Research Article

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The Use of Virtual Reality Technology in Learning Islamic History

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Abstract: This research explores the use of Virtual Reality (VR) technology as a tool in learning Islamic history. The main purpose of this study is to evaluate the effectiveness of VR in increasing students' understanding and engagement with Islamic history materials. The research method used is a case study with a qualitative approach, involving observation and documentation. The results show that the use of VR significantly increases students' interest and makes it easier to understand complex historical concepts. Students report that VR experiences allow them to experience firsthand historical context, making them more engaging and memorable. However, the study also identified some challenges, such as technological limitations and the need for specialized training for teachers. These findings demonstrate the potential of VR as an innovation in Islamic history education and offer recommendations for wider implementation.

Keywords: Virtual Reality, Islamic history learning, educational technology, innovation in education.

Introduction

Islamic history is an integral part of the educational curriculum in many Muslim countries, including Indonesia. However, teaching Islamic history often faces challenges when it comes to delivering complex and contextual material in a way that is engaging and easy for students to understand (Fauzian, 2022). Conventional methods, such as lectures and textbooks, while beneficial, often cannot fully accommodate the visual and interactive needs of modern students. Virtual Reality (VR) technology offers innovative solutions by creating immersive and interactive learning environments (Ruzakki dkk., 2024). VR allows students to experience visual reconstructions of historical events and cultural contexts firsthand, which can enhance their understanding and engagement. Although VR has been widely used in various fields of education, its application in learning Islamic history is still relatively new and requires further exploration.

Islamic history learning integrated with Virtual Reality (VR) technology has a number of important benefits that can improve the quality of education and student understanding. VR allows students to visually and interactively experience Islamic historical events, such as events in the time of the Prophet Muhammad, important events such as the battle of Badr, or the Hajj journey. It helps students understand the historical context in more depth than just reading texts or looking at pictures (Noble dkk., 2022). With VR, students can see visual reconstructions of important places in Islamic history, such as the Grand Mosque in the 7th century or Baghdad in the golden age of Islam (Dayu dkk., 2022). This helps them connect theoretical knowledge with real visual representations.

VR makes learning Islamic history more interesting and fun. Students tend to be more engaged and motivated when they can interact with the subject matter directly, which can also increase their interest in Islamic history (Fauzian, 2022). VR integration encourages more active

learning, where students are not only recipients of information, but also actively participate in the learning process through exploration and interaction. The visual and spatial experiences provided by VR help strengthen students' memory. They tend to remember information better when they can relate it to a real, immersive visual experience (Ruzakki dkk., 2024). Students can repeat VR experiences to deepen their understanding, without losing interest or fatigue as might be possible with traditional learning methods.

Not all students have the opportunity to visit historical places in Islam. With VR, they can "visit" important sites such as the Kaaba, the Prophet's Mosque, or historical cities such as Mecca and Medina, and the tombs of walisongo (Kusumaningsih dkk., 2018; Utari dkk., 2021). VR allows for more flexible learning, where students can learn anytime and anywhere, without being limited by physical time and location. The integration of VR in Islamic history learning also helps students develop technological skills relevant to future needs (Lie dkk., 2023; Pathan dkk., 2020). They are becoming more familiar with advanced technology, which will be useful in an increasingly digital world of work (Silakova & Sosnilo, 2023; Tønnessen, 2024). The use of VR reflects an innovative and time-sensitive approach to education. It prepares students to think critically and creatively in the face of future challenges (Dayu dkk., 2022). The integration of VR in Islamic history learning not only enriches the way students learn and understand history, but also provides them with a more in-depth, interactive, and meaningful learning experience. By utilizing VR, Islamic history education can become more relevant, engaging, and effective, which will ultimately strengthen the understanding, engagement, and values instilled in the younger generation.

Through this research, it is hoped that it can evaluate the effectiveness of VR in the context of learning Islamic history and provide insight into the benefits and obstacles of its use. The findings of this study will make an important contribution to the development of more innovative and effective learning methods for Islamic history. Although VR technology has been used in various fields of education, its application in the context of Islamic history is a relatively new area. This research adds a new dimension in Islamic history teaching by utilizing VR to create a more immersive and interactive learning experience.

