UTILIZATION OF AUGMENTED REALITY (AR) AS AN INNOVATIVE INTERACTIVE LEARNING MEDIA IN ISLAMIC RELIGIOUS EDUCATION (IRE)

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Abstract: Education has a strategic role in building civilization and optimizing human potential. However, conventional learning methods are often not able to effectively increase student motivation and understanding, especially in the context of Islamic Religious Education (IRE). Technological advances offer alternatives through interactive learning media such as Augmented Reality (AR), which allows for concrete visualization of the material. This study aims to evaluate the use of AR as an interactive learning medium in IRE through the literature review method. Research articles were obtained through Google Scholar using the keywords "Augmented Reality", "Interactive Learning Media", and "Islamic Religious Education", and were selected based on relevance, publications in the last 10 years, and accessibility. The results of the study show that AR significantly increases student motivation, understanding, and engagement, especially in learning materials such as the history of Muslim scientists, the procedures for organizing corpses, sirah nabawiyah, tajwid, and the practice of Hajj and Umrah. With its ability to overcome the limitations of conventional learning methods, AR has become a significant innovation in modern education. And it is expected to be able to create a more relevant and transformative learning experience.

Keywords: Augmented Reality, Interactive Learning Media, Islamic Religious Education

Introduction

Education is the main pillar in shaping civilization and developing human potential (Juita et al., 2024) Along with the advancement of the times, technological developments have brought major changes in the world of education, including learning methods (Sindi Septia Hasnida et al., 2023) Technological innovations provide ease of access, presentation, and student participation, thereby creating more dynamic and interactive learning (Rachim et al., 2024) However, conventional learning methods that tend to be monotonous are still a challenge, especially in increasing student learning motivation (Wungguli & Yahya, 2020)

One solution to improve the quality of learning is through the use of interactive digital media that is able to create a more interesting and effective learning experience. This innovation has been proven to improve student understanding compared to conventional learning methods (Rachim et al., 2024) Muhammad Rumansyah, in his research reported that the level of understanding of students who participated in interactive digital media learning was higher than the level of understanding of students who participated in conventional media (Rumansyah, 2016) In the context of Islamic religious education (IRE), technology-based learning media has great potential to answer the challenge of delivering abstract and complex material in a way that is easier to understand.(Febrian, 2024)

Augmented Reality (AR) is present as one of the innovations that can transform learning by presenting an immersive visual experience. AR technology allows students to access information directly through interactive object visualizations, making it easier to understand

the material. With the ability to integrate virtual worlds and social interactions, AR can create an engaging and relevant learning environment, especially in IRE learning. This technology offers an opportunity to increase learning motivation as well as learning effectiveness and make it one of the innovative solutions in modern education (Asari & Hufron, 2023)

This research aims to explore the use of Augmented Reality technology as an innovation of interactive learning media in Islamic religious education. Through a literature review approach, this study will evaluate the benefits in the application of AR in IRE learning. Thus, this research is expected to provide theoretical insights that support the development of AR-based learning media in IRE.

Literature Review

Definition of Learning Media

The term media comes from the Latin medius, which has a literal meaning as "introduction," "mediator," or "intermediary" (Septiani et al., 2023). In Arabic, this term also refers to a means or tool that functions as an intermediary in conveying messages from the sender to the receiver. In the world of education, as explained by Heinich and quoted by Azhar Arsyad, learning media is defined as an intermediary tool that functions to convey messages or information with the aim of supporting the instructional process. Therefore, learning media can be understood as any type of device, aid, or technology designed to systematically communicate educational materials to support the effectiveness of the teaching and learning process (Anam et al., 2023).

Function of Learning Media

Learning media has various important functions in the educational process. 1) As a learning resource, media functions as a means that includes messages, people, materials, tools, techniques, and environments to support student learning outcomes. 2) Manipulative function, which is the ability of the media to represent objects or events through changes in size, color, speed, or re-presentation, so as to allow teaching to be more contextual even though it is limited by space and time. 3) Psychological functions, which include the role of media in increasing attention, arousing emotions and acceptance, helping mental representation of objects or events, stimulating imagination, and encouraging interest in learning through expectation and active participation. 4) Socio-cultural function, where the media helps overcome social and cultural barriers, equalize experiences, and build a uniform perception among students who have different backgrounds (Syarifuddin & Utari, 2022).

