

INTEGRATING AUGMENTED REALITY (AR) IN ISLAMIC EDUCATION: STRATEGIES FOR ENGAGING SPORT ACTIVITIES IN ELEMENTARY SCHOOLS

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Abstract: In recent years, the integration of technology into education has emerged as a prominent area of interest, particularly with regard to its potential for enhancing engagement and learning outcomes. This literature review examines the integration of augmented reality (AR) in sports activities within the Islamic education curriculum for elementary school students. The review identifies a number of strategies for integrating AR-based sports, including the use of interactive games that teach Islamic values while promoting physical fitness. Such activities can be designed to emphasise principles such as teamwork, discipline, and respect, which are core tenets of both sportsmanship and Islamic teachings. The use of AR technology allows educators to create immersive learning experiences that are more engaging and relevant to students' lives. However, several challenges remain, including the necessity for sufficient technological resources, teacher training, and curriculum alignment. Furthermore, there may be concerns regarding the alignment of AR content with Islamic values and educational objectives.

Keywords: *Augmented Reality (AR), Islamic Values, Physical Education*

Introduction

One of the technological innovations that is becoming increasingly popular in the field of education is Augmented Reality (AR). AR has the potential to be an effective tool for delivering religious values in a more interactive and engaging way for students, especially at the elementary school level. Sports activities are an important component of character education. By using AR technology, students can gain a better understanding of Islamic teachings while enhancing their social and physical skills.

Islamic education encompasses not only the transmission of theoretical knowledge but also the cultivation of moral character and the development of social skills. The incorporation of sports can facilitate the inculcation of values such as discipline, cooperation, and sportsmanship, which are in alignment with Islamic teachings. Nevertheless, it is frequently difficult to capture students' interest, particularly in the current digital age, when children's attention is often directed towards technology. Augmented reality (AR) has the potential to address this issue by making education both enjoyable and educational.

By employing augmented reality (AR), educators can establish an engaging learning environment where students not only gain knowledge about Islamic teachings but also have the opportunity to apply them in the context of sports activities. To illustrate, through the utilisation of AR applications, students can acquire the fundamental techniques of diverse sporting activities while gaining insight into the associated Islamic values, such as the significance of maintaining good health and exercising as a form of worship. Furthermore, AR can be employed

to instruct students in the historical development of sports within Islamic culture, offering them a more comprehensive understanding of the significance of sports in Islamic tradition.

It is anticipated that the incorporation of augmented reality (AR) into Islamic education, particularly in the context of sports activities at the elementary school level, will facilitate the creation of a more engaging and meaningful learning experience. This approach will facilitate a deeper comprehension of religious teachings and the development of essential physical, social and life skills. It is anticipated that the utilisation of AR will facilitate the emergence of a generation that is able to comprehend, esteem and implement Islamic tenets across all facets of their existence, including in sporting activities.

Literature Review

The Role of Physical Education in Promoting Islamic Values

The importance of physical education in today's world cannot be overstated. It plays a pivotal role in the promotion of Islamic human values and has a discernible impact on an individual's and a community's economic, political, social, and cultural spheres. Furthermore, it assists the individual in the process of self-discovery. The study employed an analytical methodology with the objective of ascertaining the manner in which physical education may serve to reinforce Islamic beliefs. The study yielded several findings, the most noteworthy of which are as follows: The research indicates that exercise contributes to the improvement of mental and spiritual health, which is a central tenet of Islamic teachings. This is achieved through the cooperation in sports teams and participation in group activities, which are encouraged in Islamic teachings. The study also found that exercise enhances self-discipline and self-control, which are values associated with Islam as stated in the Holy Quran and the Prophet's Sunnah.

Some individuals hold the erroneous belief that engaging in sports and recreation is incompatible with the tenets of Islam. This is due to the misconception that such activities impede worship and remembrance of Allah, diminish one's esteem in the eyes of others, and foster a critical attitude towards one's actions, knowledge, and religiosity. This interpretation is, however, erroneous. The concept of an all-encompassing religion emerged to organize all life, regardless of its size or significance, and is therefore in opposition to the principles of Islamic education, which aim to develop a Muslim's physical, mental, emotional, spiritual, social, and moral qualities. It is well documented that Islam encourages the pursuit of strength (Al-Zyoud, 2017).

In Islamic teachings, strength, peace, and blessings be upon him are of great importance. This is evidenced by the following hadith: "The strong believer is better and more beloved to God than the weak believer, and in all good" (Muslim Number 2664, Volume 7, Page 4338). The human being has created a dense physical body and a transparent spiritual soul. The physical body is anchored to the earth, while the spiritual soul is oriented towards the celestial realm. The physical body is driven by motives, desires, and needs, while the spiritual soul is driven by longings.

