

## Potential of Augment Reality (AR) Technology as a Digital-Based Islamic Religious Education Learning Innovation in Islamic Pillar Materials

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### ABSTRACT

ABSTRACT The material of the pillars of Islam in learning Islamic religious education is part of the main material at each level of learning Islamic religious education. In the digital era, Augment Reality (AR) technology as a 3-dimensional technology that can help to make it visually easier for students. This study examines the use of AR technology in the application of PAI learning to Islamic pillar materials. This study uses a qualitative method using a literature review model by taking journals for research. Based on research, it was found that the use of AR was very helpful in the PAI learning process of Islamic pillar material and received high enthusiasm from students, thus affecting the achievement of good grades and evaluation and students' understanding of Islamic pillar material

**Keywords:** Augment Reality, Islamic Education Learning, Islamic Pillar, Innovation

## 1 Introduction

Since society has a very pragmatic attitude, the use of information technology in education is problematic and cannot be divorced from technology (Jumarlis, 2018; Khan et al., 2022). Furthermore, as the twenty-first century dawns, a multitude of technologies are evolving and enhancing one another in unique and creative ways across a range of spheres, including education (Bakri et al., 2019; Fauzi et al., 2018; Khan et al., 2022). The usage of augmented reality technology in Islamic Religious Education is one example of how we must advance educational technology quickly to stay up with a swiftly evolving period.

Particularly when it comes to the content of the pillars of Islam, augmented reality (AR) technology can also assist in overcoming barriers to studying Islamic Religious Education in Indonesia, such as a lack of suitable teaching resources or hands-on experience with the subject matter (Murhayati et al., 2019; Morales & Garcia, 2018). By giving students more visual and interactive access, something that may be difficult to do with conventional methods, this technology helps broaden the scope of learning. When it is used, learning is supported and becomes more modern and participatory (Khan et al., 2022; Senoaji et al., 2020; Wen, 2021).

Because of its great qualities that enhance the teaching and learning process, this technology is widely used in education (Morales & Garcia, 2018; Murhayati et al., 2019; Sáez-López et al., 2019). Because augmented reality has appealing features that can boost students' interest and motivation to learn, it has been demonstrated that using this technology can increase students' interest in learning materials (Chen et al., 2020; Khairuldin et al., 2019; Murhayati et al., 2019; Rafik et al., n.d.; Zejda & Canoy, 2015). Additionally, because they may display the subject accurately while studying, pupils can experience a learning and play environment.

Augmented Reality (AR) has the potential to improve Islamic Religious Education instruction in primary schools by giving pupils a more relevant, dynamic, and engaging learning experience (Çetin, 2022; Lozada-Yáñez et al., 2019; Morales & Garcia, 2018). As is the case with materials regarding prayer teaching (Khairuldin et al., 2019), praying (Anggara & Fahlevi, 2021; Murhayati et al., 2019), and the Hajj

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and Umrah (Senoaji et al., 2020), students can observe and interact with digital features overlaid on top of actual items using augmented reality (AR).

The purpose of this study is to investigate how Augmented Reality (AR) technology could be used to enhance understanding of Islamic pillar materials.

## 2 Literature Review

In an effort to blur the lines between the actual world and the computer-generated virtual world, augmented reality incorporates both. According to Chafied's research, "Augmented Reality," or AR for short, is not a brand-new technology. Since the initial Virtual Reality (VR) applications were introduced, this technology has been in use for over 40 years. The hardware component was the focus of technical study at the time.

With the use of augmented reality technology, two- or three-dimensional virtual things may be combined to create the appearance of actual objects in the physical environment. Through the use of 3D animation, this technology integrates aspects of the real and virtual worlds to enable interaction in the physical world (Azuma, 1997). Another definition of augmented reality (AR) is a technology that immediately presents 2D or 3D virtual things in a real-world setting. Technology that uses the augmented reality notion has the following features can:

1. bring the actual and virtual worlds together;
2. immediately and interactively display information; and
3. show 3D virtual items.

The benefits of this technology include allowing for activities that are hard to do in the actual world, extending the user's perspective of an object, and offering a three-dimensional viewing experience. Additionally, this technology allows users to use different devices based on their availability and needs. According to WDE Ossy (2016), the technology's drawbacks include relatively expensive prices, particularly for achieving ideal resolution, complicated object management, and insufficient bandwidth to allow remote resource sharing techniques.

One definition of augmented reality is a technology that combines virtual and real-world aspects. To put it another way, Augmented Reality (AR) projects three-dimensional items into the actual world as videos or pictures. By making abstract ideas easier to visualize, augmented reality technology can improve comprehension of an object's structure (Nabila Alfitriani, 2021).

Islamic Religious Education (PAI) plays a crucial role in forming students' values, religious knowledge, and character from a young age. The Pillars of Islam, which serve as the cornerstone for all Muslims, are among the fundamental resources of PAI. In order for primary school pupils to use the five pillars in their everyday lives, it is crucial that they comprehend them thoroughly (Suyadi, 2017).

Children in elementary school primarily prefer solid objects and have active, visual learning styles. When a topic is provided in the form of eye-catching images, animations, or movies, it is simpler for them to grasp. Thus, it is necessary to apply learning techniques that are in line with the characteristics of the students, and using audio-visual media is one such strategy (Arsyad, 2019).

The use of audio-visual materials in PAI instruction has been demonstrated in several prior studies to be successful in raising students' learning outcomes and comprehension of religious ideas. When content is presented in an engaging and dynamic way, students become more engaged, actively discuss it, and retain it more readily (Fitria, 2021).

