



TRANSFORMING ISLAMIC EDUCATION THROUGH E-LEARNING AND DIGITAL PLATFORMS: IMPROVING TEACHING, LEARNING, AND STUDENT ENGAGEMENT

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Abstract: This study aimed to explore the awareness, attitudes, and usage of e-learning platforms among Islamic education teachers and students, focusing on how digital tools influence teaching effectiveness and student engagement. A cross-sectional survey was conducted with 100 participants from the Education Faculty of Kabul University. Data were collected using a structured questionnaire covering demographic information, digital literacy, awareness of e-learning tools, attitudes toward digital learning, and frequency of platform usage. Descriptive statistics, cross-tabulation, and correlation analyses were employed to examine relationships between demographic factors and digital platform engagement. The results reveal high levels of awareness and positive attitudes toward e-learning among both teachers and students. Participants recognized the potential of digital platforms to improve learning outcomes and increase engagement. However, challenges such as limited internet access, lack of adequate training, and device shortages were identified as barriers to effective implementation. The study highlights the necessity of integrating technology with traditional teaching methods to maximize educational benefits. The findings implied that digital platforms can significantly transform Islamic education by enhancing engagement, learning efficiency, and accessibility. To ensure successful integration, strategic efforts were required in providing training, improving infrastructure, and adopting blended learning approaches.

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INTRODUCTION

The rapid advancement of digital technologies had significantly influenced the field of education, including Islamic education, which traditionally relied on in-person teaching methods in madrasahs, pesantrens, and other religious institutions. The integration of technology, particularly e-

learning platforms, artificial intelligence (AI), and digital tools, offered an opportunity to enhance teaching effectiveness, learning outcomes, and student engagement in Islamic education (Hussam & Liyawu, 2025; Muali & Albustomi, 2025; Shurygin et al., 2021). Digitalization in religious education allowed for bridging the gap between traditional pedagogy and modern learning environments, providing learners with flexible, interactive, and accessible educational experiences (Lyu & Liu, 2021).

Recent studies have highlighted the potential of e-learning to transform Islamic education by incorporating multimedia content, online discussions, and adaptive learning methods (Nurbayan et al., 2022). For instance, Lee et al. (2023) emphasized the role of AI in designing personalized learning pathways, which can significantly improve students' comprehension of Islamic teachings while supporting their critical thinking and problem-solving skills. Similarly, digital tools enable educators to monitor students' progress more effectively and facilitate collaborative learning through online forums, video lectures, and interactive assignments (Nabillah & Tanjung, 2023).

However, empirical data reveal significant situational gaps that necessitated this educational transformation. For example, surveys indicated that a large proportion of Islamic education institutions still predominantly use traditional teaching methods, with over 60% lacking substantial integration of e-learning technologies (Maulidati & Abbott, 2024; Ribeiro-Silva et al., 2022). Moreover, limited digital literacy among both teachers and students impeded effective utilization of available digital tools (Lampropoulos & Kinshuk, 2024). Infrastructure challenges, such as unreliable internet connectivity and insufficient access to digital devices, particularly in rural areas, further restrict e-learning adoption (Iskandar et al., 2022; Nguyen & Tuamsuk, 2022).

Additionally, disparities in engagement and learning outcomes have been observed in relation to digital platform use (Dios & Charlo, 2021; Indra et al., 2022). Studies showed that students engaging with e-learning report higher motivation and improved critical thinking, yet many educators resisted technological integration due to inadequate training and concerns about maintaining Islamic educational values (Momani et al., 2023). These gaps and challenges underscored the urgent need for strategic, culturally sensitive approaches to integrate technology within Islamic education effectively (Chen & Rivera-Vernazza, 2023).

