

## DIGITAL MULTIMEDIA AS AN INNOVATION IN ISLAMIC RELIGIOUS EDUCATION LEARNING IN THE ERA OF TECHNOLOGICAL TRANSFORMATION

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### Abstrak

Transformasi teknologi digital yang semakin pesat telah menciptakan peluang baru bagi inovasi dalam pembelajaran Pendidikan Agama Islam. Penelitian ini bertujuan untuk mengkaji bentuk dan karakteristik multimedia digital yang digunakan dalam pembelajaran Pendidikan agama Islam, kontribusinya terhadap pembelajaran yang interaktif dan menarik, serta peran guru dalam mengintegrasikan multimedia digital dengan konten pendidikan Islam. Penelitian ini menggunakan metode *library research* dengan pendekatan deskriptif-analitis. Data diperoleh dari literatur ilmiah yang relevan, khususnya artikel jurnal yang diterbitkan pada 2021–2026, dengan fokus pada multimedia digital, teknologi pendidikan, kompetensi digital, integrasi teknologi, dan Pendidikan Agama Islam. Data dianalisis melalui tahapan identifikasi, seleksi, kategorisasi, perbandingan, interpretasi, dan sintesis literatur. Hasil penelitian menunjukkan bahwa multimedia digital, meliputi video pembelajaran, animasi, audio, presentasi interaktif, kuis digital, dan aplikasi edukasi, dapat meningkatkan keterlibatan, motivasi, pemahaman, partisipasi, serta kesempatan belajar mandiri peserta didik. Namun, efektivitasnya bergantung pada desain pedagogis yang tepat dan kesesuaian dengan tujuan pembelajaran serta karakteristik peserta didik. Guru memiliki peran sentral sebagai kurator sumber digital, perancang pembelajaran, fasilitator, dan penjaga nilai-nilai pendidikan Islam. Penelitian ini menyimpulkan bahwa multimedia digital tidak seharusnya dikembangkan sekadar sebagai instrumen teknologi, tetapi sebagai inovasi yang terintegrasi secara pedagogis untuk memperkuat pembelajaran Pendidikan agama Islam yang interaktif, bermakna, fleksibel, dan berorientasi pada nilai.

**Kata Kunci:** Media E-book, Minat Baca, Pendidikan Agama Islam

### Abstract

The rapid transformation of digital technology has created new opportunities for innovation in Islamic Religious Education learning. This study aims to examine the forms and characteristics of digital multimedia used in IRE, its contribution to interactive and engaging learning, and the role of teachers in integrating digital multimedia with Islamic educational content. This study employs a library research method with a descriptive-analytical approach. Data were obtained from relevant scholarly literature, particularly journal articles published between 2021 and 2026, focusing on digital multimedia, educational technology, digital competence, technology integration, and Islamic Religious Education. The data were analyzed through literature identification, selection, categorization, comparison, interpretation, and synthesis. The findings indicate that digital multimedia, including instructional videos, animations, audio, interactive presentations, digital quizzes, and educational applications, can enhance students' engagement, motivation, comprehension, participation, and opportunities for independent learning. However, its effectiveness depends on appropriate pedagogical design and alignment with learning objectives and students' characteristics. Teachers play a central role as digital resource curators, learning designers, facilitators, and guardians of Islamic educational values. The study concludes that digital multimedia should be developed not merely as a technological instrument but as a pedagogically integrated innovation that strengthens interactive, meaningful, flexible, and value-oriented Islamic Religious Education learning.

**Keywords:** E-book Media, Reading Interest, Islamic Religious Education

## **INTRODUCTION**

The rapid expansion of digital technology has fundamentally transformed the ways knowledge is produced, communicated, accessed, and experienced in contemporary education. Digital transformation has shifted technology from being merely an instructional aid toward becoming an integral component of pedagogical practice, learning environments, and educational innovation. This transformation has created opportunities for teachers to design learning experiences that are more flexible, interactive, multimodal, and responsive to learners' needs. At the same time, digital transformation does not automatically guarantee improvements in learning quality. The educational value of technology depends substantially on how digital resources are selected, designed, integrated, and aligned with pedagogical objectives (Timotheou et al., 2023). Consequently, the central issue is no longer whether technology should be incorporated into education, but how technology can be pedagogically designed to produce meaningful learning experiences.

