



The Role of Information Technology in Instilling Akhlaqul Karimah in Elementary and Islamic Elementary School Students: A Conceptual Review

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ABSTRACT

In the digital era, Islamic education faces both opportunities and challenges in fostering Akhlaqul Karimah (noble character) among elementary students. The increasing exposure to digital content necessitates a strategic integration of information technology (IT) to reinforce moral and spiritual development. This conceptual review aims to examine the current practices of IT integration in Islamic character education, identify associated challenges and opportunities, and propose a conceptual framework to guide future practice. Using a qualitative conceptual review design, this study analyzed 20 peer-reviewed journal articles and scholarly books published within the last decade. Data were collected using a literature review matrix and analyzed through data reduction, display, and conclusion drawing, following the model of Miles, Huberman, and Saldaña. The results indicate that digital tools such as mobile applications, digital storytelling, Islamic multimedia, and e-books are widely utilized to support character education. These tools enhance engagement and provide innovative moral learning experiences. However, challenges such as limited digital literacy among teachers and insufficient infrastructure remain significant barriers. Despite this, the integration of IT offers promising opportunities to personalize learning, expand access to Islamic content, and gamify moral instruction. This study proposes a conceptual framework that bridges Islamic pedagogy with digital innovation, highlighting the pivotal role of educators in guiding ethical technology use. The findings provide theoretical insights and practical directions for curriculum designers, educators, and policymakers seeking to align digital transformation with Islamic moral values.

ARTICLE INFO

Article history:

Received: May 28, 2025

Revised: May 29, 2025

Approved: May 30, 2025

Published: May 31, 2025

Keywords:

Information Technology, Akhlaqul Karimah, Elementary and Islamic Elementary School

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INTRODUCTION

In the digital era, the rapid development of information technology (IT) has significantly transformed various aspects of human life, including the educational landscape. For Islamic elementary schools, this transformation presents both opportunities and challenges in shaping students' moral character, particularly in instilling Akhlaqul Karimah, or noble character. Amid the growing exposure of children to digital content, there is a critical need to integrate technology in a way that supports, rather than undermines, Islamic moral education. This is especially urgent considering the increasing reports of moral degradation among youths, necessitating conscious

efforts to strengthen their character through religious and ethical instruction embedded in digital platforms (Jasmaludin & Hayati, 2024).

Numerous scholars have emphasized that Islamic education must adapt to the Industrial Revolution 4.0 by incorporating digital tools into teaching and learning to remain relevant and effective (Chikmah et al., 2023). Integrating Islamic religious education with science and technology in elementary schools can foster a holistic educational experience, allowing students to harmonize religious values with scientific knowledge (Hikmah, 2024). Furthermore, digital transformation in Islamic institutions, including in Qur'an memorization programs, has demonstrated the potential of technology in enhancing students' engagement and understanding (Nugroho & Astutik, 2024). The success of these efforts heavily relies on the ability of educators to utilize IT meaningfully within the moral and spiritual learning process (Engkizar et al., 2018).

Prior studies have shown that the use of digital media and interactive applications in Islamic moral education enriches the learning process and increases student participation (Najamudin et al., 2024). Educational games, applications, and media technologies have been reported to support both effective learning and moral development (Daulay et al., 2023; Susilowati et al., 2023). However, despite the increasing utilization of technology, challenges remain, particularly in developing frameworks that ensure the integration of moral and spiritual dimensions in digital learning environments (Utami et al., 2023). Teachers, therefore, play a pivotal role not only as facilitators of knowledge but also as moral guides by incorporating traditional Islamic values within modern teaching strategies (Lilawati et al., 2023).

The literature indicates a growing recognition of the importance of technology in enhancing the efficiency of Islamic education (Wibowo, 2021). Scholars have proposed various technology-based strategies, such as the use of digital media, learning platforms, and blended learning models, to improve character education in Islamic schools (Sudrajat, 2019; Suryadi, 2020). These strategies align with broader pedagogical approaches that focus on student-centered learning and interactive methods, which can be adapted to moral education contexts (Djamarah & Zain, 2006). Foundational knowledge of Aqidah and Akhlaq also underscores the importance of embedding these core values into every aspect of the learning process, including technology-enhanced education (Wahyudi, 2017).

Despite these advancements, gaps remain in the literature regarding conceptual models that explicitly outline the role of IT in fostering Akhlaqul Karimah in early Islamic education settings. While many studies focus on technological integration and character education separately, there is limited research offering a comprehensive review that bridges both aspects within a single framework. This conceptual gap hinders the development of practical guidelines and best practices for educators and policy-makers.

