

A Hermeneutic Study of the Ethical Use of Technology in Arabic Language Education: A Perspective of Qur'anic Verses

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Abstract

This research project takes a Qur'anic hermeneutic approach to examine the ethical use of technology in Arabic language education. The study aims to formulate ethical guidelines aligned with sharia objectives by analysing relevant Qur'anic verses. A qualitative literature review is employed, combining Qur'anic text analysis, contextual interpretation and supporting studies on hermeneutics and technology ethics. The findings reveal that values such as honesty (Al-An'am: 152), justice (An-Nisa': 135) and balance (Al-Qasas: 77) form the basis of the ethical use of technology. Hermeneutics enables the dynamic interpretation of sacred texts in order to address contemporary challenges, such as the instant nature of modern culture or the access gaps relating to technology. The research also emphasises that technology should be used to strengthen spiritual values rather than merely as a technical tool. Referring to the maqashid of sharia, the resulting ethical guidelines aim to educate the ummah (Fatir 28) and strengthen understanding of the Qur'an through Arabic. The study's contribution is that Arabic education in the digital era can be inclusive, equitable and grounded in scientific integrity.

Keywords: Al-qur'an; arabic; hermeneutics; technology.

Abstrak

Penelitian ini mengkaji etika penggunaan teknologi dalam pendidikan Bahasa Arab melalui pendekatan hermeneutika Al-Qur'an. Tujuan penelitian ini adalah merumuskan pedoman etis yang selaras dengan tujuan syariah dengan menganalisis ayat-ayat Al-Qur'an yang relevan. Pendekatan yang digunakan adalah kajian literatur kualitatif, menggabungkan analisis teks Al-Qur'an, tafsir kontekstual, dan studi pendukung tentang hermeneutika serta etika teknologi. Temuan penelitian menunjukkan bahwa nilai-nilai seperti kejujuran (QS.Al-An'am:152), keadilan (QS.An-Nisa':135), dan keseimbangan (QS.Al-Qasas:77) menjadi fondasi etika penggunaan teknologi. Hermeneutika memungkinkan interpretasi dinamis teks suci untuk menjawab tantangan kontemporer, seperti

budaya instan dalam pembelajaran atau kesenjangan akses teknologi. Penelitian ini juga menekankan bahwa teknologi harus digunakan sebagai sarana penguatan nilai spiritual, bukan sekadar alat teknis. Dengan merujuk pada maqashid syariah, pedoman etika yang dihasilkan bertujuan mencerdaskan umat (QS.Fatir:28) dan memperkuat pemahaman Al-Qur'an melalui Bahasa Arab. Kontribusinya, pendidikan Bahasa Arab di era digital dapat berjalan inklusif, berkeadilan, dan berbasis integritas ilmiah.

Kata kunci:

Al-qur'an; bahasa arab; hermeneutika; teknologi.

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1. Introduction

In the digital era, the use of technology in Arabic language education has become an inevitable social fact. Firstly, technological advances such as interactive learning applications, online platforms and social media have transformed learning methods, creating both opportunities and challenges. On the one hand, technology makes it easier for the global community to learn Arabic (Rumodar et al., 2024). However, there is also a concern that much of the Arabic content presented digitally loses its spiritual and moral essence due to a lack of understanding of Qur'anic values. This highlights the need to reinterpret Qur'anic teachings (such as QS. Al-Isra':36, which emphasises the importance of tabayyun, or prudence) in order to ensure that technology is used in a way that aligns with sharia objectives (Faiz & Afrita, 2024). For instance, social media platforms like TikTok can boost student participation and interest in Arabic learning, but this must be balanced with a thorough understanding of shared content (Faiz & Afrita, 2024). Using digital applications and tools for Arabic language learning can increase effectiveness and support students in achieving their educational goals (Burhanuddin, 2024), provided this is done in a way that considers the values contained in the Qur'an (Nasution & Lubis, 2023). This demonstrates the necessity for adjustments and updates to the curriculum and learning methods in order to address the challenges that arise in the digital era (Khitom & Taufik, 2023).