This issue is particularly significant in Islamic Religious Education (Islamic Religious Education), which has distinctive educational objectives. Islamic Religious Education is not limited to transferring religious knowledge but also seeks to develop faith, morality, spirituality, character, and the ability of learners to apply Islamic values in everyday life. Digital transformation therefore requires an approach that balances technological innovation with the substantive and ethical dimensions of Islamic education. Recent research has indicated that digital technology can support Islamic education by expanding access to learning resources, increasing interaction, and creating more engaging learning experiences. Firdaus et al. (2023), for example, demonstrate that digital technology can contribute to learning quality and student engagement in Islamic education. Similarly, research on innovative digital media in Islamic Religious Education shows that social media and other digital platforms have increasingly become relevant learning resources in responding to contemporary technological developments (Susanti et al., 2024).

One important manifestation of this transformation is digital multimedia. Multimedia integrates different forms of representation, including text, images, audio, video, animation, graphics, and interactive elements, to communicate learning content. Its significance lies not merely in presenting information through multiple formats but in creating complementary pathways through which learners can observe, listen, interpret, interact, and construct understanding. Research on student engagement with digital technologies demonstrates that digital environments can facilitate behavioral, cognitive, emotional, and social dimensions of engagement, although the quality of engagement depends on the pedagogical design of technology-mediated learning (Nkomo et al., 2021). Therefore, digital multimedia should not be conceptualized simply as a collection of technological tools but as an instructional design strategy capable of connecting content, learner activity, interaction, and learning objectives.

The relevance of multimedia becomes particularly evident in Islamic Religious Education because many religious concepts require contextualization and visualization. Historical

events in Islamic civilization, stories of prophets, procedures of worship, ethical situations, and abstract religious concepts may be difficult to communicate effectively through verbal explanation alone. Digital video, animation, audio narration, interactive presentations, and educational applications can provide alternative representations that make such content more accessible. Recent literature on digital learning resources in Islamic Religious Education identifies instructional videos, podcasts, online learning platforms, interactive simulations, educational games, and collaborative forums as important forms of digital resources that can potentially enrich religious learning. This development suggests that the movement toward digital Islamic Religious Education is not simply a shift from printed to electronic materials but a broader transformation in how religious knowledge is represented and experienced.

Nevertheless, the effectiveness of digital multimedia is strongly influenced by teachers' technological and pedagogical competence. Technology integration requires teachers to make decisions concerning the selection of appropriate resources, instructional sequencing, learner interaction, content presentation, and assessment. Research on teachers' digital competence consistently indicates that possessing technical skills alone is insufficient for effective technology integration. Smestad et al. (2023), for example, found that teachers' digital competence encompasses multiple dimensions and has become increasingly important as educational environments become more digitally mediated. Similarly, research on digital resources as an aspect of professional digital competence emphasizes that teachers need to understand not only how to access digital resources but also how to select, create, adapt, and use them appropriately for instructional purposes (Heine et al., 2023). The TPACK literature further emphasizes that effective technology integration requires the interaction of technological knowledge, pedagogical knowledge, and content knowledge rather than technology use in isolation (Guzmán González & Vesga Bravo, 2024).

The broader literature consequently reveals an important distinction between technology adoption and pedagogical transformation. Digital technologies may change the format of learning materials without substantially changing the learning process. Timotheou et al. (2023) emphasize that digital transformation involves changes in educational practices, organizational capacity, teacher competence, and learning design rather than merely introducing technological devices. Lachner et al. (2024) similarly argue that technology integration should be understood through the relationship between teachers' professional competencies, instructional processes, and learning outcomes. This perspective is important for Islamic Religious Education because digital innovation must remain connected to the pedagogical and moral purposes of religious education.