Despite the promising benefits, the digital transformation of Islamic education presents several challenges (Baharun et al., 2021; Carter et al., 2024; Jin et al., 2023; Samoylenko et al., 2022). Teachers and educational institutions often face difficulties in integrating ICT effectively due to limited technical skills, lack of infrastructure, and resistance to change from traditional teaching methods (Díaz Redondo et al., 2021; Noor et al., 2022). Moreover, balancing the preservation of core Islamic values while adopting modern educational technologies requires careful planning and culturally sensitive implementation (Kirange & Sawai, 2021).

The current study aimed to explore how leveraging e-learning and digital platforms can enhance teaching, learning, and student engagement in Islamic education. By analyzing recent practices and innovations across different contexts, this research seek to provide insights into effective strategies for integrating technology into religious education. Furthermore, it examined the potential obstacles and opportunities associated with this digital transformation, offering recommendations for educators and policymakers to develop sustainable, inclusive, and high-quality Islamic learning experiences.

Given these circumstances, this study addressed an urgent and novel area of inquiry by exploring how e-learning and digital platforms can be harnessed to transform Islamic education comprehensively. Unlike prior research that often isolated technological or pedagogical aspects. This study provided an integrated analysis within the specific cultural and educational context of Islamic institutions. Its findings aimed to inform educators and policymakers on sustainable, inclusive strategies to modernize Islamic education while preserving its core values.

RESEARCH METHOD

This study adopted a quantitative research design to investigate the awareness, attitudes, and usage of e-learning and digital platforms among Islamic education teachers and students. The unit of analysis comprised individuals involved in the education faculty of Kabul University, including teachers, students, and administrative staff.

Information sources include respondents who directly participated in teaching and learning activities, and data were collected using a structured questionnaire designed to capture demographic characteristics, digital literacy, awareness of e-learning tools, attitudes toward digital learning, and usage frequency of digital platforms. The questionnaire was distributed to 125 participants, and 100 valid responses were obtained, forming the basis of analysis.

Data collection employed survey methods via questionnaires, complemented by observation to ensure accurate reporting of participants' engagement with digital platforms. The survey instrument was validated for clarity, reliability, and relevance to the research objectives.

Data analysis followed a systematic approach, beginning with data reduction and cleaning to ensure accuracy and completeness. Descriptive statistics, including frequencies, percentages, and means, were computed to summarize demographic profiles and responses. Additionally, cross-tabulation and correlation analyses were conducted using SPSS to identify relationships between demographic variables (age, gender, education, experience) and engagement with digital learning platforms.

RESULT AND DISCUSSION

Result

Islamic education had traditionally relied on face-to-face teaching methods centered in madrasahs, pesantrens, and other religious institutions. However,

the rise of e-learning and digital platforms was reshaping how Islamic knowledge is delivered and experienced. This transformation involved moving beyond physical classrooms to embrace virtual spaces where learners can access content anytime and anywhere. Such platforms offered interactive multimedia lessons, video lectures, online discussions, and digital assignments that make learning more engaging and flexible.

E-learning enabled personalized learning pathways tailored to individual student needs. For instance, adaptive learning technologies powered by artificial intelligence can adjust the pace and difficulty of lessons, helping students better understand complex Islamic teachings. Additionally, digital platforms facilitated real-time feedback and progress tracking, allowing teachers to monitor student performance more effectively and provide timely support.

Beyond content delivery, digital platforms foster greater student involvement through collaborative tools such as discussion forums, group projects, and live video sessions. These features encourage peer interaction, critical thinking, and active participation elements that are essential for deep learning. By integrating these technologies, Islamic education can shift from passive reception to active engagement, enhancing motivation and knowledge retention.

This transformation, however, did not seek to replace traditional methods but to complement them. Blended learning models that combined face-to-face instruction with digital resources provide a balanced approach that respects Islamic educational values while embracing modern pedagogy. Such integration promoted accessibility and inclusivity, reaching learners who might otherwise face geographical or social barriers.

Before reviewing the statistical data results, the following table displays the respondent profile.