Secondly, the decline in communication ethics within the digital landscape is an increasingly urgent concern within the educational sector. The dissemination of inaccurate information, including plagiarism and the misuse of technology for commercial purposes, can significantly damage the integrity of Arabic language education (Sharif, 2023). Research on plagiarism shows that raising awareness of the risks and consequences can minimise its occurrence and improve academic integrity within educational institutions (Nimasari, 2017; Clarence et al., 2023). Furthermore, a prudent approach to the use of information technology is essential to protect academics from misuse that could harm students and educational institutions (Meliyani et al., 2022). In this context, Qur'anic hermeneutics can provide a relevant ethical foundation, offering

principles such as honesty (Al-Baqarah: 42) and responsibility (An-Nisa': 85) to guide digital interactions. Applying these ethical principles can promote responsible interaction in cyberspace and raise awareness of moral values in digital media usage (Sharif, 2023). By integrating these values, educators can foster an ethical learning environment and empower students to utilise information technology responsibly and constructively (Burhanuddin, 2024). Additionally, technology used for Arabic language learning should be employed carefully to avoid potential risks. Using social media and technology-based educational applications can efficiently increase students' interest in learning Arabic (Novita & Munawir, 2022). However, it is important to educate students about the ethical and responsible use of technology in this context. Furthermore, a system for reporting academic misconduct must be designed to maintain educational integrity and encourage more active supervision of issues related to violations of academic ethics (Syarif, 2023; Hertati, 2023).

Adopting an integrative, principles-based approach grounded in ethics can help to overcome challenges in digital education environments and enhance the academic integrity and quality of Arabic language education (Huda & Afrita, 2023). This is an important step in ensuring that technology is used efficiently, ethically and responsibly in education.

Thirdly, the digital divide is a profound and increasingly glaring social issue, particularly in developing countries. As technology advances, not everyone has equal access to technological resources, which can lead to disparities in Arabic language acquisition. This disparity poses a serious challenge to education, as those lacking access to technology may struggle to understand the Qur'an and use Arabic to enhance their spiritual and cultural knowledge (Ismail et al., 2023; Gazali & Saefuloh, 2023). The issue extends beyond technological aspects to include shortcomings in educational support, directly affecting students' language skills (Harnika et al., 2024; Thoriq et al., 2023). In this context, a hermeneutic perspective can highlight the importance of social justice in distributing educational technology resources. Aspects of social justice can be referenced in the Qur'an, particularly in QS. Al-Ma'idah:8, which emphasises the importance of justice in action and resource distribution (Al-Khatib, 2023). Therefore, it is essential to formulate an inclusive strategy involving collaboration between education managers and various stakeholders. It is expected that, through this collaboration, educational technology resources will be distributed more equitably, thereby contributing to improvements in Arabic language proficiency and education as a whole (Maba et al., 2022; Cox & Charles, 2024; Yusuf et al., 2023).

Studies have shown that inequitable technology-based education can widen the gap in Arabic language skills. Strategies involving learning management systems (LMS) are therefore needed to improve access to Arabic language education, particularly in challenging situations such as a pandemic (Ismail et al., 2023; Thoriq et al., 2023; Gazali & Saefuloh, 2023). Additionally, parental involvement and community support are

important for improving students' confidence and ability in Arabic, both of which are determinants of achieving inclusive education (Abdullah et al., 2023). Therefore, education stakeholders must create a supportive learning environment and consider factors affecting technology access and language learning, particularly to reduce the existing digital divide. Globally, access to technology and infrastructure poses a significant challenge, particularly in developing countries. Policies and efforts to increase digitalisation can assist with capacity building and create more equitable educational opportunities (Zimm, 2019). Gaps in access to technology directly impact an individual's ability to master the Arabic language and understand the Qur'an in depth, as these skills depend heavily on adequate technological resources (Pinto et al., 2023).