Despite the growing literature, a research gap remains. Existing studies on digital technology in Islamic Religious Education have frequently focused on particular platforms, digital learning resources, online learning, social media, or teachers' digital competence. Other studies have examined the general effectiveness of digital learning in education without specifically considering the distinctive pedagogical requirements of religious education. Recent systematic reviews of Islamic Religious Education confirm that technological integration is

becoming increasingly important, but challenges remain concerning teachers' technological-pedagogical competence, infrastructure, learning inclusivity, and the preservation of Islamic educational values. The literature therefore remains relatively fragmented between studies focusing on technology, studies focusing on teachers, and studies focusing on Islamic educational values. What remains insufficiently explored is the integration of these dimensions through digital multimedia as a pedagogical innovation in Islamic Religious Education.

The present study addresses this gap by conceptualizing digital multimedia not simply as a technological product but as an innovative pedagogical approach that integrates multimodal resources, learner engagement, teacher facilitation, and Islamic educational content. The novelty of this study lies in examining digital multimedia through an integrated educational perspective in which technological innovation is evaluated in relation to interactivity, attractiveness, accessibility, understanding, and the preservation of Islamic educational values. Such an approach moves beyond the question of whether digital media are available and instead considers how multimedia can be meaningfully incorporated into Islamic Religious Education learning.

This perspective is increasingly relevant as digital transformation continues to reshape educational practices. Recent scholarship on Islamic Education 4.0 emphasizes that digital transformation requires Islamic education to respond to technological developments while maintaining moral, spiritual, and religious orientations. At the same time, research on teachers' digital competence demonstrates that professional development, pedagogical adaptation, and institutional support remain essential conditions for successful digital integration. Thus, digital multimedia innovation should be positioned within a broader pedagogical ecosystem rather than treated as an independent technological intervention.

Based on this background, the present study aims to analyze digital multimedia as an innovation in Islamic Religious Education learning in the era of technological transformation. The study specifically examines the forms of digital multimedia utilized in Islamic Religious Education learning, the ways in which multimedia contributes to more interactive and engaging learning experiences, and the role of teachers in integrating digital resources with Islamic educational content. The study is expected to contribute theoretically by strengthening the conceptual understanding of digital multimedia as a pedagogical innovation in Islamic Religious Education and practically by providing insights for teachers and educational institutions seeking to develop technology-enhanced Islamic Religious Education that is interactive, relevant, meaningful, and consistent with Islamic educational values.

## **METHOD**

This study employs a *library research* method with a descriptive-analytical approach. This method was selected because the study focuses on an in-depth examination of literature addressing digital multimedia, technological transformation in education, technology integration in learning, teachers' digital competence, student engagement, and their application in Islamic

Religious Education. Library research enables the researcher to identify, interpret, compare, and synthesize previous studies in order to obtain a comprehensive understanding of digital multimedia as an innovation in Islamic Religious Education learning in the era of technological transformation.

The data sources consist of primary and secondary sources. Primary sources comprise relevant scholarly journal articles, particularly international and national publications published between 2021 and 2026. The selected literature covers studies on digital transformation in education, digital multimedia, student engagement, teachers' digital competence, technology integration, Technological Pedagogical Content Knowledge (TPACK), and the use of digital technology in Islamic Religious Education. Secondary sources include academic books, scholarly reports, educational documents, and other relevant publications used to strengthen the conceptual foundation and provide contextual understanding of the research topic. Literature was selected based on its relevance to the research focus, the credibility of the journal or publisher, publication year, verifiable bibliographic information, and substantive relevance to the research problem.

Data collection was conducted through several stages. The first stage involved identifying and searching the literature using keywords related to *digital multimedia*, *digital technology in education*, *technology integration*, *digital transformation in education*, *digital competence*, *Islamic Religious Education*, and *Islamic education*. The second stage involved screening the literature based on the relevance of its title, abstract, research focus, and availability of verifiable bibliographic information. Literature that was not directly relevant to the research focus, had unclear bibliographic information, or did not contribute substantively to the discussion was excluded from the analysis. The third stage involved organizing the selected literature thematically to establish the main analytical categories, including digital transformation, multimedia learning, student engagement, teacher competence, technology integration, and the characteristics of Islamic Religious Education.