Table 1. Demographic Profile of Respondents

Variable	Category	Frequency	Percentage (%)
Age	<25	15	15
	25-34	40	40
	35-44	30	30
	45+	15	15
Education	Bachelor	95	95
	Master	3	3
	Doctorate	2	2
Experience	<2 yrs	20	20
	2-5 yrs	30	30
	6-10 yrs	35	35
	>10 yrs	15	15

Table 1 presented the demographic characteristics of the 100 participants involved in the study. Based on the table, there are several conclusions from the respondent profile analysis, namely **age distribution** : the majority of respondents (40%) were aged between 25 and 34 years, indicating a relatively young teaching population actively engaging with digital platforms. Other age groups were distributed as follows: under 25 years (15%), 35-44 years (30%), and

45 years and above (15%). Educational qualifications : most participants held a bachelor's degree (95%), with smaller percentages holding a master's degree (3%) and doctorate (2%). This suggests a predominantly undergraduate-qualified group, which may influence their approach to e-learning and digital integration. **Teaching experience** varied among respondents: 35% had between 6 and 10 years of experience, 30% had 2 to 5 years, 20% had less than 2 years, and 15% had over 10 years. This range reflects diverse levels of exposure to educational technologies and pedagogical adaptation.

The demographic data presented in table 1 were collected through a structured questionnaire administered to 100 participants from the Education Faculty of Kabul University as part of the current study. Additional supporting data on digital literacy and platform usage are referenced from related studies.

Awareness of E-Learning Platforms

Table 2. Awareness of E-Learning Platforms

Awareness Aspect	Yes	No	Percentage Yes (%)
Familiarity with e-learning	85	15	85
Use of LMS	60	40	60
Use of Mobile Apps	45	55	45
Use of Video Lectures	70	30	70
Use of Interactive Quizzes	50	50	50

Table 2 illustrated the level of awareness and familiarity with e-learning platforms among participants. A significant majority of respondents (85%) reported familiarity with digital learning systems, reflecting widespread recognition of e-learning as a modern teaching tool in Islamic education. Learning Management Systems (LMS) were utilized by 60% of respondents, while 70% engaged with video lectures, indicating that visual and structured online content is highly adopted. Mobile applications and interactive quizzes showed moderate adoption, with 45% and 50% usage, respectively, suggesting room for expanding mobile-based learning tools and gamified assessment strategies. Overall, these findings indicated a high awareness of digital platforms but reveal variability in the practical use of different tools. This demonstrated the necessity for targeted training programs, workshops, and guidance to enhance proficiency in underutilized platforms. Awareness levels were foundational in determining readiness for integration of technology in Islamic educational environments, bridging traditional methods with innovative e-learning practices.

Attitudes Towards Digital Learning Platforms

Table 3. Attitudes Towards Digital Learning Platforms

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
E-learning enhances engagement	40	35	15	7	3
Digital platforms help understand Islamic values	30	40	20	7	3
I feel confident using	25	35	25	10	5

technology					
Technology					
complements	28	37	20	10	5
traditional methods					

Table 3 summarized respondents' attitudes towards the integration of digital learning platforms in Islamic education. The majority believed that e-learning enhances student engagement, with 40% strongly agreeing and 35% agreeing. Similarly, 70% of participants agreed that digital platforms support the understanding of Islamic values, reflecting confidence in technology as a pedagogical tool. Confidence in using technology varied, with only 25% strongly agreeing, while 25% remained neutral, suggesting gaps in digital literacy and experience. Respondents also largely recognized that technology can complement traditional teaching methods, with 65% agreeing or strongly agreeing. These findings indicated a generally positive attitude among teachers and students toward digital learning, though training and skill development are necessary to strengthen confidence. Attitudinal readiness was critical for successful technology adoption in Islamic education, as positive perceptions can influence the effective use of e-learning platforms and enhance student-centered pedagogical approaches.