This research explores how VR can visually and interactively reconstruct historical events and Islamic cultural contexts. This is a step forward in utilizing technology to present a more authentic and immersive historical experience compared to traditional methods. This research not only focuses on the application of VR, but also on the evaluation of its effectiveness in improving student understanding and engagement. By analyzing the impact of VR on the way students interact with Islamic history materials, this study provides empirical data on the benefits and challenges of using VR in this context.

By investigating how VR can be integrated in Islamic history curricula, this research has the potential to develop a new learning model that combines immersive technology with historical pedagogy. This model can be a reference for the development of curriculum and learning methodologies in the future. By identifying and analyzing these challenges, this research provides valuable insights for the development of practical solutions and effective implementation strategies. Efforts to combine VR technology with Islamic history learning, as well as make a new contribution to the understanding of how immersive technology can affect history education.

Method

The library research method in research on the use of Virtual Reality (VR) technology in learning Islamic history involves several

important steps to collect and analyze information from various written sources (Creswell, 2009; Sugiono, 2015). Start by searching for academic journals, books, conference articles, and relevant documents in academic databases such as Google Scholar, JSTOR, or university databases. Primary sources used discuss the use of VR in education, as well as secondary sources that provide historical or technical context about VR and Islamic history learning.

Analyze and synthesize information from the collected literature to understand how VR can be applied in Islamic history learning. Summarize the results of the literature analysis to explain how VR can be used in Islamic history learning, as well as identify potential benefits and challenges. Based on the existing literature, make recommendations for the use of VR in learning Islamic history and direct it to further research. The final step is to present a synthesis of the results of the literature research, highlighting the potential contribution of VR to Islamic history education and how the findings can enrich understanding and teaching practice.

Results and Discussion

The Effectiveness of VR in Increasing Engagement and Understanding

The essence of the effectiveness of Virtual Reality (VR) in increasing engagement and understanding in the context of education (Noble dkk., 2022). VR allows students to enter into a virtual environment that replicates Islamic historical events or places in detail. It provides an immersive learning experience, where students are not only passive recipients of information but also actively interact with the subject matter. VR's ability to create realistic simulations of historical events provides clear and concrete visualizations, helping students understand concepts that may be difficult to understand through text or static images (Dayu dkk., 2022).

VR experiences tend to be more emotionally powerful than traditional learning methods. When students feel as if they are in a historical place and time, they become more emotionally engaged, which can increase motivation and interest in learning (Utari dkk., 2021). VR supports active learning, where students directly explore and build their own understanding of historical material. This is in line with constructivist theory, which states that learning is more effective when students are directly involved in the process of creating meaning. Because VR allows students to learn in a more real context and a deeper space, the information obtained tends to be easier to remember. Spatial memory, where students remember the location and physical context of information, is reinforced by VR experiences (Fauzian, 2022).

Students can repeat the VR experience multiple times without risk, allowing them to practice and reinforce their understanding of difficult concepts. VR allows for content customization according to the needs of individual or group of students, so that each student can learn in a way that works best for them. Teachers can use VR to introduce new approaches to teaching Islamic history, which may be more effective in delivering abstract or complex material (Dayu dkk., 2022; Rohmah dkk., 2022).

While effective, the success of VR in education depends on the quality of the devices and content available. Suboptimal technology or irrelevant content can reduce its effectiveness (Silakova & Sosnilo, 2023). The effectiveness of VR also depends on the ability of teachers to effectively integrate these technologies in learning. Therefore, special training for teachers is important. The essence of VR's effectiveness in improving engagement and understanding lies in its ability to create immersive, interactive, and emotional learning environments, which strengthen information retention and enable more immersive and personalized learning. However, the success of VR implementation is also

influenced by the readiness of technology, the quality of content, and the ability of teachers to utilize this technology effectively.

To effectively use Virtual Reality (VR) in increasing student engagement and understanding, especially in learning Islamic history, there are several strategies that can be applied. Create or select VR content specifically developed for learning Islamic history (Lakka dkk., 2023). The content in it describes relevant events, figures, and places accurately and in detail, so that students can gain a deep and accurate understanding. Integrate clear and compelling narratives in VR experiences. These narratives can guide students through the course of history, providing contextual explanations that help them understand the significance of the historical events they witnessed. In addition, it is also important to develop interactive elements in VR content, such as quizzes, puzzles, or tasks that students must complete during the VR experience. This will make students more active and engaged in learning (Pathan dkk., 2020).