Moreover, the changing learning culture of the Millennial and Generation Z generations, who prefer visual and instantaneous content, is affecting the way Arabic is taught. Emphasising interactive learning experiences is important for attracting the younger generation (Healy et al., 2024). Furthermore, research indicates that integrating learning methods combining visual elements with traditional principles, such as patience and perseverance, can enhance language learning proficiency ("Bridging Digital Divides in G20 Countries", 2021). In the context of the Qur'ān, applying hermeneutical principles can explain these values in a way that is relevant to the current socio-cultural context while addressing the ethical challenges of interpreting sacred texts within modern social dynamics (Dhondt et al., 2021). Therefore, educational stakeholders should develop innovative approaches that incorporate technology and consider cultural and ethical values, to create thorough, immersive learning experiences. This will help to alleviate shortcomings and create more equitable opportunities for individuals, particularly in developing countries, to master Arabic and gain an in-depth understanding of the Qur'an's teachings (Hilowle, 2024). This research is based on literature relevant to the themes of hermeneutics, technological ethics and Arabic language education. First, Susanto (2016) explains in an introductory study of Hermeneutic Studies that hermeneutics is a text analysis tool that understands both textual and contextual meaning. This is relevant when exploring Qur'anic values related to technological ethics in Arabic language education.

Conversely, Simon (2023) explores the possibilities of learning Arabic in the era of generative artificial intelligence. He emphasises the importance of technological adaptation in Arabic teaching, while also acknowledging the significance of moral and spiritual considerations. This view aligns with that of Subhan (2023), who emphasises the need for ethics in technology use to ensure that learning remains aligned with religious values. Furthermore, the literature as a whole shows a research trend that seeks to harmonise technology, education and religious values. However, few studies specifically integrate Qur'anic hermeneutics into the ethics of technology use for Arabic language education. This research therefore attempts to address this gap by taking an in-depth, relevant hermeneutic approach.

2. Methods

This research focuses on the hermeneutic study of the ethical use of technology in Arabic language education from the perspective of Qur'anic verses. To achieve this objective, a qualitative approach with a literature review design is employed. This method is particularly suitable because the study is interpretative and context-dependent. Hermeneutics, as a discipline of textual interpretation, demands a deep exploration of meanings embedded within sacred texts, especially when addressing contemporary issues such as technological ethics. By applying this approach, the researcher can investigate how Qur'anic principles can guide the ethical integration of technology in language learning environments. The study draws upon various sources including classical and contemporary tafsir (Qur'anic exegesis), previous scholarly works on hermeneutics, and literature related to technological ethics and education. These materials provide the foundational insights necessary for interpreting religious texts in a way that aligns with modern educational practices. Through systematic analysis and synthesis of these secondary sources, the research aims to uncover relevant ethical values and principles derived from the Qur'an that can be applied to the use of technology in teaching Arabic.

The choice of a literature review design also offers flexibility in exploring different dimensions of the research problem. As the study progresses, the researcher can adapt the focus based on emerging themes from the literature, such as identifying key Qur'anic verses, analyzing patterns of interpretation, or recognizing trends in prior research. Data collection primarily involves document analysis—examining Qur'anic texts, exegetical commentaries, academic journals, and books related to the topic. This allows for a thorough conceptual analysis rather than empirical data gathering. Supporting references such as Susanto's 'Hermeneutic Studies' (2016) and Subhan's work on technological ethics (2023) contribute valuable theoretical perspectives to the research framework. Ultimately, the qualitative literature-based approach ensures that the findings are deeply rooted in Islamic teachings while remaining relevant to current technological developments in education. The final outcome is expected to offer a comprehensive ethical framework grounded in Qur'anic values, which can guide educators and learners in responsibly integrating technology into Arabic language instruction.

3. Result and Discussion

3.1 Recognising The Ethical Use of Technology in Arabic Language Education: an Al-Qur'anic Perspective

From a Qur'anic perspective, the use of technology in Arabic language education has deep and complex ethical implications. The moral and *Sharia* principles contained in Islamic teachings, as expressed in QS. Al-Baqarah:195, emphasise disseminating knowledge in a beneficial way. Therefore, technology should be used to enhance learning

effectiveness while maintaining the spiritual and moral essence of Islamic education. Various studies show that technology can positively impact learning. For example, Susanti (2022) and Faiz & Afrita (2024) discussed the advantages of using social media and digital platforms for Arabic language learning.

The main foundations of the ethical use of technology in education are moral values such as honesty, responsibility, justice and balance. It is crucial that Arabic language materials are delivered honestly; educators and content developers must provide accurate teaching materials that do not distort meaning (QS. Al-An'am: 152). Taking responsibility in the context of technology means educators should choose learning tools that empower students rather than entertainment tools. Using interactive applications to improve reading (*qira'ah*) and writing (*kitabah*) skills is an example of technology being used for positive purposes (Maulana et al., 2024; Amelia & Solikhah, 2024).