This conceptual review seeks to address this gap by analyzing existing literature on the use of information technology in instilling Akhlaqul Karimah among elementary and Islamic elementary school students. Specifically, this study aims to: (1) examine the current practices and strategies used to integrate IT in Islamic character education, (2) identify the challenges and opportunities associated with this integration, and (3) propose a conceptual framework that highlights the potential of IT as a tool for moral formation.

The significance of this study lies in its potential to contribute to the field of Islamic education by providing a theoretical foundation for future empirical research and offering insights into how technology can be leveraged to support moral and spiritual development. In doing so, this review promotes a balanced and holistic approach to education that nurtures both intellectual and moral excellence in students—an objective that lies at the heart of Islamic pedagogy.

METHOD

This study employed a qualitative conceptual review approach to examine the role of information technology in instilling Akhlaqul Karimah (noble character) in students at elementary and Islamic elementary school levels. A conceptual review is a method used to synthesize existing theoretical perspectives and research findings in order to offer new insights into a particular educational issue (Snyder, 2019). The research design adopted in this study was descriptive and theoretical, focusing on literature-based analysis rather than empirical fieldwork. The unit of analysis consisted of scholarly documents including journal articles and books that met the selection criteria. No human subjects were involved, and therefore no sampling frame was required.

The sample in this study consisted of 20 selected sources, drawn purposively from scholarly books and peer-reviewed journal articles published within the last ten years. The inclusion criteria emphasized works that discussed: (1) the use of information and communication technology (ICT) in Islamic educational settings, (2) character development and moral education strategies (Akhlaq), and (3) the role of educational media in shaping students' behavior and values. These sources were retrieved from academic search engines and databases such as Google Scholar, DOAJ, and institutional repositories using keywords including Islamic education, information technology, Akhlaqul Karimah, and character education.

The instrument used in this research was a literature review matrix designed by the researcher. This matrix functioned as a tool to categorize, compare, and synthesize relevant themes across the selected literature. Each source was coded according to authorship, publication year, key concepts, and relevance to the research topic.

Data collection procedures involved systematic searching, reading, and extracting key themes from each source. The analysis techniques followed the model of Miles, Huberman, and Saldaña (2014), which included three stages: (1) data reduction, where essential ideas were identified and irrelevant data were excluded; (2) data display, where key findings were organized into thematic tables and summaries; and (3) conclusion drawing and verification, where interconnections among themes were interpreted to derive insights and identify research gaps.

Triangulation was applied by combining Islamic pedagogical sources, theoretical education literature, and empirical studies on ICT in character development. The works of Wahyudi (2017) provided a normative framework for Islamic moral education, while recent studies such as Daulay et al. (2023) added empirical context to the role of educational applications in shaping student character.

This conceptual review contributed to a theoretical understanding of how digital technology can support the cultivation of Akhlaqul Karimah in Islamic schooling environments. The approach taken in this study may serve as a guide for future research and curriculum development aligned with Islamic ethical values and 21st-century digital competencies.

RESULTS

This conceptual review study analyzed 20 selected sources published within the past decade that addressed the integration of information technology (IT) in Islamic educational settings, particularly in fostering Akhlaqul Karimah. The findings are organized into three key thematic areas: (1) Current Practices and Strategies in IT-based Islamic Character Education, (2) Challenges and Opportunities of IT Integration, and (3) A Conceptual Framework for Digital Moral Education in Islamic Schools.

1. Current Practices and Strategies in IT-Based Islamic Character Education

The review found that various educational technologies are already being utilized to promote moral values among elementary and Islamic elementary students. These include educational applications, digital storytelling, Islamic e-books, and interactive multimedia platforms that emphasize religious content. For example, Daulay, Rahmawati, and Usman (2023) highlighted how mobile applications that incorporate Islamic teachings can increase student engagement and character awareness.

Table 1. Frequently Used Digital Tools for Akhlaq Education in Islamic Schools

No	Type of Digital Tool	Application in Character Education	Source
1	Mobile Educational Apps	Interactive learning of Islamic values	Daulay et al., 2023
2	Digital Storytelling	Narratives to reinforce morals like honesty and respect	Wahyudi, 2017
3	Islamic Multimedia Content	Audio-visual content promoting daily worship and manners	Sudrajat, 2019
4	E-Modules and E-Books	Structured moral instruction integrated with ICT	Suryadi, 2020

Table 1 summarizes the most frequently utilized digital tools in the context of Akhlaq education within Islamic schools, as identified in recent literature. These tools include mobile educational apps, digital storytelling, Islamic multimedia content, and electronic modules or e-books. Each tool serves a specific pedagogical purpose, such as facilitating interactive learning, conveying moral narratives, promoting worship practices, and providing structured character instruction. Collectively, they aim to strengthen students' understanding of Islamic values, nurture discipline, and foster spiritual growth in line with Akhlaqul Karimah.