Data were analyzed descriptively and analytically through reduction, categorization, interpretation, comparison, and synthesis. During the reduction stage, relevant information from each source was selected according to the research focus. The selected findings were then categorized into major themes to identify patterns, similarities, differences, and trends in previous research. The interpretation stage involved examining the relationships among the use of digital multimedia, learning processes, teachers' roles, student engagement, and the objectives of Islamic Religious Education. The findings of previous studies were subsequently compared to identify consistent patterns as well as divergent findings. The synthesis process was then used to construct an argument concerning the position of digital multimedia as a pedagogical innovation in Islamic Religious Education.

Data credibility was maintained through source triangulation and bibliographic verification. Source triangulation was conducted by comparing information from multiple scholarly articles addressing similar themes, while bibliographic verification involved checking the accuracy of authors' names, publication years, article titles, journal names, volumes, issues, page numbers or article numbers, and DOI information when available. These procedures were



implemented to minimize the inclusion of unreliable sources and to ensure that the research arguments were based on traceable and credible literature. The analysis was conducted critically by not merely summarizing previous studies but also examining their limitations, contexts, and potential areas for further development. Through these procedures, the study develops a conceptual synthesis of the use of digital multimedia as an innovative approach to Islamic Religious Education learning that responds to the demands of technological transformation.

## **RESULTS AND DISCUSSIONS**

### **Forms and Characteristics of Digital Multimedia in Islamic Religious Education Learning**

Digital multimedia in Islamic Religious Education has developed into an important component of technology-enhanced learning. The findings of this library research indicate that digital multimedia is not limited to a particular technological application but encompasses various forms of digital resources, including instructional videos, animations, audio materials, interactive presentations, digital quizzes, educational applications, online learning platforms, and other audiovisual resources. The integration of these media enables religious learning content to be presented through multiple modes of representation, allowing learners to access information through visual, auditory, textual, and interactive experiences. This finding is consistent with the broader literature on digital education, which emphasizes that technology can expand the forms through which learning content is communicated and experienced (Nkomo et al., 2021; Timotheou et al., 2023).

One of the most prominent forms of digital multimedia identified in Islamic Religious Education is instructional video. Video is particularly relevant to religious education because several Islamic Religious Education topics require demonstration, visualization, contextualization, or narration. Practical materials such as ablution, prayer, tayammum, pilgrimage procedures, and other forms of worship can be presented through video demonstrations, enabling learners to observe sequences of actions that may be difficult to understand through verbal explanations alone. Similarly, historical materials concerning Islamic civilization and the lives of prophets can be represented through documentary-style videos, animated narratives, or visual storytelling. Such applications demonstrate that multimedia is pedagogically meaningful when its format corresponds to the characteristics of the learning content.

Animation represents another important form of digital multimedia. Animated illustrations can simplify concepts that are abstract, historical, sequential, or difficult to visualize. In Islamic Religious Education, animation can be used to explain historical events, moral situations, Islamic concepts, and processes that require sequential understanding. However, the findings indicate that the effectiveness of animation does not depend merely on its visual attractiveness. Excessive movement, decorative elements, or unnecessary visual effects may

distract learners from the central learning message. Therefore, multimedia design needs to prioritize instructional relevance rather than technological sophistication.

Audio also remains relevant within digital Islamic Religious Education learning. Qur'anic recitation, pronunciation exercises, religious narratives, lectures, and explanations can benefit from auditory presentation. Audio enables learners to repeatedly access explanations or recitations and can therefore support independent learning beyond classroom hours. When combined with textual or visual information, audio may provide complementary representations of religious content. This multimodal characteristic is particularly valuable in Islamic Religious Education because some learning objectives involve not only conceptual understanding but also correct pronunciation, memorization, and appreciation of religious texts.

Interactive presentations and digital quizzes further demonstrate the shift from passive to interactive digital learning. Rather than merely displaying information, interactive multimedia allows learners to respond to questions, select answers, receive immediate feedback, and participate in learning activities. Such features are closely associated with student engagement. Nkomo et al. (2021), through a systematic review, demonstrated that digital technology can facilitate multiple dimensions of student engagement, although the quality of engagement depends substantially on how the technology is pedagogically integrated. Thus, the presence of interactive features should not automatically be interpreted as evidence of effective learning; rather, interaction must serve a clear instructional purpose.

