknologi dalam Pembelajaran Bahasa Arab di Indonesia. *Jurnal Review Pendidikan Dan Pengajaran*, *6*(4), 3160–3164.

Bandura, A. (1977). *Social Learning Theory*. Englewood Cliffs, NJ: Prentice Hall.

Beetham, H., & Sharpe, R. (Eds. . (2013). *Rethinking pedagogy for a digital age: Designing for 21st century learning.* Routlegde.

Bruner, J. S. (1966). *Toward a theory of instruction*. Harvard University Press.

Chen, M. R. A., & Hwang, G. J. (2020). "Effects of gamification on language learning: A meta-analysis." *Educational Technology & Society*, *23*(3), 1–15.

Elnagar, A., Yagi, S. M., Nassif, A. B., Shahin, I., & Salloum, S. A. (2021). Systematic Literature Review of Dialectal Arabic: Identification and Detection. *IEEE Access*, *9*, 31010–31042. https://doi.org/10.1109/ACCESS.2021.3059504

Farida, F. C., Achmad Irsyad Assiddiqi, Mokhammad Miftakhul Huda, & Faisol Nasar bin Madi. (2024). Analysis Of Arabic Teaching Books Of Ma Class Xi 2013 Curriculum Published 2020 Ri Ministry Of Religion. *Lahjah Arabiyah: Jurnal Bahasa Arab Dan Pendidikan Bahasa Arab*, *5*(2), 194–210. https://doi.org/10.35316/lahjah.v5i2.194-210

Gagne, R. M. (1985). *The Conditions of Learning and Theory of Instruction* (4th ed.). Holt, Rinehart and Winston.

Hamari, J. (2013). Transforming homo economicus into homo ludens: A field experiment on gamification in a utilitarian peer-to-peer trading service. *Electronic Commerce Research and Applications*, *12*(4), 236–245. https://doi.org/10.1016/j.elerap.2013.01.004

Heinich, R., Molenda, M., Russell, J. D., & Smaldino, S. E. (1999). *Instructional media and technologies for learning.* Upper Saddle River, NJ:1 Merrill Prentice Hall.

Huang, X., Zou, D., Cheng, G., Chen, X., & Xie, H. (2023). Trends, Research Issues and Applications of Artificial Intelligence in Language Education. *Educational Technology & Society*, *26*(1), 112–131. https://www.jstor.org/stable/48707971

Keshav, M., Julien, L., & Miezel, J. (2022). The Role Of Technology In Era 5.0 In The Development Of Arabic Language In The World Of Education. *Journal International of Lingua and Technology*, *1*(2), 79–98. https://doi.org/10.55849/jiltech.v1i2.85

Kohnke, L., Moorhouse, B. L., & Zou, D. (2024). ChatGPT for language teaching and learning. *RELC Journal*, 55(1), 1–12.

Mahmudah, M., Maghfiroh, L., Hanifansyah, N., & Syakur, S. A. (2025). Enhancing Arabic Rhetoric Education through Mind Mapping: A Focus on Bayan & Badi'. *Lughawiyyat: Jurnal Pendidikan Bahasa Dan Sastra Arab*, 8(1), 32–55. https://doi.org/10.38073/lughawiyyat.v8i1.2208

Musthafa, I., & Hermawan, A. (2018). *Metodologi penelitian bahasa Arab : konsep dasar strategi metode teknik* (K. E. (ed.)). Remaja Rosdakarya.

Muthmainnah, M., & Annas, A. (2020). Pemanfaatan "Vlog" Sebagai Media Pembelajaran dalam Meningkatkan Maharah Kalam bagi Mahasiswa IAIN Kudus. In *Arabia* (Vol. 12, Issue 2, p. 123). State Islamic College of Kudus. https://doi.org/10.21043/arabia.v12i2.8073

Ndubuisi, G., Otioma, C., & Tetteh, G. K. (2021). Digital infrastructure and employment in services: Evidence from Sub-Saharan African countries. *Telecommunications Policy*, 45(8), 102153. https://doi.org/10.1016/j.telpol.2021.102153

Nunan, D. (1999). *Second Language Teaching & Learning.* Heinle & Heinle Publishers.