2. Challenges and Opportunities in Integrating IT for Moral Development

The reviewed sources also revealed several challenges in implementing IT for Islamic moral education. These include the lack of teacher training, limited digital infrastructure in rural Islamic schools, and the risk of moral dilution due to exposure to secular online content. However, the literature also emphasized significant opportunities, such as:

- a. Wider accessibility to Islamic learning materials
- b. Personalization of moral learning experiences
- c. Opportunities for gamified and immersive learning environments

Table 2. Challenges and Opportunities in IT-Based Character Education

Aspect	Challenges	Opportunities
Teacher Role	Lack of digital literacy among educators	Teacher capacity building through online training modules
Infrastructure	Inconsistent access to internet and devices	Investment in school-based digital platforms
Content	Exposure to non-Islamic or morally ambiguous content	Development of curated Islamic content databases
Student Access	Socio-economic disparities limiting device ownership	Mobile-based low-data applications for wider access

Table 2 outlines the key challenges and potential opportunities associated with implementing IT-based character education in Islamic schools. Major challenges include limited digital literacy among teachers, inadequate infrastructure, exposure to inappropriate content, and unequal student access due to socio-economic factors. However, these issues can be addressed through targeted solutions such as teacher training programs, investment in digital infrastructure, creation of Islamic content databases, and the development of mobile-friendly applications. Overall, the table suggests that with strategic efforts, technology integration can significantly enhance moral education in Islamic contexts.

3. Proposed Conceptual Framework for IT-Supported Akhlaqul Karimah Education

Based on the synthesis of findings, this study proposes a conceptual framework to guide the integration of IT in moral education. The framework (Figure 1) emphasizes the alignment between technological tools, teacher facilitation, and the intended moral outcomes rooted in Islamic teachings.

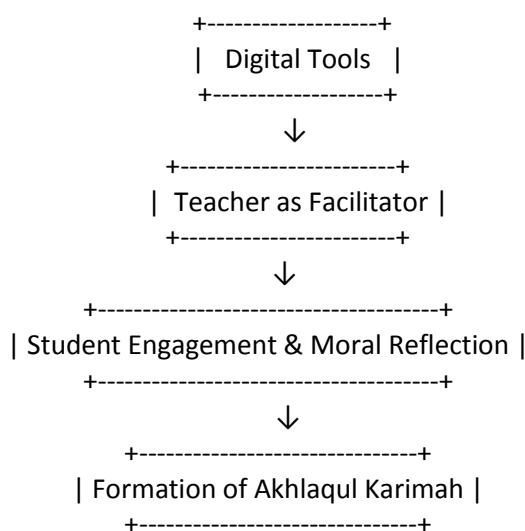


Figure 1. Conceptual Framework for Integrating Information Technology in the Formation of Akhlaqul Karimah

This conceptual framework illustrates a sequential and interactive model for the integration of information technology in Islamic character education. The process begins with the utilization of digital tools, which are mediated by the teacher acting as a facilitator. The teacher's role is crucial in contextualizing content, modeling behavior, and guiding moral inquiry. Through this facilitation, students engage actively with the material and participate in reflective learning processes. The culmination of this interactive dynamic is the internalization and formation of *Akhlaqul Karimah* (noble character), representing the core objective of Islamic moral education in the digital era.

DISCUSSION

1. The Role of Digital Tools in Shaping Akhlaqul Karimah

The reviewed literature indicates that digital educational tools such as mobile apps, multimedia content, and Islamic digital stories are increasingly used to teach values such as honesty, discipline, and religious devotion. These tools facilitate engaging and contextually relevant moral instruction. This is consistent with Daulay et al. (2023), who reported that students using Islamic educational applications demonstrated improved behavior in daily routines and classroom interactions.

The digitalization of moral content reflects a growing alignment between technological literacy and spiritual education in the 21st century. However, the effectiveness of these tools heavily depends on teacher mediation. Teachers remain central to guiding interpretation and reflection, a point emphasized by Wahyudi (2017), who argued that Islamic character cannot be internalized through passive consumption alone.

2. Navigating Implementation Challenges

Despite the benefits, several barriers challenge the integration of IT in Islamic schools. These include insufficient infrastructure, digital skill gaps among teachers, and the socio-economic

digital divide among students. These challenges are not unique to Islamic schools but are more pronounced due to limited funding and resources in many religious institutions.