Types of Learning Media

Learning media can be divided into two main categories, namely conventional learning media and digital learning media.

Conventional Learning Media

Conventional learning media has long been an integral part of the world of education. Its types, such as graphic media, three-dimensional media, environment as a learning medium, and print media, offer diverse approaches in helping students understand the material. Graphic media, for example, presents information through images, posters, or diagrams that attract attention and make it easier to understand concepts. Three-dimensional media, such as human or animal anatomical models, provide a more realistic learning experience, providing an opportunity for students to explore shapes and structures in depth. Meanwhile, the use of the environment as a learning medium provides direct experience through observation, so that

students can learn contextual and fun. On the other hand, print media such as books, magazines, and journals remain relevant for their ability to provide systematic and easily accessible sources of information (Yuniarti et al., 2023).

Digital Learning Media

Along with the development of technology, digital learning media has brought major changes in the way education takes place. Online learning platforms such as Google Meet or Zoom allow teachers and students to connect without space and time constraints, creating unprecedented flexibility. In addition, practice apps such as Quizziz and Google Form provide an interactive learning experience while allowing for instant measurement of learning outcomes. Digital media also includes tools such as online dictionaries that speed up the language translation process, making it more efficient than traditional methods. Last but not least, audio-visual-based media such as YouTube and the Teacher's Room present content that is interactive, fun, and motivates students to learn actively (Yuniarti et al., 2023).

Concept of Augmented Reality

*Augmented Reality (*AR) is a technology that integrates elements of the virtual world with the physical environment in the form of two or three dimensions, which are projected simultaneously (Prasetya, 2024). In the context of education, AR provides various benefits, including increasing student engagement, deepening understanding of concepts, and facilitating independent access to information. It also enriches the learning experience through deep visualization, as well as supporting the development of critical and creative thinking skills. However, the implementation of AR faces several challenges, such as sensitivity to changing perspectives, limited number of developers, and the need for large memory capacity. However, AR is still an effective tool in visualizing complex concepts, without replacing the role of teachers in guidance and direction (Purnamawati et al., 2021)

The Utilization of Augmented Reality as a Learning Media for Islamic Religious Education

The use of Augmented Reality (AR) in Islamic Religious Education (IRE) learning provides an immersive and interactive experience for students. With AR technology, students can explore holy sites such as the Grand Mosque and the Prophet's Mosque virtually, learning about history, architecture, as well as related religious practices. This technology also enriches learning about the Quran, hadith, tajweed, daily prayer readings, and hijaiyah letters, which were previously difficult to imagine in real life. In addition, AR allows students to experience the atmosphere of worship such as Hajj and Umrah through digital simulations that help their understanding of the procedures and meanings of each worship. Thus, AR in IRE not only enhances interaction in learning, but also provides a more immersive and contextual experience, so that students can better understand Islamic teachings in a more engaging and innovative way (Ruzakki et al., 2024).

Method

This study uses the literature review method to evaluate the use of Augmented Reality (AR) as an interactive learning media innovation in Islamic Religious Education (IRE). The data was collected through searching for research articles on Google Scholar with the keywords "Augmented Reality", "Interactive Learning Media", and "Islamic Religious Education". Article screening is carried out based on inclusion and exclusion criteria.

Inclusion criteria include articles discussing the use of AR in IRE, published in the last 10 years (2016-2025), open access, using a quantitative or qualitative approach, and speaking Indonesian or English. Exclusion criteria include articles that are not relevant to the research topic, published before 2016, are not accessible in open access, are not research articles, or do not include sufficient empirical data.

