



The Effect Of Augmented Reality On Motivation And Learning Outcomes In Fiqh At Madrasah Ibtidaiyah

Fatimah Citra Handayani^{1✉}, Nur Aisyah²

^{1,2} Nurul Jadid University, Probolinggo, Indonesia

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✉ Correspondence

citrahandayani25@gmail.com

Abstract:

This study aims to determine the extent of the influence of the use of Augmented Reality (AR) media on students' learning motivation in the subject of Islamic Jurisprudence (Fiqh). One innovation in the world of education that is increasingly popular is AR media. This innovation is a digital technology that combines virtual elements, such as images, sounds, or data into the real world in real time through devices such as smartphones and tablets. In the world of education, AR is expected to provide a more engaging learning experience, especially for the digital generation who are accustomed to visual media. This study uses a quantitative method with a quasi-experimental approach that compares two groups, namely the control group and the experimental group. Data collection in this study was obtained from tests, questionnaires, and documentation. The population in this study were students at MI Darul Huda I Alasbuluh and MI Islamiyah Wongsorejo. Meanwhile, the research sample used a purposive sampling technique consisting of second-grade students at both madrasas. Data analysis was carried out using statistical tests on the results of the pretest, posttest, and learning motivation questionnaire. The results showed that the use of AR media had a significant effect on students' learning motivation. This is evidenced by a significance value of 0.018 at the first research location and 0.014 at the second research location, which is smaller than 0.05. In addition, the use of AR media also has a significant effect on student learning outcomes. At the first research location, a posttest significance value of 0.001 was obtained, while at the second research location it was <0.001. These results indicate that students who learn using AR media have better motivation and learning outcomes than students who learn using conventional methods. Thus, AR media has proven effective in increasing student learning motivation and learning outcomes in the subject of Fiqh and can be used as an alternative learning media that is innovative and in line with developments in educational technology.

INTRODUCTION

The advancement of digital technology has brought about significant changes in the world of education. This transformation has driven the adoption of various technological innovations as learning media capable of creating a more

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effective and engaging learning process that aligns with the characteristics of learners in the digital era. One rapidly developing innovation is Augmented Reality (AR)—a technology that integrates virtual objects, such as images, sounds, or digital information, into the real-world environment in real-time via devices like smartphones, tablets, or smart glasses (Tasyrif, 2025). In an educational context, AR facilitates a more interactive learning experience through 3D object visualization, making it easier for learners to grasp abstract concepts. The implementation of AR holds great potential for enhancing the quality of learning. By presenting material visually and interactively, learners not only gain a more engaging learning experience but also have the opportunity to understand the subject matter more deeply (Abdullah et al., 2024).

This potential is particularly relevant to Islamic Religious Education (PAI), specifically the subject of Fiqh which encompasses various conceptual topics and acts of worship that require visualization for better comprehension. The use of AR allows learners to observe simulations of worship procedures and religious concepts in a concrete manner, shifting the learning process away from a sole reliance on the teacher's verbal explanations. However, PAI instruction in many schools remains dominated by lecture-based methods and conventional learning media. This situation often results in monotonous lessons that fail to capture learners' attention. Romadan (2023) notes that PAI instruction lacking media innovation tends to cause boredom, thereby reducing learner engagement in the learning process. Yet, the study of Fiqh demands not only theoretical mastery but also an understanding of practices applicable to daily life. Consequently, there is a need for learning media capable of presenting material in a manner that is contextual, engaging, and aligned with technological advancements (Hartati, 2025). A lack of variety in learning media also contributes to low learner motivation. Learning motivation is a crucial factor influencing learning success, as it determines students' levels of attention, active participation, and perseverance throughout the learning process.

Rahmawati (2018) explains that limited instructional media contributes to low learning motivation, which in turn affects learning outcomes. Consequently, the use of technology based instructional media such as Augmented Reality (AR) is viewed as a potential alternative to boost both student motivation and learning outcomes in the subject of Fiqh. Various prior studies have demonstrated the effectiveness of AR in education. Melani and Cunandar (2025) proved that AR usage significantly improved primary school students' learning outcomes in the IPAS (Natural and Social Sciences) subject compared to pre-implementation levels. Bara et al. (2025) also found AR effective in enhancing learning outcomes, conceptual retention, and student engagement in Science (IPA) lessons. Meanwhile, Saputra et al. (2025) showed that integrating AR into project-based learning fostered both creativity and conceptual understanding among students. Research by Dewi et al. (2024) revealed that AR usage facilitated by the visualization of three dimensional objects yielded superior learning outcomes compared to conventional instruction. Furthermore, Thoha and Prasetya (2024) demonstrated the effectiveness of AR media in enhancing critical thinking skills and creativity among vocational high school students. These findings consistently indicate that AR positively impacts the quality of both the learning process and outcomes across various subjects. However, existing research has largely focused

on single outcome variables such as academic achievement, creativity, or critical thinking and has predominantly centered on subjects like IPAS, Science (IPA), and vocational education. Studies regarding AR implementation in Fiqh instruction remain relatively limited, particularly those examining its simultaneous impact on learning motivation and learning outcomes. Given that learning motivation is a pivotal factor in achieving optimal academic results, it is essential to investigate this aspect alongside the implementation of technology-based instructional media. Based on this context, the researcher.