The findings also demonstrate that the selection of multimedia should be aligned with learning objectives, learner characteristics, and content complexity. A single digital format cannot effectively accommodate all Islamic Religious Education topics. Conceptual materials may benefit from diagrams and interactive presentations, practical worship materials from instructional videos, historical topics from animation and visual narratives, and Qur'anic learning from integrated text and audio. This principle reflects the broader understanding that digital resources should be selected and designed according to pedagogical considerations rather than technological novelty (Heine et al., 2023).

The literature further indicates that the development of digital multimedia should be accompanied by teachers' professional digital competence. Heine et al. (2023) emphasize that teachers' digital competence includes the ability to select, create, adapt, and appropriately use digital resources. Similarly, Smestad et al. (2023) demonstrate that teachers' digital competence consists of multiple dimensions that extend beyond basic technical skills. In Islamic Religious Education, this competence becomes particularly important because teachers must simultaneously consider technological suitability, pedagogical effectiveness, and the accuracy and appropriateness of Islamic content.

The findings therefore suggest that digital multimedia in Islamic Religious Education should be understood as a pedagogically designed ecosystem rather than a collection of technological tools. Its main characteristics include multimodality, accessibility, interactivity, flexibility, contextuality, and alignment with learning objectives. Digital multimedia can support learning both inside and outside the classroom because digital materials can be accessed

repeatedly through computers, smartphones, and online platforms. This flexibility is consistent with the broader transformation of education in which digital technologies increasingly facilitate learning beyond conventional spatial and temporal boundaries (Timotheou et al., 2023).

Importantly, digital multimedia in Islamic Religious Education must also preserve the integrity of Islamic educational content. Attractive design cannot compensate for inaccurate religious information or inappropriate representations. Teachers therefore need to act as curators who verify the authenticity, pedagogical relevance, and ethical appropriateness of digital materials. In this respect, digital innovation in Islamic Religious Education involves a balance between technological affordances and religious educational purposes. The findings ultimately indicate that the value of digital multimedia lies not in the number of technological features it contains, but in its ability to transform religious content into accessible, meaningful, and pedagogically appropriate learning experiences.

### **Digital Multimedia for Enhancing Interactive and Engaging Islamic Religious Education Learning**

The second major finding concerns the contribution of digital multimedia to the creation of more interactive and engaging Islamic Religious Education learning experiences. The literature reviewed indicates that multimedia can influence learners' attention, participation, motivation, comprehension, and opportunities for independent learning when digital resources are appropriately integrated into instructional activities. Rather than replacing the teacher, digital multimedia expands the ways in which teachers and learners interact with learning content. This finding corresponds with Nkomo et al. (2021), who explain that digital technology can support behavioral, cognitive, emotional, and social dimensions of learner engagement.

One of the most visible contributions of multimedia is its ability to attract learners' attention. Traditional Islamic Religious Education learning that relies heavily on verbal explanation and static textual materials may create limited opportunities for sensory engagement. Digital video, animation, images, audio, and interactive activities introduce greater variation into learning experiences. The combination of these modalities can reduce monotony and provide learners with alternative ways to encounter the same concept. However, the findings emphasize that attractiveness should not be treated as an educational objective in itself. Multimedia becomes meaningful when its attractive features are connected to clear instructional purposes.

Digital multimedia also facilitates learner participation. Interactive quizzes, digital questions, collaborative presentations, and multimedia-based assignments provide opportunities for learners to respond rather than simply receive information. For example, after watching an instructional video on a particular Islamic practice, learners can be asked to identify procedural errors, explain the underlying principles, or complete an interactive assessment. Such activities shift learners from passive recipients to active participants. This transformation is consistent with the wider literature indicating that effective digital learning depends on active engagement with content rather than simple exposure to digital materials (Nkomo et al., 2021).



Another important contribution is improved comprehension. Multimedia allows teachers to combine verbal explanation with visual representation, which can be particularly useful for concepts that are difficult to explain through text alone. In Islamic Religious Education, practical worship, historical events, and moral situations can be visualized through video and animation. Learners can also replay digital content when they encounter difficulties, providing opportunities for repetition and self-paced learning. This flexibility can be particularly beneficial for learners with different levels of prior knowledge and learning speed.