To make VR effective in increasing engagement and understanding, it is important to develop quality content, provide adequate training for teachers, create a supportive learning environment, and conduct continuous evaluation and feedback. With this strategy, VR can be a very effective tool in enriching Islamic history learning and improving student learning outcomes.

Obstacles to the Implementation of the Use of Virtual Reality Technology in Islamic History Learning

The implementation of Virtual Reality (VR) technology in learning Islamic history has great potential, but there are several obstacles that need to be considered so that the use of this technology can be effective. VR requires advanced hardware, such as VR headsets, high-spec computers, and additional sensors (Pathan dkk., 2020). The cost of purchasing and maintaining these devices can be very high, especially for schools or educational institutions with limited budgets. Creating high-quality VR content, especially those relevant to Islamic history, requires a huge investment in terms of time, effort, and funds. This content development often requires collaboration with professional developers, which adds to the cost.

Not all schools or institutions have access to VR technology, especially in underdeveloped areas. These limitations can create gaps in access to innovative learning methods. VR content specific to Islamic history may still be limited, requiring extra effort in creating or adapting existing materials to be relevant to the Islamic history learning curriculum (Saputri & Putra, 2023). Many teachers may not be familiar with VR technology and how to integrate it effectively in learning. This demands comprehensive training, which also requires time and resources. Some teachers may feel reluctant to adopt new technologies in the teaching process, especially if they feel more comfortable with traditional methods or if they are unsure of the benefits of VR in education.

Prolonged use of VR headsets can cause visual fatigue, dizziness, or nausea in some students. This can limit the duration and frequency of VR use in the classroom. VR, which tends to make students focus on the virtual world, can reduce social interaction and collaboration between students during the learning process, which is an important element in history learning. Some VR apps require a fast and stable internet connection, which may not be available in all schools, especially in remote areas (Suryonegoro dkk., 2024). VR requires a large enough space to ensure students can move freely and safely. This can be a challenge in small or crowded classrooms.

Developing VR content that is accurate and appropriate to the context of Islamic history requires special expertise. Errors in representing historical events or places can mislead students' understanding. Existing VR content may not fully

fit into the curriculum taught in schools. This entails adapting or developing new content to suit educational needs. The integration of VR in learning may require additional time for device preparation and operation, which can disrupt an already hectic learning schedule. VR devices require regular maintenance, and if there are technical issues, this can interfere with the learning process. Schools may also require ongoing technical support.

While VR technology has great potential to enrich Islamic history learning, various obstacles such as cost, access, teacher readiness, and health issues need to be addressed to ensure effective implementation. Solutions such as teacher training, the development of more accessible content, and the improvement of technology infrastructure must be considered so that this technology can be used optimally in education.

Development of relevant and high-quality VR content for Islamic history

The development of relevant and high-quality Virtual Reality (VR) content for Islamic history is a complex process but crucial to ensuring effectiveness in learning. Start with in-depth research using trusted primary and secondary sources, such as manuscripts, history books, and academic articles. This is important to ensure that VR content is accurate and in accordance with historical facts.

One of the restrictive efforts in developing VR content is to create detailed visual reconstructions of important places in Islamic history, such as the Grand Mosque, Interactive simulation design of important events, such as the Hijrah of the Prophet Muhammad from Mecca to Medina, the battle of Badr, or the construction of the Kaaba (Abu, 2024). Students can play an active role in understanding these events through direct interaction. Integrate audio narratives guided by expert voices or historical characters that guide students through the experience, provide contextual explanations, and emphasize the important values contained in Islamic history.

It is also important to ensure that the content developed is in accordance with the standards and objectives of the Islamic education curriculum taught in schools. Focus on topics that are frequently taught and relevant to the subject matter. Design VR content in modules that can be used separately or together. This allows teachers to tailor the use of VR according to the topic being discussed in class. Engage a team of game designers, software developers, historians, and education experts to develop content that is not only accurate, but also engaging and easy to understand.

