



Technology integration learning: Interactive learning media for Islamic religious education for vocational high school students

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ABSTRACT

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Technology integration in learning has become a necessity in this digital era. Interactive learning media has become one of the effective methods in improving the quality of learning, including in learning Islamic religion for vocational high school students. This article aims to review the importance of technology integration in learning Islamic Religious Education for vocational high school students. The research methods used are literature study. The results show that the integration of technology in learning Islamic Religious Education can increase students' understanding and interest in learning. Interactive learning media in learning Islamic Religious Education can make it easier for students to understand religious concepts interactive. For example, animated videos to visualise stories in the Islamic Religious Education, educational games to test students' understanding of religious concepts, and the use of online learning applications that allow students to learn anytime and anywhere. The integration of technology into Islamic learning can also help teachers to teach more effective. This research shows that the integration of technology in Islamic religious learning through interactive learning media can help improve the quality of learning and student learning outcomes in vocational high schools. Therefore, it is recommended that teachers and educational institutions continue to develop and use technology in Islamic learning to improve the quality of education in Indonesia.

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Introduction

The adoption of digitalization in education encourages students to become better versions of themselves, especially when it comes to the learning process for students who have different needs in accordance with today's expectations. Choosing interesting instructional materials is one of these requirements, since it can increase students' motivation to learn (Akrim, 2018). The

aforementioned limitations make it imperative that educators be able to swiftly and accurately adjust to the needs of every student (Syaputra & Hasanah, 2022). Rahmatullah et al. (2022) agreed that the onset of the fourth industrial revolution has had a profound impact on schooling. If previous learning was done offline or face-to-face, teachers could still utilize open printed materials. Unlike the current trend of online learning, teachers should utilize digital open materials to support learning (Akviandah et al., 2022). Therefore, in order to stay current with advancements in the field, educators and other professionals in the field must actively engage in the development of media selection skills for use in the classroom.

Islamic Religious Education (PAI) is one of the subjects that can serve as a cornerstone to uphold and communicate the values of tolerance (Saputro, 2020). Religious education courses involve deliberate and organized efforts to get students ready to identify, comprehend, value, and accept the teachings of Islam. They also provide guidance on how to treat followers of other religions with respect and promote interreligious harmony in order to achieve national unity (Nata, 2020). Furthermore, through an innovative learning approach for PAI that is tailored to the advancement and growth of the times, as well as an integrative and diversified dialogue, PAI courses can also be a solution in promoting student tolerance (Faozan, 2020). Therefore, it is crucial to maximize the many elements of learning activities in the classroom since Islamic religious education plays a crucial role in fostering student tolerance. Students' tolerance levels can rise as a result of quality instruction.

Using learning media can enhance students' comprehension of material and promote effective learning. Qureshi et al. (2021) suggest using a technology as an intermediate to facilitate information distribution. Learning media is a medium that stimulates students' attention, interest, thoughts, and feelings while delivering information to meet learning objectives. Become more appealing (Wulandari, 2020).

The selection of appropriate media for PAI is crucial for effective teaching and learning. Learning media play a significant role in education by aiding teachers in conveying knowledge and enhancing student understanding. According to Mahmudah (2022), media are essential tools that help bridge the gap between educators and students. They assist in making complex information more accessible and engaging, thereby facilitating better knowledge transfer. Historically, media in education have evolved from mere aids to critical components of the learning process. Initially, they were used primarily as visual aids to motivate students and simplify complex material. Moreover, media contribute to the formation of accurate and realistic foundational concepts through various formats like pictures, films, and models. They also stimulate curiosity and interest by expanding students' experiences, sharpening their perceptions, and enriching their conceptual understanding. By integrating media effectively, educators can foster a more dynamic and

motivating learning environment, which is essential for the successful delivery of Islamic Religious Education in vocational high schools.

Based on the foregoing background, this study will address how media and technology are integrated into Islamic Religious Education (PAI), how well this concept of media and technology integration is understood in PAI learning, how media and technology are used in Islamic Religious Education learning, and what are the benefits and drawbacks of using media and technology in Islamic Religious Education learning. The objectives of this study are to define the terms “media and technology integration” and “use of media and technology in Islamic Religious Education learning.” They also aim to identify the benefits and drawbacks of using media and technology in Islamic Religious Education learning.

Method

This study employed a literature review approach. Depending on the needs of the research, it looks for scientific articles within a specific time frame and subject (Chalkiadaki, 2018; Dziopa & Ahern, 2011). Scopus and Google Scholar were the search databases that were used to get articles. These are two globally known platforms. Researchers adjusted their methodology to suit their particular field of interest—learning media for Islamic religious education in the technological era—while simultaneously looking for themes. By examining Islamic religious education, Islamic religious education media, and Islamic religious education interactive learning media, researchers looked for themes.