The findings further suggest that multimedia supports learner-centered learning. Digital resources can enable learners to explore materials independently, complete interactive tasks, and revisit explanations outside classroom hours. This characteristic extends the learning process beyond the conventional classroom. The learner is no longer entirely dependent on the teacher's real-time explanation because digital materials can function as supplementary resources that remain accessible after formal instruction has ended. Such flexibility is one of the important characteristics of educational digital transformation identified in the broader literature (Timotheou et al., 2023).

Digital multimedia can also strengthen classroom interaction. When teachers use video, interactive presentations, or digital quizzes as instructional stimuli, learners have more opportunities to ask questions, provide responses, discuss interpretations, and collaborate with peers. Thus, multimedia can serve as a mediator of teacher-student interaction rather than merely as a replacement for conventional teaching materials. In this sense, the effectiveness of digital multimedia depends on the pedagogical activities that surround it.

The findings are also consistent with research specifically examining digital technology in Islamic education. Firdaus et al. (2023) demonstrate that digital technology can be utilized to enhance learning quality and student engagement in Islamic education. Likewise, Susanti et al. (2024) highlight the increasing relevance of innovative digital media in Islamic Religious Education learning. These studies strengthen the argument that digital transformation in Islamic Religious Education should focus on creating meaningful interaction rather than simply transferring conventional materials into digital formats.

Nevertheless, the findings reveal that digital multimedia can also generate challenges. Learners may become distracted by entertainment-oriented digital content, social media, games, or irrelevant online information. Excessive visual effects can similarly reduce concentration rather than improve it. Consequently, the relationship between multimedia and engagement is not automatically positive. Teachers need to establish clear instructional boundaries, provide guidance, and design activities that direct learners' attention toward the intended learning objectives.

Another important consideration is digital accessibility. Multimedia-based learning may be difficult to implement when learners lack appropriate devices, stable internet connections, or adequate digital literacy. Timotheou et al. (2023) emphasize that digital transformation is influenced not only by technology itself but also by institutional capacity, infrastructure, and

human resources. Therefore, the successful implementation of multimedia in Islamic Religious Education requires attention to the broader educational ecosystem.

Overall, the findings indicate that digital multimedia can enhance Islamic Religious Education learning by creating greater variation, interaction, visualization, flexibility, and opportunities for learner participation. Its contribution is strongest when multimedia is integrated into carefully planned pedagogical activities. Digital multimedia should therefore be positioned not as an end in itself but as an instructional mechanism that enables teachers to create richer learning experiences while maintaining the cognitive, moral, and spiritual objectives of Islamic Religious Education.

### **Teachers' Role in Integrating Digital Multimedia with Islamic Religious Education Content**

The third major finding demonstrates that teachers remain central to the successful integration of digital multimedia into Islamic Religious Education. Although digital technologies provide increasingly sophisticated instructional possibilities, technology alone cannot guarantee meaningful learning. The teacher determines how digital resources are selected, organized, contextualized, presented, and evaluated. Consequently, the transformation toward digital Islamic Religious Education requires a shift in the teacher's role from primarily transmitting information toward designing learning experiences, facilitating interaction, curating digital resources, and guiding learners in the responsible use of technology. This argument is consistent with the broader literature, which views technology integration as a complex process involving teachers' professional competence, pedagogical decisions, and learning processes rather than simply the adoption of technological devices (Lachner et al., 2024).

The importance of teacher competence is reinforced by research on teachers' digital competence. Smestad et al. (2023), through a systematic review of 116 studies, found that teachers' digital competence encompasses multiple dimensions involving knowledge, skills, and attitudes. Importantly, their review also identified that teachers have often been positioned more as functional users of ready-made digital resources than as designers of technology-enhanced learning. This finding is highly relevant to Islamic Religious Education because effective multimedia integration requires teachers to move beyond simply displaying videos, presentations, or digital materials toward designing learning activities in which multimedia becomes part of the pedagogical process.