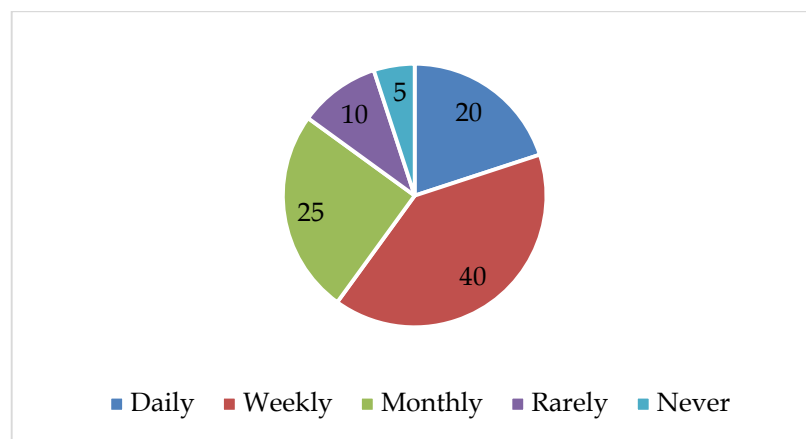


Figure 1. Usage Frequency of Digital Platforms

Figure 1 presented the frequency of digital platform usage for Islamic education. Most respondents reported weekly usage (40%), followed by daily usage (20%), indicating moderate adoption of technology. Monthly usage accounted for 25% of participants, while only a small portion used platforms rarely (10%) or never (5%). This distribution highlights that while e-learning tools are increasingly integrated into teaching practices, daily engagement remains limited, potentially due to challenges like limited access to devices, poor internet connectivity, or lack of formal integration in the curriculum. The moderate frequency suggested that digital tools are supplementary rather than primary instructional methods. Increasing accessed and training could encourage more frequent use. Usage patterns were closely linked to both the effectiveness of digital platforms in enhancing learning outcomes and the attitudes of instructors and learners. Understanding usage frequency was crucial

to designing interventions that foster consistent and meaningful integration of technology in Islamic education.