The process begins with planning, identifying, and testing papers and studies against pertinent hypotheses. Researchers utilized two criteria for selecting articles: inclusion and exclusion. The study focused solely on scientific articles, excluding proceedings, conferences, book chapters, and papers. Second, papers from 2014-2024 were selected throughout the past year. Third, the publications used were those published in the Google Scholar and Scopus database. Fourth, search for articles in Publish or Perish Application 8.

Table 1. Count data from Scopus and Google Scholar

No	Keywords	Year	Database	Count
1	Islamic Religious Education	2014-2024	Scopus	200
2	Islamic Religious Education Media	2014-2024	Scopus	147
3	Islamic Religious Education Interactive Learning Media	2014-2024	Scopus	3
4	Islamic Religious Education	2014-2024	Google Scholar	376
5	Islamic Religious Education Media	2014-2024	Google Scholar	104
6	Islamic Religious Education Interactive Learning Media	2014-2024	Google Scholar	20
Total				850

Table 1 illustrates the total number of articles found in Scopus and Google Scholar databases (850). After analyzing the title, abstract, keywords, and substance of publications, a selection was made based on the study topic. A total of 5 papers were found, including 3 Google Scholar and 2 Scopus.

Result and Discussion

This study presents findings based on previously published data. The scientific article's presentation includes journal title, volume, number, publication year, author's name, methodology, nation, database language (Google Scholar and Scopus), and relevance to research issue. The conversation focuses on the significance of learning media in Islamic religious education, as well as its modern relevance.

Table 2. Data from article findings on Interactive Learning Media Islamic Religious Education

No	Author	Years	Title	Journal	Country	Database
1	Susanti, S.S., L Nursafitri, I Hamzah, R Zunarti, BF Asy'arie, MS As'ad	2024	Innovative Digital Media in Islamic Religious Education Learning	Jurnal Pendidikan Agama Islam, 21(1), 40-59	Indonesia	Scopus
2	Andriyandi, A.P.	2020	Augmented reality using features accelerated segment test for learning tajweed	Telkomnika (Telecommunicati on Computing Electronics and Control), 18(1), 208-216,	Indonesia	Scopus
3	Saputra, D.	2023	The Influence of Interactive Learning Media Usage on Student Learning Motivation in Islamic Religious Education at Elementary Schools	Jurnal Ar Ro'is Mandalika (Armada), 3(1), 29-38	Indonesia	Google Scholar
4	Wildan, N., Syafi'i, I., & Bibi, F.	2024	Media Pembelajaran Pendidikan Agama Islam Di Sma Negeri Ambulu	Gemilar: Jurnal Pengabdian Masyarakat, 1(1), 21-24	Indonesia	Google Scholar
5	Priyono, A., & Junanto,S.	2022	Pemanfaatan Microsoft Sway Dan Microsoft Form Sebagai Media Pembelajaran Interaktif Pendidikan Agama Islam	Muaddib: Studi Kependidikan Dan Keislaman, 12(2), 240-265	Indonesia	Google Scholar

Technology Integration Learning

Integrating technology into educational media involves creating a seamless, continuous, and connected approach that enhances the learning process to create active learning experiences, utilizing both low-tech classrooms such as projectors and videos, as well as high-tech classrooms

equipped with computers and interactive screens. This technology supports learning by providing additional visual media, facilitating discussions, and group exercises that increase student engagement and understanding (Muchtarom, 2022).

This integration aims to blend technology and media with Islamic Religious Education (IRE) to improve teaching quality and effectiveness. Ahmad Nur Ghofir (2020) highlights that educational media supports learners in constructing knowledge across diverse educational settings. The rapid advancement of technology enables the use of sophisticated and effective learning media, aiding teachers in imparting knowledge, values, and skills. However, despite technological progress, some aspects of PAI teaching remain traditional and normative, underscoring the need for effective media and technology management.

Teachers must consider the intrinsic characteristics of media and methods they employ, selecting them based on the learning context, students, subject matter, educators, and institutions. Methods and media—whether audio, audiovisual, face-to-face, electronic, or self-learning packages—should be chosen appropriately (Hendry, 2017). For the development of technology-based educational media, it is crucial for teachers, education students, educational staff, media designers, and education practitioners to understand technology concepts to make informed pedagogical decisions. As Pujiryanto (2021) notes, the 21st-century learning environment increasingly incorporates technology-based educational media such as web-based learning, e-learning, interactive multimedia, hypermedia, and virtual reality.

Use of Media and Technology In Islamic Religious Education Learning

The integration of media and technology into Islamic Religious Education (PAI) offers transformative opportunities to enhance and enrich the learning experience. Various forms of media, including visual (filmstrips, whiteboards), auditory (radio, audio recordings), and audiovisual (films, television), are utilized to present educational content, stimulate learning, and motivate students. Multimedia, which combines text, graphics, audio, and video, creates interactive and dynamic learning environments that overcome traditional limitations of space, time, and sensory perception. According to Dale's Cone of Experience, direct, interactive experiences are more effective for learning compared to abstract verbal symbols, emphasizing the significant impact that diverse media can have on student engagement and understanding (Wildan et al., 2024).