The initial search process resulted in 3,600 articles. After filtering articles that fit the 2016-2025 range, the number was reduced to 3,180 articles. Manual filtering is done by checking the title, abstract, research method, and relevance to keywords. The final stage of selection produced 7 articles that met all criteria. These articles are the basis for analyzing the effectiveness and potential of AR application in improving the quality of IRE learning.

Results and Discussion

Table 1: Result of Literature Review

No	Author's Name	Journal	Research Title	Research Results
1	Mochammad Rizal Ramadhan, Nur Faizin, M. Iqbal Najib Fahmi, Samudra Mutiara Hasanah, Tsania Khoirunnisa	Journal of Community Service	Strengthening Junior High School Students' Learning Motivation and Critical Thinking Skills Through Interactive Media Quartet Cardgame Integrated with Augmented Reality on Muslim Scientist History Materials	The interactive media quartet card game integrated with Augmented Reality (AR) is effective in increasing the learning motivation and critical thinking skills of junior high school students on the history material of Muslim scientists, as well as making it easier to understand and improve their memory.
2	Maskuri Resiasa, Mitra Unik	Jurnal Software Engineering and Information System (SIX)	Educational Innovation: Augmented Reality for Funeral Management in the Islamic Context	The Augmented Reality (AR) application of corpses is effective and positively received and contributes to improving the quality of learning and the practice of handling corpses in Islam.
3	Asari, Muhammad Hufron	Muaddib: Journal of Islamic Religious Education	Implementation of Augmented Reality in Improving Pie Learning in Mts Agung Alim Blado: Case	Augmented Reality (AR) technology has been successfully applied globally, increasing student engagement, facilitating understanding, and encouraging learning motivation.

			Study and Evaluation	
4	Ahmad Shofiyuddin, Ahmad Muthi'Uddin	BHAKTI: Journal Community Service and Empowerment	Assistance for Islamic Religious Teachers to Realize Inclusive Technology-Based Educational Innovation	Student involvement increased significantly after the use of Augmented Reality (AR) technology in Hajj and Umrah materials. Students become more active, enthusiastic, and interested in the learning process thanks to interactive visualizations that make it easier to understand the material, thereby increasing their motivation and participation in the classroom.
5	Muhammad Rizal H, Ratnawati, Nia Indriani, Mursalim, Elly Warni	JSITIK: Journal of Information Systems and Computer Information Technology	Development of Animation Education Cards as a Media for Introducing Sirah Nabawiyah Based on Augmented Reality	Augmented Reality (AR)-based educational applications prove their potential as an effective learning medium and are able to improve student understanding interactively.
6	Muhammad Jalaludin Assuyuthi, Nia Ekawati	Scientific Journal of Informatics (JIF)	Interactive Learning Media Introduction to Tajweed Science Based on Augmented Reality	The use of interactive learning media based on Augmented Reality (AR) has proven to be effective in increasing students' interest and understanding of tajweed materials. Through three-dimensional visualization, this media makes it easier for students to understand the rules of tajweed in more depth
7	Ahmad Shofiyuddin, Putri Aisyiyah Rakhma Devi, Ahmad Muthi'uddin	JIPI (Scientific Journal of Informatics Research and Learning)	Module Development Based on Augmented Technology Reality (AR) Hajj and Umrah Phase D Material	The results of the evaluation showed that the Augmented Reality (AR) module for Hajj and Umrah learning obtained an average assessment of student responses from the trial class (86.7%) and large class (81.4%), so that it was declared suitable and effective as a learning medium.

Research by Mochammad Rizal Ramadhan et al. reported that Augmented Reality (AR)-based learning media is effective in increasing the motivation and critical thinking skills of high school students in Islamic Religious Education (IRE). AR facilitates the understanding of

Muslim scientists' historical material through an interactive approach that suits the needs of the digital generation. This technology not only increases the active engagement of students, but also deepens the analysis and understanding of the material. The results of the questionnaire indicated a positive response from students, showing the potential of AR in supporting IRE learning innovations (Ramadhan et al., 2023).

