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Virtual Reality as a Learning Medium: A Literature Review in the Context of Islamic Religious Education

Nesa Putri[1], Rahmat[1], Bujang[1], Sam Gencturk[2]
[1] STAI Pengembangan Ilmu Al-Qur'an Sumatera Barat Indonesia
[2,3,]STAI Pengembangan Ilmu Al-Qur'an Sumatera Barat Indonesia
[2] ANZUK Education, Australia
E-Mail: Nesaputri260901@gamil.com

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Abstract

The advancement of digital technology has driven a transformation in the field of education, including the teaching of Islamic Religious Education (PAI). One technological innovation with the potential to enhance the quality of instruction is Virtual Reality (VR)—a technology that enables learners to gain immersive educational experiences through simulations of virtual environments. In PAI instruction—specifically regarding topics such as acts of worship (ibadah) and Islamic history—the use of conventional media often faces limitations, particularly in providing concrete visualizations and learning experiences. Subjects like the procedures for Hajj, Umrah, and shalat (prayer) require a procedural and visual understanding, while the study of Islamic history demands historical imagination, allowing students to grasp events within their proper context. This study aims to describe the potential for utilizing Virtual Reality technology as a medium for PAI instruction, focusing on the areas of worship and Islamic history. Employing a qualitative approach, this research utilizes a literature review method, examining various scholarly sources relevant to the application of VR technology in education and PAI instruction. The data are analyzed descriptively to identify the opportunities, benefits, and challenges associated with implementing VR in the learning process. This study demonstrates that VR technology has the potential to provide a more interactive, immersive, and contextual learning experience, thereby helping students understand PAI subject matter more concretely and increasing their engagement in the learning process. Nevertheless, its implementation requires careful consideration of infrastructure readiness, the costs of acquiring equipment, and the competence of educators in integrating such technology into their teaching. This research is expected to provide a conceptual contribution toward the development of innovative PAI learning media that are adaptive to the evolution of digital technology.

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INTRODUCTION

In the current era of digital and information technology, education faces new challenges in providing effective and engaging learning experiences for students. One primary method to achieve this goal is through the use of technology. With its capacity to create compelling and interactive learning experiences, virtual reality (VR) has emerged as a technology that is garnering significant attention in the field of education (Putri et al., 2024). The rapid advancement of digital technology has brought about a significant transformation in the educational landscape, including within the realm of Islamic Religious Education (PAI). The integration of technology into instruction is no longer merely optional; it has become a necessity for enhancing the quality of the learning process and its outcomes. One such innovative technology currently being widely explored within an educational context is virtual reality (VR).

In the context of Islamic religious education—for instance, when teaching topics such as acts of worship (*ibadah*) or Islamic history—educators often face challenges in delivering the material. Instruction on acts of worship, such as the procedures for the Hajj, Umrah, or ritual prayers (*salat*), requires clear visualization and hands-on practice to ensure students gain a deep understanding. Meanwhile, the study of Islamic history tends to be highly narrative and text-based, which can lead to student fatigue and make it difficult for them to develop a sense of historical imagination. This situation highlights a gap between the requirements for an ideal learning experience and the conventional methods that remain predominantly in use.

Previous research was conducted by (Putri et al., 2024) in a study titled "Systematic Literature Review: The Application of Virtual Reality Technology in Enhancing Learning Experiences." The study concludes that the use of virtual reality technology primarily focuses on improving the learning experiences of students, as well as the experiences of patients in healthcare therapy and museum visitors. Based on this, it can be inferred that the use of virtual reality technology can enhance learning experiences in the fields of education and healthcare. However, there are currently no articles that measure the long-term impact of using virtual reality (Putri et al., 2024).

Furthermore, a study by Safarati and Zuhra (2024), titled "Virtual Reality-Based Digital Media in Learning," concludes that, in addition to enhancing students' conceptual understanding, practical skills, and motivation to learn, virtual reality (VR) has the capacity to make the learning experience more engaging and enjoyable. Despite challenges such as costs and infrastructure requirements, the use of virtual reality holds significant potential to revolutionize learning methods in the digital era (Safarati & Zuhra, 2024).

This study offers a novel contribution compared to previous research. Titled "Virtual Reality as a Learning Medium: A Literature Review on Islamic Religious Education," this study aims to describe the use of virtual reality (VR) in Islamic religious education—specifically concerning acts of worship (*ibadah*) and Islamic history—through a literature review.