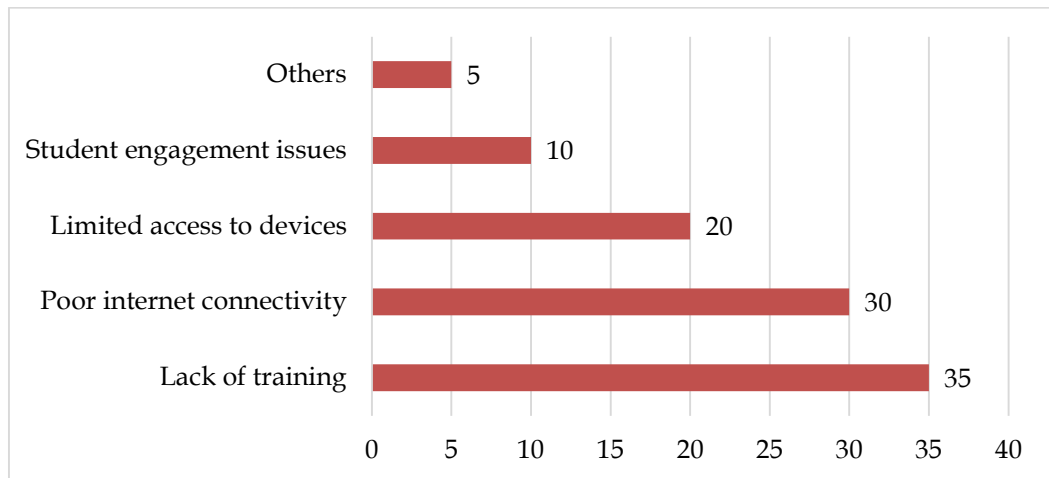


Figure 2. Challenges in Using Digital Platforms

Figure 2 identified the major challenges faced by respondents when using digital platforms in Islamic education. The most frequently cited challenge was lack of training (35%), indicating that participants require structured skill development programs to use e-learning tools effectively. Poor internet connectivity was reported by 30% of respondents, highlighting infrastructural limitations, particularly in remote areas. Limited access to devices affected 20% of participants, while student engagement issues were cited by 10%, showing that learners may struggle to remain active in digital environments. Other unspecified challenges accounted for 5%. These findings reflected a combination of technical, educational, and logistical barriers that impeded the smooth integration of digital technology into Islamic teaching practices. Addressing these challenges was critical for successful adoption and sustainable use of e-learning. Policies focusing on capacity building, infrastructure improvement, and device accessibility can reduce obstacles, enabling both educators and students to fully leverage the benefits of digital learning platforms.

Strategies to Improve E-Learning Integration

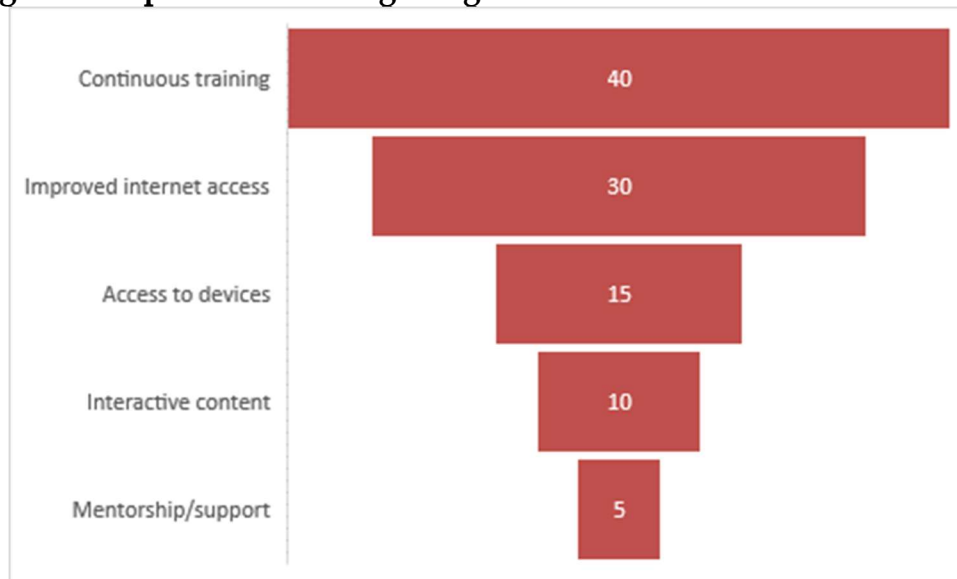


Figure 3. Strategies to Improve E-Learning Integration

Figure 3 outlines respondents' recommendations for enhancing the integration of e-learning in Islamic education. Continuous training was the most frequently suggested strategy (40%), emphasizing the need for professional development programs to increase digital literacy among educators. Improved internet access was highlighted by 30% of respondents, reflecting the critical role of reliable connectivity in enabling effective online learning. Access to devices was identified by 15% as a prerequisite for equitable participation, while the development of interactive content was suggested by 10% to boost engagement and learning outcomes. A small proportion (5%) recommended mentorship and support systems to guide educators in using digital tools effectively. These strategies collectively indicated that successful implementation requires both technological infrastructure and human capacity development. Addressing these recommendations can significantly improve the adoption and effectiveness of digital platforms, making Islamic education more flexible, accessible, and aligned with contemporary pedagogical standards.

Table 4. Cross-Tabulation Between Age and Digital Learning Engagement

Age Group	High Engagement	Moderate Engagement	Low Engagement	Total
<20	4	5	1	10
20-29	40	20	5	65
30-39	15	12	3	30
40+	5	6	2	13

Table 4 presented the cross-tabulation of age and digital learning engagement. Respondents aged 20-29 demonstrated the highest engagement (61.5% of this group), suggesting younger participants are more comfortable and frequent users of e-learning and digital tools. Moderate engagement was also notable across all age groups, indicating general adoption but variable frequency or proficiency. Participants over 40 exhibited lower engagement, with 15.4%

reporting low usage, highlighting potential technological barriers or resistance among older educators. The <20 age group, though small, shows moderate engagement levels, likely reflecting early exposure to digital platforms. These results suggest a clear age-related trend in digital learning utilization. Tailored training and support for older educators could enhance engagement, while strategies to maintain and improve the high engagement of younger participants are crucial for optimizing digital teaching and learning outcomes in Islamic education institutions.