In the context of PAI, technology integration is further exemplified through tools like Microsoft Sway and Microsoft Forms. Microsoft Sway enables teachers to craft engaging and interactive learning materials by combining various media elements—text, images, videos, and audio—into a cohesive platform. This tool allows for customizable designs and the integration of assignments and quizzes. Complementarily, Microsoft Forms facilitates the creation of quizzes and surveys that

are easily accessible and automatically graded, streamlining assessment processes. When combined, these tools offer a robust approach to presenting interactive materials and embedding evaluations, though challenges such as limited internet connectivity must be addressed to maximize their effectiveness (Priyono & Junanto, 2022).

The integration of technology in learning, especially through the use of e-modules that Fahmi et al. (2021) did in previous research, has been shown to be effective in improving critical thinking skills, conceptual understanding, and student engagement in various subjects, including Islamic Religious Education. E-modules allow for the representation of materials in various digital formats, increase learning interest, and support contextual and research-based learning approaches, although further research is needed to empirically test the product and address limitations such as accessibility and internet requirements.

Andriyandi et al. (2020) highlights the innovative use of augmented reality (AR) to enhance the learning of Tajweed rules from the Qur'an. By employing the FAST (Features from Accelerated Segment Test) corner detection algorithm, Andriyadi's study creates interactive, 3D visualizations of Tajweed rules like Ikhfa and Qalqalah. Using markerless AR techniques and Vuforia for image processing, this approach overlays educational content onto physical Qur'anic text, offering immediate feedback and enriching the learning experience. Despite challenges such as image resolution and overlapping features, the FAST algorithm efficiently detects Tajweed features, with an average processing time of 0.335 seconds per object. User feedback indicates high satisfaction with the AR application, underscoring its effectiveness in making PAI learning more engaging and interactive.

Additionally, Susanti's research into the use of Instagram in PAI learning reveals both opportunities and challenges. Instagram's features, such as Instastory, feeds, reels, and highlights, allow teachers to create dynamic and memorable learning experiences. The platform's capabilities, including quizzes and multimedia uploads, facilitate assignment submissions and enhance student engagement. However, issues such as distractions from notifications, privacy concerns, and the potential spread of misinformation pose risks to the learning environment. Therefore, careful planning and supervision are essential to ensure that Instagram complements the curriculum effectively while safeguarding students' privacy and maintaining a secure learning environment (Susanti et al., 2024).

Impact of Media and Technology in Islamic Religious Education Learning

Interactive media has a profound impact on students' engagement and motivation in Islamic Religious Education (PAI), as highlighted by both Saputra (2023) and Andriyadi's research. Interactive learning media, such as educational games, quizzes, and multimedia presentations, significantly enhances student engagement by creating dynamic and immersive learning

environments. This active involvement in the learning process contrasts sharply with traditional, passive teaching methods. By allowing students to interact with content in ways that align with their individual learning preferences—whether visual, auditory, or kinesthetic—interactive media fosters a more engaging and personalized learning experience. This personalized approach not only maintains students' interest but also promotes a deeper and more meaningful engagement with religious concepts.

Furthermore, interactive media positively influences students' motivational factors. According to Saputra, the interactive nature of these media supports intrinsic motivation by promoting genuine interest and enjoyment in learning. The sense of autonomy and competence students experience while interacting with educational tasks and quizzes contributes to higher levels of intrinsic motivation. Successful completion of interactive activities provides students with a sense of accomplishment, which in turn motivates them to further engage with the material. Immediate feedback and reinforcement offered by interactive media also boost students' perceived competence and self-efficacy in PAI, enhancing their confidence in understanding and applying religious concepts.

In addition to these benefits, Andriyadi's research on augmented reality (AR) in teaching Tajweed rules further underscores the impact of interactive media. AR, combined with the FAST corner detection algorithm, provides dynamic, 3D visualizations of Tajweed rules that enrich the learning experience. This technology not only makes learning more visually stimulating but also addresses various learning styles by providing immediate, context-specific feedback. The integration of AR in PAI not only improves comprehension and retention of Qur'anic pronunciation but also demonstrates a substantial enhancement in overall student engagement and motivation, reflecting the positive impact of interactive media on learning outcomes in Islamic Religious Education (Andriyandi et al., 2020).

Conclusion

The integration of media and technology into Islamic Religious Education (PAI) significantly enhances the learning experience for vocational high school students by making it more interactive and engaging. Studies reveal that interactive media, including educational games, quizzes, and multimedia presentations, fosters higher levels of student engagement and intrinsic motivation, as it caters to diverse learning preferences and provides immediate feedback. Technologies such as augmented reality (AR) and platforms like Microsoft Sway and Instagram offer innovative ways to present religious content, making learning more dynamic and effective. While these technologies present opportunities for enriching educational experiences, challenges such as privacy concerns and technical limitations must be carefully managed. Overall, the effective use of technology and media in IRE can improve understanding, motivation, and

outcomes, highlighting the importance of continued development and thoughtful implementation of these tools in educational settings.

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