In terms of religious practice, Maskuri Resiasa and Mitra Unik reported that AR was effectively used in learning procedures for handling corpses. The AR Corpse application developed in this study has succeeded in improving students' understanding and skills according to religious teachings and ethical norms. Functional testing showed the app was reliable, while the positive responses from 20 respondents in beta testing attested to its ease of use and effectiveness. This research proves that AR technology has great potential to improve the quality of religious learning and practice, especially in the context of handling corpses (Resiasa et al., 2024).

Asari and Muhammad Hufron reported that the implementation of Augmented Reality (AR) was able to significantly increase student involvement in Islamic Religious Education (IRE) learning at Madrasah Tsanawiyah. This technology contributes not only to the in-depth improvement of the comprehension of the material, but also to the stimulation of students' active engagement, in line with the theory of constructivism which emphasizes the importance of active participation in building knowledge independently. Based on data analysis using the Likert scale, the level of student satisfaction increased significantly from 75% in the pre-test stage to 93% in the post-test stage after the application of AR-based technology. These findings indicate that the integration of AR in learning not only improves students' perception and preferences for the material, but also substantially improves the overall quality and effectiveness of learning (Asari & Hufron, 2023).

In learning Islamic history, Muhammad Rizal H et al. developed Augmented Reality (AR)-based learning media to introduce the Prophet's sirah. This medium facilitates students' understanding of important events in Islamic history through interactive visualizations, as well as relating moral values to historical contexts. The study shows that innovations such as backsounds, animations, and quizzes have succeeded in increasing student engagement, making learning more effective and easy to understand. The results of the questionnaire recorded a satisfaction level of 80%, which confirms the great potential of AR in enriching the learning experience about the life of the Prophet Muhammad SAW (Rizal H et al., 2024).

Ahmad Shofiyyuddin Ahmad Muthi'Uddin also evaluated AR-based learning modules for Hajj and Umrah materials. The results show that this technology is effective in increasing students' understanding of worship rituals. Realistic visual simulations help students learn the stages of Hajj and Umrah comprehensively. The evaluation showed a significant improvement in students' understanding of Hajj and Umrah material, with the average score increasing from 70 to 88 after the implementation of AR. In addition, students are more involved in class discussions, actively asking questions, and sharing opinions. Many students who were previously less interested now show great enthusiasm for religious materials and express a desire to perform Hajj and Umrah (Shofiyuddin & Muthi'Uddin, 2024).

The research of Muhammad Jalaludin Assuyuhti and Nia Ekawati further explores AR in tajweed learning. By using three-dimensional visualization, this media allows students to practice the rules of tajweed more accurately. The test results showed a positive response from students at MI Nurul Huda, which was reflected in the improvement of their learning outcomes. Therefore, this AR-based learning media has great potential to be applied more widely in religious education, especially in tajweed learning (Assuyuthi & Ekawati, 2023).

In line with the research, Ahmad Shofiyyuddin et al. evaluated AR-based learning modules for Hajj and Umrah materials which have proven to be effective in increasing students' understanding of worship rituals. Realistic visual simulations make it easier for students to learn the stages of Hajj and Umrah thoroughly. The evaluation results showed a positive response with an average of 86.7% in the trial class and 81.4% in the large class. This proves that the AR module has succeeded in helping students understand complex material while improving the quality of learning (Shofiyuddin et al., 2024).

From various empirical findings, AR is used as a significant innovation in improving the quality of IRE learning. This technology not only makes learning more interesting, but also helps students understand religious material more deeply. Thus, the integration of AR in the IRE curriculum is a strategic step to increase the effectiveness of education in the digital era.

Conclusion

Augmented Reality (AR) in Islamic Religious Education (IRE) has been proven to help students understand the historical material of Muslim scientists, the procedures for organizing corpses, sirah nabawiyah, tajwid, and the practice of Hajj and Umrah more effectively. This technology makes learning more interesting, interactive, and immersive. Research shows an increase in student learning outcomes after using AR. In addition, students become more motivated and active in the learning process. With this approach, AR is an important innovation that is able to answer the challenges of IRE learning in the digital era.

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