RESEARCH METHOD

This study employs a quantitative approach using a quasi-experimental research method to examine the effect of using Augmented Reality (AR) media on students' learning motivation and learning outcomes in the subject of Fiqh. The research design applied is the Nonequivalent Control Group Design, involving two groups an experimental group and a control group without subject randomization. Both groups underwent a pretest prior to the intervention and a posttest afterward. The experimental group received instruction using AR media, while the control group received instruction using conventional media. The difference between pretest and posttest scores in both groups was used to determine the impact of AR media usage on students' motivation and learning outcomes. The study was conducted at Madrasah Ibtidaiyah Darul Huda Alasbuluh, Wongsorejo, Banyuwangi and Madrasah Ibtidaiyah Islamiyah Sidodadi, Bajulmati, Banyuwangi. The research population comprised all second grade students at both madrasahs. The sample was selected using a purposive sampling technique, taking into account the suitability of the learning material being studied.

The sample consisted of Class IIA as the control group and Class IIB as the experimental group at each school. The independent variable in this study is the use of AR media, while the dependent variables are students' learning motivation and learning outcomes. Data were collected using two types of instruments: a learning motivation questionnaire and a learning achievement test. The questionnaire measured students' learning motivation levels, while the test measured achievement regarding the Fiqh material. Data collection involved administering a pretest before the intervention and a posttest after the intervention for both research groups. Prior to use in the study, all instruments underwent validity and reliability testing. Validity testing was conducted on 15 pretest-posttest items and 10 questionnaire statement items using respondents from MI Al-Mufidah, who shared similar characteristics with the research population. The test results indicated that all instrument items met the validity criteria and were thus suitable for use in the study. Subsequently, reliability testing was conducted using the Cronbach's Alpha coefficient. Test results yielded Cronbach's Alpha values of 0.780 for the pretest instrument, 0.806 for the posttest instrument, and 0.760 for the motivation questionnaire.

As all values exceeded the minimum threshold of 0.70, the instruments were deemed to possess a good level of reliability. Data analysis was conducted in stages using IBM SPSS software. The initial stage involved descriptive statistical analysis to characterize the research data. Subsequently, prerequisite tests specifically normality and homogeneity tests were performed. Once all prerequisites were met, hypothesis testing was carried out using an Independent

Sample t-test to determine differences in learning outcomes and learning motivation between the experimental and control groups. Additionally, Multivariate Analysis of Variance (MANOVA) was employed at a 5% significance level ($\alpha = 0.05$) to assess the simultaneous effect of using AR media on learning motivation and learning outcomes. The research procedure began with the development of research instruments, followed by validity and reliability testing. Once the instruments were deemed suitable, both groups took a pretest to assess the students' initial proficiency. The experimental group then underwent instruction using Augmented Reality media, while the control group received conventional instruction. Following the completion of the interventions, both groups took a posttest and completed a learning motivation questionnaire. All obtained data were subsequently analyzed using statistical techniques to test the research hypotheses.

FINDINGS AND DISCUSSION

Based on the results of research conducted at MI Darul Huda Alasbuluh and MI Islamiyah Wongsorejo, it was found that the use of Augmented Reality (AR) media had an impact on student learning motivation and learning outcomes in Fiqh subjects, especially prayer material. The study was conducted by comparing the experimental class that received learning using AR media with the control class that followed learning without using AR media. At MI Darul Huda Alasbuluh, the average pretest score of the control class was 50.00, while the experimental class was 47.50. The results of the Independent Samples t-Test showed a significance value of 0.374, greater than 0.05. This indicates that there was no significant difference in initial abilities between the control class and the experimental class. Thus, both groups had relatively equal initial abilities before being given treatment. After the learning was carried out, the average posttest score of the control class increased to 77.69, while the average posttest score of the experimental class increased to 87.50.