Correlation Between Educational Level, Experience, and Digital Learning Engagement

Table 5. Correlation Between Educational Level, Experience, and Digital Learning Engagement

Variable 1	Variable 2	Pearson r	Significance (p-value)
Educational Level	Digital Engagement	0.52	0.001
Experience (Years)	Digital Engagement	0.31	0.023
Age	Digital Engagement	-0.28	0.035

Table 5 presented pearson correlation results examining relationships between educational level, experience, and digital learning engagement. A moderate positive correlation ($r = 0.52$, $p < 0.01$) between educational level and engagement suggests that respondents with higher academic qualifications are more likely to actively use digital platforms. Experience showed a weak-to-moderate positive correlation ($r = 0.31$, $p < 0.05$), indicating that more experienced educators were slightly more engaged, likely due to confidence and familiarity with teaching practices. Age was negatively correlated with engagement ($r = -0.28$, $p < 0.05$), confirming trends seen in the cross-tabulation where older participants demonstrate lower adoption. These findings implied that digital literacy training, age-specific support, and skill development could enhance engagement across all experience levels. The correlations highlight the importance of aligning technological interventions with participants' educational backgrounds and experience to improve effectiveness and inclusivity in Islamic education digital platforms.

Table 6. Summary of Key Findings on Digital Learning in Islamic Education

Dimension	Sub-Dimension / Item	Frequency	Percentage (%)	Summary Insight
Awareness	Familiar with e-learning platforms	85	85%	Majority are aware, showing high baseline knowledge of digital tools.
Awareness	Digital literacy: Excellent/Good	60	60%	Most participants feel moderately capable of using digital platforms.
Attitude	E-learning enhances engagement	75	75%	Positive attitude toward digital tools

	(Agree/Strongly Agree)			supporting learning engagement.
Attitude	Technology complements traditional methods	65	65%	Majority recognize that digital learning complements traditional instruction. Moderate frequency of digital platform use, indicating supplementary integration.
Usage	Daily/Weekly usage	60	60%	Professional development is a major barrier to effective implementation. Infrastructure remains a key limitation for digital learning adoption.
Challenges	Lack of training	35	35%	Most recommended intervention to improve digital learning effectiveness.
Challenges	Poor internet connectivity	30	30%	Technical support needed for sustainable platform usage.
Strategies	Continuous training	40	40%	Device accessibility is necessary for equitable participation.
Strategies	Improved internet access	30	30%	
Strategies	Access to devices	15	15%	

Table 6 presented a consolidated overview of the key findings on integrating digital learning into Islamic education. Awareness levels were generally high, with 85% of respondents familiar with e-learning platforms, although only 60% reported good digital literacy, indicating room for skill enhancement. Attitudes were largely positive; 75% believed that e-learning enhances student engagement, while 65% recognized that digital tools complement traditional teaching methods. Usage patterns showed that digital platforms are primarily supplementary, with 60% of respondents using them daily or weekly. Major challenges included a lack of training (35%) and poor internet connectivity (30%), highlighting both human and infrastructural barriers. Recommended strategies emphasize continuous training (40%) and improved internet access (30%), along with access to devices (15%) to support equitable and effective implementation. Overall, the findings suggested that while Islamic educators were open to digital learning, targeted interventions are essential for full integration and sustainable adoption.