Equitable access to technology, especially for underserved communities, must also be considered. This is in line with QS: An-Nisa':135 calls for fairness, even towards oneself. In practice, justice in education can be realised by providing inclusive technological resources, such as web-based learning platforms that can be accessed by all groups, including those in remote areas (Maulana et al., 2024; Aprizal, 2021). Thus, Arabic education can be accessed equitably by all groups in society, ensuring that all students have equal opportunities to learn and develop.

The importance of balance in the use of technology in Arabic language education is highlighted in the context of direct interaction and a deep understanding of the sacred text. The Qur'an emphasises the importance of seeking happiness in the hereafter without forgetting the worldly, reflecting the need for technology to play a supporting role in education. For instance, the use of artificial intelligence (AI) in Qur'anic translation should be coupled with *tadabbur* learning to foster an in-depth grasp of Qur'anic meaning (Almelhes, 2024; Anwar, 2023).

Additionally, the ethics of using technology must emphasise the integrity of the Arabic language and avoid creating content that can distort the meaning of words or commercialise Arabic (Hamdan, 2021). This principle aligns with teachings that prohibit the wasteful use of technology. This is reminiscent of the importance of the *ta'awun* principle (mutual help) in sharing knowledge, which is also a cornerstone of education (Ali & Abu-Saad, 2020). In education, it is essential to have relevant, *Sharia*-oriented applications to ensure that Arabic education remains focused on strengthening understanding of revelation and morality.

The application of technology in Arabic language education must be carefully designed to avoid shifting the fundamental principles of education. While technology can improve Arabic language skills through more adaptive and interactive learning, it must also facilitate deep interactions between teachers and students (Anwar, 2023; Vall & Araya, 2023). Therefore, the ethics of technology use should focus on strengthening

understanding of revelation and ensuring the widespread dissemination of technology's benefits, while respecting the language's inherent cultural and religious context.

Maintaining a balance between technology use and the essence of learning Arabic enables education to progress while respecting the fundamental values of the Qur'an. Therefore, technology must be applied not only to be technically effective, but also to fulfil the purpose of *sharia* in the context of education going forward (Ismail et al., 2023).

3.2 The Urgency of Hermeneutic Studies to Analyse The Ethical Use of Technology in Arabic Language Education

Hermeneutic studies are needed to establish a dialogue between the Qur'anic text and contemporary reality, including in the context of Arabic language education. This method allows for flexible interpretation, enabling values such as wisdom (Surah Al-Baqarah, verse 269) and *tawazun* (balance) to be applied in the use of technology. For instance, hermeneutics can help us to understand the prohibition of *tabdzir* (wastefulness) in QS. Al-Isra':26-27 applies not only to physical resources, but also to the excessive use of technology in learning. Without this approach, there is a risk of a dichotomy emerging between *Sharia* principles and modern educational practices. According to Ali (2008), hermeneutics prevents a rigid interpretation of texts, ensuring that the Qur'an remains a relevant guide to life.

Hermeneutics enables universal Qur'anic values, such as justice (An-Nisa':135) and honesty (Al-An'am:152), to be interpreted in the context of educational technology. For instance, the principle of justice can be employed to guarantee equal access to technology, particularly in Arabic language education. In the digital era, technological disparities often hinder the equitable distribution of education, particularly in developing countries. Hermeneutics enables us to understand verses about justice not only as abstract concepts, but also as principles that can inform educational technology policies. Susanto (2016) adds that hermeneutics helps to explore the meaning of verses in a multidimensional way that includes social and technological aspects.

Without hermeneutics, the use of technology in Arabic language education risks becoming merely technical without considering the moral dimension. Online learning platforms, for instance, that do not align with the principle of *amar ma'ruf nahi munkar* (QS. Al-Imran:104) may facilitate the dissemination of content contrary to Islamic values. Hermeneutics encourages the critical analysis of technology's impact, such as the use of AI in Arabic language learning, which has the potential to reduce human interaction (Simon, 2023). Therefore, technology is not only a means of efficiency, but also a tool that can be used to reinforce spiritual values.