Nur, F., Tamami, I., Hermawan, A., Islam, U., Sunan, N., & Djati Bandung, G. (2023). Perkembangan Teknologi Media Pembelajaran Bahasa Arab. *Jurnal Pendidikan Bahasa Arab*, 4(2), 158–178.

Parmaxi, A. (2023). Virtual reality in language learning: A systematic review and implications for research and practice. *Interactive Learning Environments*, 31(1), 172–184. https://doi.org/10.1080/10494820.2020.1765392

Prananingrum, A. V., Rois, I. N., & Sholikhah, A. (2020). Kajian Teoritis Media Pembelajaran Bahasa Arab. *Konferensi Nasonal Bahasa Arab (KONASBARA)*, 3(1), 303–319.

Rani, S. A. (2017). Pembelajaran Bahasa Arab Berbasis Teknologi Informasi dan Komunikasi. *AT-TA'DIB: JURNAL ILMIAH PRODI PENDIDIKAN AGAMA ISLAM*, 9(2), 163–177. https://doi.org/https://ejournal.staindirundeng.ac.id/index.php/tadib/article/view/14

Reiser, R. A., & Dempsey, J. V. (2018). *Trends and issues in instructional design and technology*. Pearson.

Ritonga, M., Nazir, A., & Wahyuni, S. (2016). Pembelajaran Bahasa Arab Berbasis Teknologi Informasi Dan Komunikasi Di Kota Padang. *Arabiyat : Jurnal Pendidikan Bahasa Arab Dan Kebahasaaraban*, 3(1), 1–12. https://doi.org/10.15408/a.v3i1.2879

Sadiman, A. S. (2011). *Media Pendidikan, Pengertian, Pengembangan, dan Pemanfaatannya Teknologi*. PT. Raja Grafindo Persada.

Sholihah, E., Supardi, A., & Hilmi, I. (2019). Teknologi Media Pembelajaran Bahasa Arab. *Jurnal Keislaman Dan Pendidikan*, 1(2), 12–15.

Skinner, B. F. (1953). *Science and Human Behavior*. Macmillan.

Soleha, S., Bukhori, E. M., & Huda, M. M. (2025). *Transforming Student 's Arabic Writing Skills through Word Square Media : Examining its Effectiveness Transformasi Keterampilan Menulis Bahasa Arab Siswa melalui Media Word Square : Menguji Efektivitasnya*. 08, 89–107. https://doi.org/10.30762/asalibuna.v8i02.5231

Sutaman, S., & Febriani, S. R. (2021). Optimizing Arabic Speaking Skills Based On Integration Of Learning Theory Framework In Higher Education. *Arabiyat : Jurnal Pendidikan Bahasa Arab Dan Kebahasaaraban*, 8(1), 75–89. https://doi.org/10.15408/a.v8i1.20423

Taufiq, W. (2018). *Metode penelitian bahasa Arab* (M. D. Wildani (ed.)). Refika Aditama.

Verawati Heniverawati, H. (2021). *Heni Verawati & Uswatun Hasanah The Modern Reform of Arabic Learning Paradigm and Its' Contribution toward the Development of Islamic Studies*. 6(1).

Wright, T. (2010). Second language teacher education: Review of recent research on practice. *Language Teaching*, 43(3), 259–296. https://doi.org/10.1017/S0261444810000030

Xie, Y., Liu, Y., Zhang, F., & Zhou, P. (2022). Virtual Reality-Integrated Immersion-Based

Teaching to English Language Learning Outcome. *Frontiers in Psychology*, *12*(February), 1–10. https://doi.org/10.3389/fpsyg.2021.767363

Zikri, M., Mardiantara, L. H., & Aziz, A. (2024). *Strategi Penggunaan Media dan Teknologi Dalam Pembelajaran Bahasa Arab*. *9*(2023), 2961–2966.

Zou, D., Huang, Y., & Xie, H. (2021). Digital game-based vocabulary learning: Where are we and where are we going? *Computer Assisted Language Learning*, *34*(5), 751–777. https://doi.org/10.1080/09588221.2019.1640745

Zurqoni, Retnawati, H., Rahmatullah, S., Djidu, H., & Apino, E. (2020). Has arabic language learning been successfully implemented? *International Journal of Instruction*, *13*(4), 715–730. https://doi.org/10.29333/iji.2020.13444a