Innovation in PE Learning Through the Application of VR and AR

The advent of virtual reality (VR) and augmented reality (AR) has brought about a paradigm shift in the way physical education, sports, and health (PJOK) are taught and learned (Aygina et al., 2023). The use of virtual reality (VR) and augmented reality (AR) facilitates a more profound and immersive learning experience. In the context of PJOK, students may engage with virtual representations of sports activities or specific physical situations that may be challenging to access or too risky to perform in real life. Suryaman et al. (2023) posit that the utilisation of VR and AR serves to enhance student engagement in the domain of PJOK learning. The

utilisation of VR and AR facilitates a more personalised approach to teaching, enabling educators to provide diverse learning experiences that align with students' skill levels and interests. However, not all educational institutions have access to this technology, and the financial implications of implementation can be a significant barrier. Through this discourse, we can gain a deeper insight into the potential and challenges associated with PJOK learning innovations using VR and AR, as well as strategies to optimise their use to enhance more meaningful teaching and learning.

The objective of this study is to enhance the capacity of PJOK (Physical Education, Sports, and Health) instructors to leverage digital technology in their pedagogical practices, particularly through the integration of 21st-century innovations such as the Blended Learning Model (MBL) and Augmented Reality (AR) technology. The findings of the research indicate that 21st-century education is focused on the development and empowerment of students' potential to shape better character. Innovations such as augmented reality (AR) have the potential to provide novel and engaging learning experiences in spatial geometry, as well as to enhance students' interest. The integration of virtual reality (VR) and augmented reality (AR) in PJOK instruction has also resulted in notable advancements, facilitating more immersive and engaging learning experiences. While these technologies enhance student engagement and enable more personalized instruction to meet individual needs, challenges such as technology access and implementation costs still require attention. By comprehending these potential benefits and challenges, their utilization can be optimized to enhance the quality of PJOK learning.

The objective of this study is to examine the potential of digital learning models for PJOK teachers in the Palu Utara subdistrict. The objective of this study is to enhance the capacity of PJOK teachers to utilize digital technology in the learning process, particularly in the Palu Utara subdistrict. The research examines the mastery of learning innovations in the digital era for PJOK teachers in the Palu Utara area (Faturahim & Purwanto, 2023).

Method

This research employs a descriptive methodology with qualitative data to provide a comprehensive account and factual evidence regarding the potential applications of AR in the context of Islamic education with a focus on sports. The respondents in this study may include Islamic religious education teachers, sports coaches, and students engaged in sports activities within an educational setting. Data collection techniques employed in this study may utilize interviews, observations, and documentation studies pertaining to the utilization of augmented reality (AR) in sports activities.

Result and Discussion

Augmented Reality

In his 1997 publication, Ronald T. Azuma defines augmented reality as the incorporation of real and virtual objects within a real environment. It functions in real time and can be integrated with suitable display technology. Interactivity can be achieved through specific input devices, and effective integration necessitates comprehensive explanation. However, Stephen Coward and Mark Faila, in their book entitled *Augmented Reality: A Partical Guide*, define augmented reality as a natural means of exploring three-dimensional objects and data. With two-dimensional augmented reality technology, users can perceive the real world around them by superimposing computer-generated virtual objects. As stated in the *Handbook of Augmented Reality*, the objective of augmented reality is to enhance user experience by integrating virtual information into the surrounding environment, enabling direct interaction with the real-world environment through applications such as live video streaming.

As posited by Haller, Billingham, and Thomas (2007), the objective of augmented reality (AR) research is to develop technologies that facilitate the real-time integration of digital content generated by computers with the physical world. AR enables users to perceive two-dimensional or three-dimensional virtual objects superimposed upon the real world.

Islamic Education and Sports Activities in Elementary Schools

Islamic education encompasses not only the instruction of moral principles, worship practices, and ethical conduct, but also the incorporation of physical elements. These include the promotion of sports as a means of maintaining physical health and fitness. In Islamic thought, engagement in sports is seen as a means of developing positive character traits such as cooperation, discipline, and honesty. Additionally, historical sources indicate that the Prophet Muhammad himself engaged in various sports, including horse riding, archery, and swimming, with the aim of promoting physical and mental wellbeing.

In primary schools, however, sports activities are often unappealing to most students, mainly due to the packed curriculum and limited number of facilities. Therefore, it is important to identify more creative ways to encourage students to participate in physical activities that are beneficial to their physical and spiritual growth.

Integration of AR in Islamic Education at Elementary Schools

The curriculum of Islamic education in elementary schools encompasses fundamental teachings pertaining to religion, morals, Islamic history, and the tenets of Islam, as well as the practices and rituals associated with it. Furthermore, Islamic teachings place considerable importance on physical activity, which is viewed as a responsibility entrusted to humanity by Allah. Participation in sports is believed to contribute to the development of discipline and a spirit of cooperation, which are essential qualities in the pursuit of a virtuous life.