The ability to select and develop appropriate digital resources represents another essential dimension of teacher competence. Heine et al. (2023) demonstrate that the concept of digital resources is closely associated with teachers' professional digital competence and involves more than merely accessing technological materials. Teachers need to understand how resources can be selected, adapted, created, and used according to particular instructional purposes. In Islamic Religious Education, this competence is particularly significant because teachers must ensure that multimedia materials are not only visually attractive but also accurate, relevant, age-appropriate,

and consistent with Islamic educational objectives. Therefore, the teacher functions as a digital content curator who determines which resources are educationally and religiously appropriate.

The present finding is also supported by research specifically examining teachers of Islamic Religious Education. Mintasih et al. (2024) found that the integration of digital technology into Islamic Religious Education is closely related to teachers' competence and the implementation model used in learning. Their study indicates that technology integration is not uniform and that teachers' ability to use technology pedagogically is an important factor in determining the quality of implementation. Similarly, Reksiana et al. (2024) emphasize the importance of extending Islamic Religious Education teachers' digital literacy competence in the era of digital learning. Their findings indicate that digital literacy among Islamic Religious Education teachers needs to encompass more than operational abilities and should support teachers in managing and utilizing digital learning resources effectively.

The Technological Pedagogical Content Knowledge (TPACK) framework provides an important theoretical perspective for understanding this integration. Effective digital teaching requires the interaction of technological knowledge, pedagogical knowledge, and content knowledge. Guzmán González and Vesga Bravo (2024), through a systematic review of 37 studies on TPACK among in-service secondary teachers, found that research has largely examined teachers' perceptions of their TPACK and interventions designed to develop technology-related teaching competence. Their findings reinforce the argument that technology should be integrated with pedagogical strategies and subject-specific knowledge rather than treated as an independent competence.

For Islamic Religious Education teachers, the TPACK perspective means that selecting a digital medium should begin with the learning objective and characteristics of Islamic content rather than with the availability of a particular application. A video demonstration may be appropriate for teaching practical worship, while an interactive timeline may be more appropriate for Islamic history. Audio-visual resources may be particularly relevant to Qur'anic recitation, whereas interactive case studies may be useful for discussing moral and ethical issues. Thus, the teacher must understand not only how a technological tool operates but also why a particular technology is pedagogically appropriate for a particular religious topic.

This argument is supported by Luo and Zou (2024), whose systematic review of TPACK research in online humanities education demonstrates the importance of considering subject-specific knowledge when integrating technology into teaching. Because Islamic Religious Education shares several characteristics with humanities-based disciplines, particularly its emphasis on interpretation, values, cultural context, and meaning, technology integration should likewise be sensitive to the characteristics of the subject matter. The use of multimedia therefore requires teachers to make deliberate connections among digital tools, instructional strategies, and the substantive content being taught.

Furthermore, evidence from higher education indicates that technology integration is associated with teachers' online teaching competencies. Akram et al. (2021), using the TPACK framework, examined teachers' competencies in integrating technology into higher education and

emphasized the need for educators to continuously update their technological and pedagogical competencies. Their findings reinforce the view that successful technology integration depends on teachers' capacity to combine technology with appropriate pedagogical practices and content knowledge. This principle can be extended to Islamic Religious Education, where teachers need to ensure that technological innovation strengthens rather than displaces the educational objectives of religious instruction.

Teacher competence, however, should not be understood as a static attribute. Saltos-Rivas et al. (2023), in a systematic mapping study of university teachers' digital competencies, identified considerable diversity in the factors associated with teachers' digital competence. Their review suggests that professional, psychological, demographic, and contextual factors may influence teachers' capacity to develop and apply digital competencies. Similarly, Suzer and Koc (2024), based on the European DigCompEdu framework, found differences in teachers' digital competency according to professional and demographic characteristics. These findings suggest that digital competence development should be continuous and context-sensitive rather than based on a one-time technical training program.

The development of teachers' competence also requires appropriate professional development interventions. Fabian et al. (2024), through a systematic review and meta-analysis of TPACK-based interventions, demonstrate that technology-related teacher development involves different knowledge domains and that the effectiveness of interventions depends on how these domains are integrated. This finding is important for Islamic Religious Education teacher development because training should not focus exclusively on how to operate applications or create multimedia materials. Professional development should also address instructional design, assessment, content adaptation, digital ethics, and the integration of Islamic values into technology-enhanced learning.