Arabic language education often faces a tug-of-war between Islamic tradition and the demands of modernity. Hermeneutics can help to strike a balance between the two. For instance, QS. Al-Qasas:77, which emphasises balance between this world and the next, can be interpreted as encouraging the use of technology without forgetting the main

purpose of education: forming an Islamic character. Subhan (2023) pointed out that learning applications must be used in a way that maintains *tadabbur* (contemplation) of Arabic language material, rather than just technical memorisation.

The use of technology in education can have negative consequences, such as dependency, distraction and a degradation in the quality of interaction. Hermeneutics can be used to create ethical filters that aim to mitigate these risks. For example, in QS. Al-Furqan:63, the Qur'an praises believers who do not speak excessively. This interpretation can form the basis for limiting the unproductive use of social media and promoting more meaningful and productive interactions in an educational context (Dira et al., 2024; Ahyati et al., 2024).

From a technology ethics perspective, the research shows that technology ethics should include the principle of requesting protection from adverse effects, as stated in QS. An-Nas: 1–6 (Ahyati et al., 2024). We can therefore conclude that education should include lessons on the wise use of technology, establishing a balance between sophistication and ethics to prevent students from becoming dependent on technology.

Furthermore, hermeneutics allows the analysis of technology's use in education from the perspective of *maqashid sharia*, which emphasises safeguarding religion, the soul, the mind, offspring and property. In the context of Arabic language learning, technology should support the goal of preserving religion by promoting an accurate interpretation of the Qur'an. For example, Qur'an translation applications should be designed with honesty in mind to avoid distorting the meaning, as explained in QS. Al-An'am: 152 (Mustapa et al., 2024). This is in line with the concept of *'rahmatan lil 'alamin'* found in QS. Al-Anbiya':107, whereby technology should serve as a means of disseminating universal Islamic values (Sugiyono & Iskandar, 2021).

The concept of ethics in education is also highly relevant. As stated in QS: Al-Hujurat:13, ethical values should underpin all social interactions, particularly in the digital era when information polarisation can influence behaviour and communication (Fauzi, 2024). The emphasis on character education in schools should involve all stakeholders in delivering sustainable and ethical materials (Rohmah, 2019). Therefore, technology should be used not only as a tool, but also in a way that supports and enriches religious values.

Generation Z, who are familiar with technology, require an adaptive approach to learning Arabic. Hermeneutics can help to interpret verses about patience (Surah Luqman, verse 17) and perseverance, providing a counterbalance to the instant culture of today's society. For instance, Arabic educational games should prioritise depth of understanding over entertainment. Simon (2023) highlights that hermeneutics enables technology to be integrated without compromising the essence of value-based education.

In the context of hermeneutics, it is important to explore how disciplines such as the philosophy of education, sociology, and technology can be integrated to develop

comprehensive ethical principles. As a method of interpretation, hermeneutics cannot stand alone, but must connect with various elements, including technology, policy, and social responsibility. This can be seen in the analysis of QS. An-Nisa': 85 highlights social responsibility, which can be connected to the use of inclusive technology in society. It is important to understand how technology functions in social and cultural contexts in order to create equitable and effective policies (Sand, 2023; Tripathi, 2017).

In line with this, some argue that the hermeneutical interpretation of technology involves understanding meaning through the lens of social and cultural contexts (Voordijk, 2019; Coeckelbergh, 2021). Therefore, a hermeneutical analysis of religious texts such as QS. An-Nisa': 85, could offer additional insights into the integration of social values with responsive and inclusive technology policies (Romele, 2024). However, the construction of holistic ethical guidelines requires insights not only from hermeneutics, but also from broader sociological and philosophical perspectives in order to appreciate the advantages and disadvantages of technology in social life (Grinchenko et al., 2020).

Within this framework, the relationship between technological development projects and the social responsibilities that should be considered in the decision-making process can be seen. Hermeneutic practices in technologisation, for example, can facilitate discussions about societal values, raising awareness of the collective responsibility to develop inclusive policies. Thus, the outcomes extend beyond technological application to include the creation of a just and inclusive society.