Nevertheless, the literature also pointed to opportunities for meaningful transformation. If teachers receive proper digital training and if schools invest in infrastructure, the use of technology can be a catalyst for moral development. The emergence of mobile-friendly, low-data applications tailored for Islamic learning presents a practical solution to accessibility issues, especially in rural contexts.

3. Conceptual Implications and Framework for Future Implementation

The proposed conceptual framework synthesizes the findings into a model that integrates digital tools with pedagogical strategies, emphasizing teacher facilitation as the bridge between technology and moral formation. This model aligns with Islamic epistemology, which stresses the importance of guided learning, character modeling, and reflection in moral development.

Moreover, this framework invites Islamic educators and curriculum developers to think beyond content delivery and focus on interaction, personalization, and critical reflection. These are essential for cultivating Akhlaqul Karimah in a digital age characterized by distraction and information overload.

4. Comparison with Previous Studies

The findings of this review are consistent with previous research emphasizing the transformative potential of digital media in Islamic education (Daulay et al., 2023; Sudrajat, 2019). Similar to studies by Wahyudi (2017) and Suryadi (2020), this review affirms that digital storytelling and structured e-learning platforms enhance students' ability to internalize moral lessons. Moreover, the challenges identified—such as inadequate digital literacy among teachers and limited infrastructure—echo the concerns raised in prior literature (Utami et al., 2023; Nugroho & Astutik, 2024).

However, this review adds value by synthesizing these findings into a unified conceptual framework, bridging the gap between technological application and moral development. While earlier studies have often treated these domains separately, this research highlights the necessity of a holistic approach where digital tools, teacher facilitation, and student engagement work in synergy to promote Akhlaqul Karimah.

5. Implications of Findings

The implications of this review are both theoretical and practical. Theoretically, it offers a foundation for future empirical investigations that seek to evaluate the effectiveness of specific IT tools in moral education. The conceptual framework proposed can serve as a guide for curriculum designers, school administrators, and policymakers aiming to implement technology-integrated moral instruction in Islamic schools.

Practically, this study emphasizes the need for targeted professional development programs to enhance teachers' digital competencies. Moreover, developers of Islamic educational technology should consider user-friendly designs, culturally appropriate content, and features that support moral introspection and community interaction. By aligning digital innovation with Islamic pedagogical values, schools can better prepare students to navigate moral dilemmas in a digital society.

6. Limitations of the Study

Despite its comprehensive synthesis, this study has several limitations. First, as a conceptual review, it does not present new empirical data, and thus its conclusions rely heavily on the interpretations of existing literature. Second, the selected sources predominantly represent Indonesian contexts, which may limit the generalizability of the findings to other socio-cultural

settings. Third, the rapid evolution of technology may render some tools or strategies obsolete, highlighting the need for continual updates and adaptability.

Furthermore, the reviewed literature does not fully explore the long-term impact of digital moral education on students' character outside the classroom environment. Future studies are needed to assess behavioral changes over time and to examine how digital tools influence students' ethical decision-making in real-life contexts.

In summary, the review demonstrates that when appropriately implemented, information technology can be a powerful catalyst for moral and spiritual development in Islamic elementary schools. The proposed framework integrates digital tools, teacher facilitation, and student reflection, creating a comprehensive model for Akhlaqul Karimah formation. While challenges remain—especially in infrastructure and educator preparedness—the opportunities for meaningful, technology-enhanced character education are considerable. These insights pave the way for more robust, evidence-based strategies in Islamic digital pedagogy and reinforce the importance of moral education in the digital age.

CONCLUSION

This conceptual review has demonstrated that the integration of information technology in Islamic elementary education holds significant potential for enhancing the cultivation of Akhlaqul Karimah. Key findings reveal that various digital tools—including mobile applications, multimedia content, and e-books—are effectively used to support moral education when aligned with Islamic teachings. The study also identifies critical challenges such as digital literacy gaps among educators and infrastructure limitations, particularly in rural Islamic schools. Despite these obstacles, IT offers valuable opportunities for expanding access, personalizing learning, and creating engaging moral instruction environments.

The research contributes to the theoretical discourse by proposing a conceptual framework that harmonizes Islamic values with digital innovation. This model emphasizes the educator's role as both a technological facilitator and a moral guide. Practically, it provides a roadmap for integrating IT tools into character education curricula in a way that preserves and promotes Islamic ethics.

For future research, empirical studies should validate the proposed framework in real classroom settings, exploring its effectiveness in different educational contexts. Additionally, more attention should be given to the development of digital literacy training for Islamic educators to ensure sustainable and meaningful integration of technology. In closing, this study underscores the importance of a balanced approach to educational innovation—one that advances digital competencies while steadfastly upholding the moral mission of Islamic education.

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