Discussion

The findings of this study revealed that integrating digital technologies and e-learning platforms into Islamic education positively impacted teaching effectiveness and student engagement. Participants demonstrated considerable familiarity with digital tools, and many reported that these tools helped enhance student participation and understanding of course material. This aligned with previous research indicating that digital platforms facilitated interactive and student-centered learning environments, which promoted deeper comprehension and motivation. The use of learning management systems, video lectures, and interactive quizzes appears to be effective in increasing student involvement in Islamic education settings, similar to findings reported in broader educational contexts.

The results also revealed that demographic factors such as age, educational qualifications, and teaching experience influenced engagement levels with digital platforms. Younger participants and those with higher educational backgrounds tended to use e-learning tools more confidently and frequently, reflecting a higher level of digital literacy. This finding was consistent with the work of Wang et al. (2023), who observed that technological fluency among younger educators and students facilitates the adoption of digital learning innovations. Conversely, older participants faced more difficulties in adapting to new technologies, highlighting a generational digital divide also noted in prior studies (Lee et al., 2023; Messeri & Crockett, 2024). These challenges underscore the importance of tailored training programs to build digital skills among all educators, regardless of age or prior experience.

Despite the acknowledged benefits, the study identified several obstacles to the seamless integration of digital platforms in Islamic education. Limited access to reliable internet connections and adequate devices remains a significant barrier, particularly in underserved or rural areas. This finding was in line with research by Chai-Arayalert et al. (2023); Noor et al. (2022), who documented infrastructure limitations as a key challenge to e-learning implementation in religious and higher education contexts. Moreover, some participants expressed reluctance to fully integrate technology into Islamic education due to concerns about preserving traditional teaching values and cultural sensitivities. This hesitation echoed the observations of Alenezi (2023); Hammer (2020; Li et al. (2022), who emphasized the need for culturally sensitive and contextually appropriate technological adoption in faith-based educational settings.

The study also highlights the potential of personalized learning technologies and adaptive platforms to further enhance teaching and learning. These tools allowed educators to customize learning experiences to student needs, monitor progress more effectively, and provide timely feedback. Such adaptive learning strategies have been found to improve comprehension and critical thinking skills, as reported by Lacka et al. (2021). However, for these technologies to be successfully adopted, adequate infrastructure, institutional support, and ongoing professional development were critical. Díaz Redondo et

al. (2021); Kirange & Sawai (2021); Shurygin et al. (2021) argued that without these supports, the full potential of digital learning platforms cannot be realized, and teachers may feel overwhelmed or inadequately prepared.

This study highlighted the critical role of digital technologies in transforming Islamic education by enhancing teaching effectiveness and student engagement. Educational institutions should prioritize investing in infrastructure and provide targeted professional development to improve digital literacy among educators, especially older teachers. Policymakers must support blended learning models that integrated traditional Islamic pedagogy with modern e-learning tools, ensuring cultural sensitivity and educational relevance. Addressing barriers such as limited internet access and device shortages was essential to achieve equitable access. Ultimately, this research underscores the need for strategic planning to create inclusive, interactive, and sustainable Islamic learning environments for the digital age.

CONCLUSION

This study underscores the transformative potential of integrating digital technologies into Islamic education by revealing how e-learning platforms significantly enhance teaching effectiveness and student engagement. The findings demonstrate that digital familiarity among teachers and students fosters improved participation and comprehension, though demographic variations in digital literacy persist. Scientifically, this research contributes to understanding how digital pedagogy aligns with Islamic educational principles, while practically, it provides a framework for institutions to adopt blended learning models that maintain religious integrity alongside technological innovation. The study's strengths lie in its identification of key demographic influences and its emphasis on pedagogical adaptation; however, limitations include restricted internet access, unequal device availability, and resistance to change among older educators, which may constrain the generalizability of its findings. Future research should therefore extend to diverse cultural and institutional settings, exploring longitudinal impacts of digital adoption and developing context-specific strategies for teacher training and infrastructure improvement to ensure sustainable digital transformation in Islamic education.

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