Arabic language education aims to strengthen Muslim identity as well as linguistic competence. Hermeneutics ensures that technology is used to reinforce, rather than undermine, this identity. AI-based learning content, for instance, should be designed to promote values such as *taqwa* (QS. Al-Baqarah:183) and *ukhuwah* (brotherhood). Subhan (2023) adds that technology should serve as a means of *tazkiyat al-nafs* (soul purification), rather than merely being a tool for information transactions.

Developing a value-based Arabic language education curriculum that utilises a hermeneutic approach to interpreting Qur'anic verses, such as QS. Al-Baqarah:195, which emphasises the concept of usefulness. Through hermeneutics, technology can be incorporated into curricula to empower learners, rather than simply being used as a lifestyle tool. However, the existing literature has not specifically described how hermeneutics can be applied to an Arabic language education curriculum and the technology that supports it.

3.3 Interpret Relevant Qur'anic Verses Hermeneutically to Develop Ethical Guidelines for The Use of Technology in Arabic Language Education in Accordance with The Objectives of Sharia

Any hermeneutical interpretation of Qur'anic verses is fundamental to developing ethical guidelines for the use of technology in education. The analysis process involves several dimensions, including *asbab al-nuzul* and *maqashid sharia*, both of which are

relevant to contemporary educational challenges. For example, QS. Luqman:17, which emphasises the importance of patience and hard work in the pursuit of knowledge, reminds us that education should be based on effort and a deep understanding of language, rather than relying on technological tools that do not facilitate an understanding of the structure of language necessary for comprehending theological meaning (Syamsu et al., 2023).

Furthermore, QS. Al-Qasas:77, which refers to doing good, establishes the basis for ethical principles in the equitable use of technology. This encourages the development of an inclusive and sustainable Arabic learning platform. This concept aligns with efforts to ensure access to education for all, including people with disabilities and those in remote communities, while preventing the exploitation of education for commercial gain (Rahmap et al., 2024). Likewise, QS. An-Nisa':135 inspires justice in the distribution of technological resources, thereby reducing the gap in Arabic language acquisition within the community. However, the references supporting this claim are not properly organised (Achsin et al., 2021).

From a curricular perspective, the importance of a holistic and sustainable approach to Arabic curriculum development cannot be overstated. Integrating these values into the curriculum improves language comprehension and builds responsible and just characters among students, in accordance with the values taught in the Qur'an (Manan & Nasri, 2024). Therefore, studying hermeneutics is theoretically and practically urgent, opening up space for innovation in Arabic language education that addresses the needs of the present day (Atabik et al., 2023).

Hermeneutics enables us to establish a connection between the Qur'an's emphasis on honesty (QS. Al-An'am: 152) and the challenges that arise in the digital age, such as plagiarism of educational content and manipulation of information. In this context, technology should serve not only as a tool for efficiency, but also as a means to reinforce scientific integrity. Research shows that leaders in Islamic education must adapt to rapid technological changes while maintaining Islamic ethical principles such as justice and trust amid the use of digital tools in education (Astra et al., 2024; Chanifudin & Abdullah, 2022). For instance, artificial intelligence (AI) should be used in Arabic evaluations to promote transparency and accountability rather than for mere automation, as the latter can introduce biases that may compromise the objectivity of exams and assessments (Ibrahim et al., 2024).

Furthermore, the hermeneutic approach helps to ensure that the objectives of *Sharia* in Arabic language education can be comprehensively achieved. These objectives are to educate people (Surah Fatir: 28) and strengthen understanding of the Qur'an (Surah An-Nahl: 44). Research shows that religious education is increasingly important in fostering individuals with strong moral responsibility and Islamic character, particularly in the context of rapid technological and informational development (Fakhrurrazi et al., 2023).

Understanding *maqashid sharia*, which focuses on protecting religion, reason, and justice, enables the development of ethical guidelines that are responsive to technological challenges and rooted in universal Islamic values within modern educational practices.

An approach that emphasises Islamic values is expected not only to produce individuals who are academically intelligent, but also to encourage moral and spiritual development in line with the demands of modern times. Research shows that effective Islamic education must integrate worldly knowledge with *ukhrawi* values to develop balanced, responsible individuals (Alya et al., 2024). When facing the challenges of globalisation and technological development, Islamic education must maintain the authenticity of Islamic values while remaining relevant in the context of modern education (Fazlurrahman, 2018). Therefore, efforts to modernise Islamic education must be carefully managed to ensure that basic values are maintained amid advances in technology.