Augmented Reality in Islamic Education

In Islamic education, the use of AR can facilitate the conveyance of religious values through more vivid visualisations. To illustrate, students may view visualisations of the stories of the prophets that relate to physical activities or sports. One such example is the teaching of horseback riding, archery, and running by Prophet Muhammad (PBUH) as part of the sunnah, which encourages Muslims to maintain physical fitness.

Augmented Reality in Sport Activities

In the context of sports, augmented reality (AR) has the potential to facilitate more engaging and interactive learning of fundamental sports techniques. To illustrate, in the context of football, AR has the potential to provide tutorials on a range of topics, including movements, game strategies and inspirational stories from Islamic history related to sports. This could facilitate the integration of both physical and moral learning in a single, unified approach.

Strategies for Integrating AR in Sports Activities at Elementary Schools

a. Using AR to Convey Islamic Values in Sports

Augmented reality (AR) can be employed to present interactive narratives that elucidate the manner in which sports are aligned with Islamic values. To illustrate, an AR application could be used to present animations demonstrating the significance of maintaining physical health in accordance with the Hadith of Prophet Muhammad (PBUH). It is stated in Islamic teachings that a believer who is strong in faith is held in higher regard by Allah than one who is weak in faith, despite both being considered good. (Sahih Muslim). This assists students in comprehending that sports are not merely a means of maintaining physical health; they are also a form of worship and a manifestation of responsibility inherent to the Muslim faith.

b. Integrating AR Tutorials for Sports Techniques

The utilisation of augmented reality (AR) in physical education enables educators to provide comprehensive, step-by-step guidance on the fundamental techniques of various sports. To illustrate, in activities such as basketball or football, augmented reality (AR) can be employed to

illustrate the correct movements, such as dribbling or kicking the ball. This allows students to view these techniques in real-time through mobile devices or AR headsets.

c. Making Sports Activities Engaging with Gamification

Gamification can be defined as the application of game elements in non-game contexts. The use of augmented reality (AR) can facilitate the integration of Islamic values into physical education by encouraging students to engage in competitive sports while simultaneously learning about the values being taught. For example, following the completion of physical exercise, students could be presented with a challenge in the form of an augmented reality (AR) game that incorporates religious knowledge or moral values.

d. Encouraging Participation through AR Visualizations

Additionally, augmented reality (AR) can be employed to illustrate the pivotal roles of prominent figures in Islamic history with regard to sports. This encompasses the companions of the Prophet Muhammad (PBUH), who were renowned for their physical prowess. Such visualisations may encourage students to engage more actively in sporting activities, thereby instilling in them a sense of determination and discipline.

Benefits of Integrating AR in Sports Activities at Elementary Schools

a. Increased Student Engagement

One of the principal advantages of utilising augmented reality (AR) in an educational context is the enhanced student engagement observed in the learning process. The use of AR in education provides students with a more interactive and visual learning experience, which facilitates their comprehension of sports techniques and the Islamic values associated with them.

b. Reinforcing Islamic Values Understanding

Through AR, students not only learn about physical sports but also how Islamic teachings emphasize the importance of maintaining health and well-being. This helps them internalize the moral and spiritual values embedded in Islamic teachings.

c. A More Immersive and Enjoyable Learning Experience

The use of augmented reality (AR) in education can facilitate engagement with subject matter in a virtual environment, which may enhance interest and motivation. This interactive, technology-based learning approach has the potential to motivate students to participate in sports activities and to facilitate more effective learning.

d. Development of Motor Skills

The utilisation of interactive augmented reality (AR) guidance facilitates more efficacious learning of sporting techniques. This enables them to directly observe and imitate correct movements, thereby accelerating the acquisition of motor skills and body coordination.

Challenges in Integrating AR in Islamic Education at Elementary Schools

Although the potential of AR in education is considerable, a number of challenges must be overcome.

- a. Limited access to technology: Not all educational establishments have the requisite technological resources, such as tablets or smartphones, to utilise AR, particularly in regions with constrained financial resources.
- b. Training of Teachers: The deployment of AR in educational settings necessitates the provision of targeted training for educators. It is essential that educators possess an understanding of how to utilise this technology to enhance learning and integrate it with Islamic educational content.
- c. Implementation Costs: The implementation of AR necessitates an investment in suitable hardware and software, which can prove a significant financial burden for educational institutions with limited budgets.

Conclusion

The incorporation of augmented reality (AR) into Islamic education, particularly in the context of sports activities at the elementary school level, has the potential to significantly enhance student engagement and enrich their learning experiences. The utilisation of AR has the potential to enhance the interactivity and enjoyment of sports education, while simultaneously imparting the Islamic values inherent in sports teachings. Nevertheless, in order to guarantee the successful implementation of this approach, it is essential to address the challenges associated with technology access, teacher training and costs through the implementation of suitable measures. It is essential to garner support from a multitude of stakeholders, including the government, educational institutions, and society at large, in order to facilitate the advent of more innovative and technology-based pedagogical approaches.

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