This research is highly relevant to the development of technology and digital media, and can therefore be integrated into the field of education. This integration aims to advance education and enhance the effectiveness of learning, ultimately enabling students to better understand the subject matter of Islamic religious education.

Based on the explanation above, the author concludes that the use of virtual reality-based learning media can stimulate students as they engage with the material, allowing them to experience and perceive it as if it were unfolding in the real world. Consequently, this research is highly relevant to contemporary educational practices, particularly in the context of Islamic religious education (PAI).

METHODS

This study employs a qualitative literature review method to describe the use of virtual reality (VR) as a learning medium for Islamic religious education, specifically in the study of acts of worship (*ibadah*) and Islamic history. To explain the application of VR as an educational tool—including both its advantages and limitations—this research utilizes a qualitative literature review approach. This method enables the researcher to gain a deeper understanding of virtual reality by analyzing various relevant existing sources. (Safarati & Zuhra, 2024)

A literature review is conducted in a systematic, clear, and replicable manner to identify, evaluate, and synthesize research findings and the ideas of researchers and practitioners. Such a review involves examining various sources, including relevant academic journals. This paper will discuss virtual reality (VR) technology, its applications in education, and the effectiveness of using VR for learning about Islamic worship and history.

RESULT AND DISCUSSION

Virtual Reality

Virtual reality (VR) is a technology that allows users to interact with their surroundings through computer-simulated environments based on the real world. By using VR, individuals can see and experience dynamic, 3D settings that feel authentic. Below are several examples of virtual reality (VR) and how it functions within human life. (Abdul Karim et al., 2024)

Virtual reality is a technology that presents a virtual world to users, allowing them to engage in specific experiences tailored to the intended purpose of that virtual environment. Virtual reality is not limited to the entertainment sector—such as digital or online games—but is also increasingly being utilized in the field of education, enabling students to experience learning firsthand within a classroom setting (Permana et al., 2022).

It is not entirely clear who first coined the term "virtual reality," though it was Jaron Lanier who introduced it. In general, virtual reality is a technology that creates simulations—such as images or videos—within an imagined realm, designed to resemble the real world. These images or videos are generated in three dimensions via a computer, allowing users to feel as though they are physically present within that environment. Virtual Reality (VR) technology presents a virtual world that appears as reality to the user, thereby providing a highly realistic experience. (Safarati & Zuhra, 2024)

Virtual reality (VR) is a highly promising simulation tool used across various fields of education (Moroseev, 2026). It offers expanding opportunities for designing virtual reality (VR) learning media, as it can facilitate engaging, risk-free collaborative learning experiences. A unique characteristic of VR is its capacity to provide multi-layered meaning to activities during the collaborative learning process by:

1. Providing access to contextual activities within educational, social, and professional practices, involving real individuals interacting with one another in a socio-material environment.
2. Enabling the implementation of pedagogical activities in which learners utilize VR mediation to interact with each other and collectively make sense of events that occurred during previously recorded activities. (Paulsen & Davidsen, 2025)

Virtual reality (VR) has now evolved into an innovation capable of supporting advancements in instructional media. VR provides opportunities to engage with knowledge in a way that is compelling, efficient, precise, agile, and advantageous (Topan Bahari et al., 2023). In general, virtual reality technology has been applied across various aspects of life—ranging

from the entertainment industry, healthcare, education, and manufacturing to e-commerce. Furthermore, it has been shown that virtual reality can contribute to addressing anxiety or mental health concerns, helping users feel more confident when performing or speaking in public. This is because virtual reality is capable of presenting high-quality 3D graphics or visualizations and responding to the user's every movement, thereby creating a highly realistic experience (Safarati & Zuhra, 2024).

There are three types of modern visualization technology:
1. Virtual reality (VR),
2. Augmented reality (AR),
3. Mixed reality (MR)

Such visualization technology can be implemented in the field of education; for instance, virtual reality (VR) can integrate real-world scenarios into a virtual environment, while augmented reality (AR) combines the real world with digital elements or content. In other words, VR operates entirely within a virtual realm, whereas AR functions at the intersection of the real and virtual worlds by incorporating digital components. Virtual reality (VR) fully immerses learners in a digital environment, augmented reality (AR) overlays digital information onto the real world, and mixed reality (MR) combines both digital and physical aspects—offering educators limitless teaching opportunities. (Balalle, 2025)

With the advancement of technology in education (Xiong et al., 2026), virtual reality (VR) has created new opportunities for communication education. VR refers to the creation of computer-generated simulations—whether of real or imaginary environments—that allow users to engage in immersive interactions and experiences (Birkheim et al., 2024). Generally, VR can be classified into three categories: immersive, semi-immersive, and non-immersive. In the immersive category, learners are completely absorbed, becoming detached from the real world through the use of devices such as head-mounted displays (HMDs) and handheld controllers, which foster a sense of presence, immersion, and interactivity. Semi-immersive VR enhances situational experience through the use of headsets or 360° glasses, giving users the impression that they are inside the simulation. Non-immersive VR typically utilizes desktop software or mobile applications, where users interact with an environment through images or animated scenes displayed on a screen (Jiang et al., 2022).