Before launching, test VR content with students and teachers to get feedback (Noble dkk., 2022). This is important to ensure that the content can be used properly in an educational environment (Kusumaningsih dkk., 2018). Based on the results of the test, make adjustments and improvements to address any issues that may arise, such as navigation difficulties, lack of interaction, or historical inaccuracies. Make sure VR content respects and reflects the cultural diversity in Islamic history, including different traditions in different regions of the Islamic world. Narratives and scenarios that not only teach history, but also reinforce values such as justice, patience, and solidarity that are at the core of Islamic teachings.

The development of relevant, high-quality VR content for Islamic history requires a structured and collaborative approach, involving a wide range of disciplines and stakeholders. By prioritizing historical accuracy, interactivity, and relevance to the curriculum, VR content can be a highly effective tool in learning Islamic history, helping students gain a deep understanding and actively engage in the learning process.

Integrating VR in Islamic History Learning: Opportunities and Challenges

Integrating Virtual Reality (VR) in Islamic history learning presents a variety of exciting opportunities, but also comes with significant challenges (Kim dkk., 2021). VR allows students to experience important events in Islamic history directly and immersively. For example, they can be "located" within the events of the Prophet Muhammad's Hijrah or the battle of Badr, providing a deeper understanding of the historical context (Abu, 2024; Dayu dkk., 2022). With VR, students can explore historical sites such as the Grand Mosque or the Alhambra, which they may not be able to visit in person. It provides a richer and more lifelike experience compared to images or videos (Fayiz dkk., 2020).

VR encourages students to actively participate in learning. With the interactivity that VR offers, students can conduct their own exploration, interact with historical objects, and make decisions that affect the course of learning. Advanced and innovative VR technology tends to attract students, especially among the younger generation who are familiar with digital technology. This can increase their motivation to study Islamic history. VR allows students to see and experience historical contexts more directly, such as social, cultural, and political conditions at a specific time in Islamic history. This helps them understand the background of the event and its deeper meaning. Using VR helps students develop 21st-century relevant technology skills, such as navigating in digital environments, interacting with simulations, and problem-solving in virtual contexts. VR can also be used in collaborative learning, where students work together in teams to complete Islamic history-based assignments or projects in a virtual world.

Integrating VR in learning Islamic history is not spared from the challenges faced. VR implementation requires a large investment in hardware (VR headsets, high-specification computers) and supporting infrastructure. This can be a big obstacle, especially for schools with limited budgets. VR technology requires regular maintenance and software updates, which can be an additional burden for educational institutions.

Not all students or schools have access to VR technology, which can lead to a gap in the learning experience between students who have access and those who don't. VR content specific to Islamic history may still be limited, and its development requires significant time and resources. Many teachers may not yet have enough skills to use VR effectively in the classroom. This requires specialized training and ongoing technical support. Integrating VR requires a change in traditional teaching approaches. Teachers need to adapt their methods to maximize the potential of VR in education.

Prolonged use of VR headsets can cause visual fatigue, dizziness, or nausea in some students. This needs to be managed properly to avoid negative impacts on students' health. When using VR, students may not be aware of their physical environment, which could lead to accidents or injuries if there is no strict supervision. VR requires a fast and stable internet connection and capable hardware. In areas with underdeveloped technological infrastructure, this can be a major obstacle. VR also requires a large enough physical space for students to move around safely, which may be difficult to fill in small or crowded classrooms.

The integration of VR in Islamic history learning offers a great opportunity to improve students' understanding, engagement, and motivation. However, the success of its implementation depends on the ability to overcome challenges such as cost, accessibility, faculty readiness, and infrastructure. With careful planning and adequate support, VR can be a very effective tool in enriching Islamic history education.

Conclusion

This research shows that the use of Virtual Reality (VR) technology in learning Islamic history has great potential to increase students' engagement and understanding of complex and contextual materials. Through the immersive experiences provided by VR, students can more easily understand relevant historical events and cultural contexts, which in turn deepens their information retention and learning interests. The study also identifies several challenges that need to be addressed in order to optimize the use of VR in education. Key constraints include the cost of devices and technology infrastructure, as well as the need for specialized training for teachers to operate and integrate VR in the curriculum effectively. Overall, this research contributes to the understanding of the potential of VR technology as an innovative educational tool in learning Islamic history. Further steps are needed, including the development of relevant VR content, sustainable financing strategies, and training programs for teachers, to ensure that the benefits of this technology are accessible to more educational institutions.

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