The role of teachers is also evident in the way multimedia is transformed into meaningful classroom interaction. Simply playing a video or presenting an animation does not automatically create active learning. Teachers need to construct activities around the media by formulating questions, encouraging discussion, providing contextual explanations, assigning reflection tasks, and connecting digital content with learners' experiences. Lachner et al. (2024) emphasize that technology integration should be understood through the relationship among teachers' professional competencies, instructional processes, and students' learning processes. Consequently, the pedagogical actions surrounding multimedia are as important as the technological features of the media itself.

Another important responsibility of Islamic Religious Education teachers is ensuring the credibility and ethical appropriateness of digital religious content. The rapid expansion of online Islamic information provides learners with abundant resources, but not all resources are necessarily accurate or educationally appropriate. Teachers must therefore critically evaluate digital content before incorporating it into classroom learning. This responsibility is particularly important in Islamic Religious Education because errors in religious information may affect not

only students' academic understanding but also their attitudes, beliefs, and practices. In this context, digital literacy should be integrated with religious literacy and ethical awareness.

Recent research specifically on Islamic Religious Education teachers further strengthens this argument. Reksiana et al. (2024) conceptualize teachers' digital literacy as an important extension of professional competence in digital learning, while Mintasih et al. (2024) show that teachers' competence is closely connected to the practical implementation of digital technology in Islamic Religious Education classrooms. These findings indicate that digital transformation in Islamic education requires teachers who are capable of critically selecting and pedagogically transforming digital resources rather than merely consuming them.

Institutional support is another important condition for teachers' successful integration of digital multimedia. Teachers may possess motivation and digital skills but still encounter difficulties when schools lack adequate infrastructure, internet access, equipment, technical assistance, or professional development opportunities. The broader literature on digital transformation indicates that educational institutions play a significant role in determining the capacity of teachers and schools to integrate technology effectively. Consequently, digital transformation should be understood as an organizational process as well as an individual teacher responsibility.

Overall, the findings demonstrate that teachers remain the central agents in transforming digital multimedia from a technological resource into a pedagogical innovation in Islamic Religious Education. Their role encompasses instructional designer, digital resource curator, technology facilitator, learning facilitator, evaluator, and guardian of Islamic educational values. Effective technology integration requires the convergence of technological competence, pedagogical knowledge, content expertise, and contextual awareness. This conclusion is supported by international research on digital competence, TPACK, and technology integration (Akram et al., 2021; Heine et al., 2023; Smestad et al., 2023; Saltos-Rivas et al., 2023; Guzmán González & Vesga Bravo, 2024; Luo & Zou, 2024; Fabian et al., 2024; Lachner et al., 2024) as well as research specifically addressing digital competence and technology integration among Islamic Religious Education teachers (Mintasih et al., 2024; Reksiana et al., 2024).

## CONCLUSIONS

This study concludes that digital multimedia represents a significant innovation in Islamic Religious Education learning in the era of technological transformation. The findings of the library research indicate that the integration of videos, animations, audio, interactive presentations, digital quizzes, and educational applications can transform Islamic Religious Education learning into a more interactive, flexible, engaging, and learner-centered process. Digital multimedia facilitates the visualization of abstract and practical religious concepts, increases students' learning interest and participation, and provides opportunities for independent learning beyond the classroom. Its effectiveness, however, depends not on the technology itself but on its pedagogical integration with learning objectives, students'



characteristics, and the substance of Islamic education. The study also emphasizes that teachers remain the key agents in transforming digital multimedia into meaningful educational innovation. Teachers require technological, pedagogical, and content competencies to select, design, evaluate, and utilize digital resources appropriately. In addition, digital transformation requires institutional support through adequate infrastructure, professional development, and responsible technology management. The novelty of this study lies in positioning digital multimedia integration within an Islamic Religious Education framework that simultaneously considers technological innovation, pedagogical effectiveness, and Islamic educational values. Therefore, digital multimedia should be developed not merely to modernize learning, but to strengthen meaningful, ethical, interactive, and value-oriented Islamic Religious Education.

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