The concept of technology that allows users to feel as though they have "entered" and are interacting directly with the digital world in a more vivid and immersive way encompasses a range of technologies—collectively known as immersive computing—including virtual reality (VR), augmented reality (AR), and mixed reality (MR). In each case, the common thread is the creation of an interactive and engaging space for users. In VR, the entire environment is computer-generated, and users typically interact via a headset and handheld controllers—or, in some instances, by using their own hands, provided the headset is equipped with hand-tracking features (Valiente Bermejo et al., 2026).

The field of education is currently optimizing the use of video as a teaching resource. One compelling example is Virtual Reality (VR) media, designed for the Android platform, which allows users to interact with a digital world as if they were physically present within it (Musril et al., 2020). In its current application and future development, the concept of VR does not aim to strip users of their awareness or lead them to believe they are entirely in the real world. Unlike the notion of an "Experience Machine," VR emphasizes that users remain conscious, retain control, and can actively interact within a simulated environment—even alongside other users (Kahane, 2026).

Junfithrana and Supriyadi demonstrate that modern technology, such as virtual reality, can enhance interaction and facilitate learning (Pahmi et al., 2024). The virtual reality process begins with the user viewing dynamic images from a computer simulation that generates a

virtual world. Users can enter and interact with this virtual environment by using devices such as VR headsets. These tools allow users to receive responses that feel authentic—whether the content is based on reality or fiction—creating an immersive experience that enables users to engage deeply with the presented virtual world (Abdul Karim et al., 2024).

Revianti et al. argue that the concept of "extended cognition" defines the mind—or the brain—as being deeply interconnected with the external environment and inherently responsive to it. Natural environments are highly varied and rich in their capacity to support the formation of learning content, which can, in turn, guide cognition toward manifestation in action. On the other hand, "embodied cognition" views cognitive processes as activities that are dependent on the physical state and behavior of the body. These two approaches are interrelated, as the body serves as a link between the mind and the world; we experience, understand, and behave within the world through our physical selves.

Beyond merely connecting with resources at a cognitive level, the concept of VR-supported cognition encompasses the ideas of "embodied" and "extended" cognition—both of which highlight the profound entanglement between the mind and its environment, as well as the fact that "cognitive activity" is contingent upon physical states and actions. A common thread in these perspectives on cognition is the significance of the physical world to thought processes and, consequently, to learning. For instance, movements performed by users have been shown to facilitate thinking and learning. Furthermore, there is evidence suggesting that movements designed for manipulating objects—such as those on a screen within a VR environment—can influence the learning process (Revianti & Anggoro, 2022).

CONCLUSION

Virtual Reality (VR) is a digital technological innovation with significant potential to support the development of learning media in the modern era. This technology enables learners to interact with a virtual environment—simulated to resemble the real world—through three-dimensional visualization, thereby offering a more immersive, interactive, and contextual learning experience. The application of VR in education goes beyond providing mere visual experiences; it engages learners' physical activity and cognitive responses through direct interaction with virtual objects and environments. This aligns with the concepts of "embodied cognition" and "extended cognition," which emphasize the interconnectedness of physical activity, the environment, and cognitive processes in learning.

Furthermore, the diverse forms of VR—ranging from immersive and semi-immersive to non-immersive—allow educators to tailor its use to specific needs, objectives, and available learning resources. Consequently, VR serves not merely as a visualization tool but as an innovative medium that helps learners acquire more meaningful educational experiences. In the context of Islamic Religious Education (Pendidikan Agama Islam/PAI), this technology holds the potential to visualize subject matter that requires concrete experience, such as the practice of acts of worship or the study of Islamic history. Therefore, the integration of VR into PAI instruction warrants further exploration and development—taking into account the suitability of the content, the readiness of infrastructure, and the competencies of educators—to ensure that its implementation contributes optimally to the quality of learning.

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