## 3 Research Methods

The study using a qualitative approach, Researchers can examine social and organizational characteristics, individual actions, and their significance in detail using qualitative research (Mengist et al., 2020). The systematic literature review (SLR) is used in the study (Mengist et al., 2020). By using the preferred reporting items for systematic reviews (Page et al., 2021) for identification, screening, eligibility, and inclusion (Mengist et al., 2020; Putri Sayekti, 2022), this article examines the potential of Augmented Reality (AR) technology as a digital-based Islamic education learning innovation in Islamic pillar materials.

The Google Scholar databases were used to gather the article findings. According to preliminary investigation, there is a highly complicated pattern of correlations with the possible use of Augmented Reality (AR) technology as a digitally based Islamic education learning innovation in Islamic pillar ma-

terial on Indonesia. Following screening and eligibility evaluation, the chosen papers were acquired for the data analysis phase. From the title to the end, the topics are read.

## 4 Results and Discussion

Over the past several years, Indonesia has seen a considerable development in the potential of Augmented Reality (AR) in Islamic Religious Education instruction. Students' learning experiences are enhanced by AR, which offers an interactive and captivating method to learning (Maisaroh et al., 2021; Mundir & Umiarso, 2022; Sari, 2022; Wahyuni, 2022). Researchers discovered the usage of augmented reality to study Islamic Religious Education in Islamic pillar materials in Indonesia, as shown in Table 1, after conducting a thorough literature assessment of many studies.

Tabel 9. The potential in the Utilization of Augmented Reality in Islamic Education Learning in Indonesia from 2018–2024

Temuan	Sumber
Interpretasi al-Qur'an	(Rizki, Febi Akbar, et al., 2024)
Metaverse Haji Umroh	(Indrabayu et al., 2022)
Huruf Hijaiyyah	(Jumarlis, 2018; Salsabila et al., 2023)
Doa	(Arthana & Ismail, 2019; Cut Citra Novita et al., 2022; Maisaroh et al., 2021; Mundir & Umiarso, 2022)
Ilmu Tajwid	(Sari, 2022)
Wudlu	(Yakub & Fadli, 2021)
Wisata Religi	(Ali et al., 2022; Kusumaningsih et al., 2018)

The potential of using augmented reality to teach Islamic Religious Education on Islamic pillar material in Indonesia is still quite limited, according to the 2018–2024 literature review. Examples of these include the introduction of hijaiyyah letters, religious tourism, tajweed science, the metaverse of Hajj Umrah, the recitation of daily prayers, and an introduction to wudhu procedures.

AR may help students learn Islamic Religious Education by presenting content that is hard to envision in real life and assisting them in developing a deeper understanding of religious principles. For instance, students can view and engage with digital representations of sacred locations in the metaverse world, such the Prophet's Mosque or the Grand Mosque, using augmented reality (Indrabayu et al., 2022). They can discover more about these locations' religious customs, history, and architecture. Students' knowledge of Islam will be enhanced and an immersive experience will be offered.

AR may also be used to teach pupils the letters of hijaiyyah, the Quran, and hadith. (Sari, 2022; Jumarlis, 2018). Students can better comprehend the structure and context of Quranic and hadith texts by using AR software to present them in three dimensions. They can get a more profound comprehension of the significance and teachings included in these holy writings.

Students who use augmented reality (AR) in Islamic education to learn about Islamic pillars are likely to become more interested in and appreciative of their faith. Students can be encouraged to learn more enthusiastically by using this technology to create an enjoyable, engaging, and stimulating learning environment. This supports Rusydiyah's assertion that pupils' interest in reading would be cultivated via innovative and creative learning. (Rusydiyah, 2020). Furthermore, AR can assist get around time and location constraints in religious education, giving students more flexible access to religious resources.

To fully reap the educational benefits of new technologies, a number of obstacles must be addressed. Lack of access to infrastructure and technology is one of the biggest problems, particularly in rural and impoverished regions. (Salsabila, 2023; Inayah et al., 2022). Because they have to pay less for tools and have less access to internet networks, educational institutions in rural or outlying locations find it challenging to use AR. These two factors are also the main components of using AR.

The absence of article literature that looks at the use of AR in studying Islamic Religious Education is evidence that these difficulties make the use of AR in Islamic pillar material in Indonesia less than ideal. Due to this circumstance, students are only given a small selection of AR-based Islamic pillar learning resources.

The ability of teachers to grasp the new technologies of the digital age, such as augmented reality in education, is another difficulty. Therefore, in order to employ AR as teaching tools, educators need to be taught in its application (Inayah et al., 2022).

Through augmented reality, students may "bring to life" tangible artifacts, such as historical treasures or ancient manuscripts, and learn more about their provenance, significance, and historical setting. Pupils can experience what it was like to be in the historical setting where the objects were first utilized or associated with significant religious events.

AR can enable students to communicate and engage in the same virtual world, fostering chances for debate, discussion, and understanding sharing on particular religious issues in the framework of religious education that places a high value on interaction and teamwork.

## 5 Conclusion

The potential of using augmented reality to learn Islamic Religious Education in Islamic pillar material on Indonesia, such as the Hajj Umrah metaverse, tajweed science, daily prayer readings, introduction to hijaiyyah letters, religious tourism, and the introduction of ablution procedures, is still relatively limited, according to a literature review conducted between 2018 and 2024. This may indicate the need for further study to be done on Islamic religious education in Indonesia. Significant outcomes have been obtained when using augmented reality to teach Islamic Religious Education in Indonesian Islamic pillar materials. AR technology offers an engaging, enjoyable method of instruction, enhances the educational experience for students, and establishes an immersive learning environment for Islamic education in Indonesia.

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