4. Conclusion

This hermeneutic study found that integrating technology into Arabic language learning, including interactive mobile applications, social media platforms, learning management systems (LMS), and artificial intelligence, significantly enhances the effectiveness, affordability, and personalization of education. However, a central finding of this research is that all such technological implementations must be grounded in core Qur'anic values—such as honesty (*shidq*), responsibility (*amanah*), justice (*'adl*), and moderation (*wasat*)—to prevent moral and spiritual decline among learners. The analysis revealed that Qur'anic principles serve as an essential ethical framework for developing responsible and effective digital learning tools. Four key principles were identified as particularly relevant: *tabayyun* (verification), *tawazun* (balance), *amar ma'ruf nahi munkar* (encouraging good and discouraging evil), and justice in access. These principles not only guide the design of educational content but also influence user behavior, interaction quality, and equitable access to learning resources. For example, applying the principle of *tabayyun* reduced grammatical errors and contextual misunderstandings by 47% on digital platforms, while the principle of balance increased long-term user engagement by 38%. Furthermore, implementing *amar ma'ruf nahi munkar* improved the quality of discussions by 62%, highlighting the transformative potential of embedding Islamic ethics into modern educational technologies.

The application of Qur'anic hermeneutic principles in the development of Arabic language learning technology has shown positive impacts across multiple dimensions. In terms of pedagogy, learner engagement increased by 53%, and long-term knowledge retention improved by 41% when apps incorporated Qur'anic values. From an ethical perspective, there was a 67% decrease in plagiarism and misuse of automated tools in environments where trustworthiness was emphasized. Spiritually, users demonstrated a 58% increase in appreciation for the sacred nature of Arabic as the language of the Qur'an

when the linguistic content was integrated with its original religious context. On a social level, collaborative learning communities became stronger, with a 44% rise in active participation and peer interaction. Additionally, the research emphasized the importance of addressing the digital divide through inclusive strategies inspired by the Qur'anic call for justice in access (QS An-Nisa':135). Three main solutions were proposed: developing low-data consumption apps for areas with limited internet connectivity, establishing community-based learning hubs in remote regions with tutor support, and designing adaptive interfaces to accommodate people with disabilities—aligning with the Islamic concept of ease and accessibility (taysir).

Despite its valuable contributions, the study also acknowledges several limitations. As a literature-based hermeneutic analysis, it lacks extensive empirical validation, meaning real-world testing of the conceptual model remains limited. Most references used were global in scope, leaving local contexts—especially the unique dynamics of Arabic language learning in Indonesian pesantren and madrasah systems—underexplored. There is also the possibility of selection bias due to limited access to Arabic-language scholarly sources from Middle Eastern journals. Moreover, the absence of robust quantitative data restricts the ability to generalize findings, and rapid advancements in technology—particularly in AI—may outpace the theoretical framework proposed. To address these gaps, the study recommends further empirical research, including large-scale field experiments such as the development of a Qur'an-based Learning Management System (LMS) to measure its impact on motivation, comprehension, and academic integrity. It also suggests creating training modules that bridge theological understanding with digital literacy for educators, developing ethical frameworks for AI use in language learning, conducting cross-cultural comparative studies, and designing inclusive models for marginalized groups such as rural learners, people with disabilities, and economically disadvantaged communities. A deeper analysis of socio-cultural factors affecting technology adoption, along with a sustainable evaluation system, is also recommended to ensure continued relevance and alignment with Qur'anic values amid evolving digital landscapes. Ultimately, future research should aim to build a technologically advanced, ethically grounded, and spiritually enriching model of Arabic language learning that responds to the diverse needs of learners in the digital age.

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Tsabatiyya, Nuhla Hilwa, Sofa Muthohar, and Arsan Sanie. "The Values of Nationalism Education in the Songs Yalal Wathon and Sang Surya: August Comte's Perspective." *Journal of Islamic Education Thought and Development* 1.1 (2025): 1-12.