The results of the hypothesis test showed a significance value of 0.003 in the posttest data, which is smaller than 0.05. Thus, there is a significant difference in learning outcomes between the experimental class and the control class after the learning was given. At MI Islamiyah Wongsorejo, the average pretest score of the control class was 42.53 and the experimental class was 47.33. The results of the hypothesis test showed a significance value of 0.201, greater than 0.05. This means that there was no significant difference in initial abilities between the two groups before the treatment was given. After the treatment, the average posttest score of the control class was 72.00, while the experimental class reached 89.67. In the experimental class, the posttest score was in the range of 75–100 with an average of 89.67. This improvement indicates a change in learning outcomes for the better after students received learning using AR media. The next finding is related to learning motivation. At MI Darul Huda, the average motivation of the control class was 35.15, while the experimental class was 34.17. Although descriptively there are variations in motivation scores, the results of the hypothesis test show a significance value of 0.024, so there is a significant difference between the two groups. At MI Islamiyah, the average motivation of the control class was 34.60, while the experimental class was 35.20. The results of

the Independent Samples t-Test show a significance value of 0.014. Because this value is smaller than 0.05, there is a significant difference in learning motivation between students in the experimental and control classes. Overall, the research findings indicate that the use of AR media has a significant influence on student learning motivation and learning outcomes. Students who received learning with AR media showed better engagement, attention, enthusiasm, curiosity, and understanding of the material. AR media also helps students understand prayer material through three-dimensional visualization, especially in understanding the sequence of movements, pillars, and prayer readings.

The Effect of Using Augmented Reality on Students' Learning Motivation in Fiqh Subjects

The research results show that the use of Augmented Reality (AR) media significantly impacts students' learning motivation in Fiqh. This is evident in the difference in learning motivation between the experimental class using AR media and the control class not using it. At MI Darul Huda Alasbuluh, the hypothesis test results obtained a significance value of 0.024. Meanwhile, at MI Islamiyah Wongsorejo, the significance value was 0.014. Both values were less than 0.05, so the null hypothesis was rejected and the alternative hypothesis was accepted. Thus, the use of AR media has been proven to have a significant impact on student learning motivation. This influence can be understood through the characteristics of AR media, which can present learning objects in interactive three-dimensional visual forms. In Islamic jurisprudence (Fiqh), particularly on prayer, students not only listen to teacher explanations or read textbooks, but also observe visualizations of the material in a more concrete way.

This makes the learning process more engaging and provides a different learning experience than conventional learning. These findings were also evident during the learning process. Students in the experimental class demonstrated greater enthusiasm, were more active in participating in learning activities, paid more attention to teacher explanations, and demonstrated curiosity about the material being studied. This demonstrates that AR serves not only as a medium for conveying information but also as a learning environment that encourages student engagement. The findings of this study align with Edward L. Deci et al.'s motivational theory, which places student interest, engagement, and drive as crucial components of the learning process. From this perspective, effective learning is determined not only by the achievement of final results but also by the active involvement of students throughout the learning process. Thus, the use of AR in Fiqh learning can create a more engaging learning stimulus for students. Concrete and interactive visualizations help reduce boredom and encourage student engagement. This demonstrates that utilizing AR technology can be an alternative way to improve the quality of students' learning experiences.

The Effect of Using Augmented Reality on Students' Learning Outcomes in Fiqh Subjects

The results of the study showed that the use of AR media significantly impacted student learning outcomes in Fiqh. This was evident in the increase in average learning outcomes in the experimental class after receiving AR media treatment, as well as a significant difference between the experimental and

control classes. At MI Darul Huda, the average score of the experimental class increased from 47.50 in the pretest to 87.50 in the posttest. Meanwhile, the control class's score increased from 50.00 to 77.69. The Independent Samples t-Test result for the posttest yielded a significance value of 0.003, indicating a significant difference between the two groups. At MI Islamiyah, the average score of the experimental class increased from 47.33 in the pretest to 89.67 in the posttest. Conversely, the score of the control class increased from 42.53 to 72.00.

These data indicate that the average increase in learning outcomes in the experimental class was higher than in the control class. These differences demonstrate that AR media contributes to the understanding of Islamic jurisprudence (Fiqh). Prayer material has characteristics that require students to understand the sequence of movements, pillars, and prayer recitations. Through AR, this material can be visualized, providing students with a more concrete understanding. In this study, students in the experimental class appeared more active, more focused, and exhibited a greater sense of curiosity. These conditions made it easier for them to understand and practice the material they were learning. In contrast, students in the control class tended to be more passive and exhibited lower levels of curiosity.

This finding aligns with Lorin W. Anderson's learning outcome theory, which emphasizes that learning success is related not only to memorization but also to the ability to understand and apply knowledge. The use of AR provides students with the opportunity to see the material in concrete terms, allowing them to not only memorize the pillars and prayer recitations but also understand the relationship between the material and its practical application. Thus, the improved learning outcomes in this study can be understood as the result of a more concrete, visual, and interactive learning experience. AR helps transform previously abstract material into something students can directly observe.

The Effect of Using Augmented Reality on Motivation and Learning Outcomes Simultaneously

Further research findings indicate that the use of AR simultaneously impacts student motivation and learning outcomes. This influence is evident in the consistency of the results across both research locations, namely the differences between the experimental and control classes after the treatment was administered. The use of AR not only provides a visual experience for students but also creates a more engaging, interactive, and enjoyable learning environment. When students are engaged with the media used, they become more active in paying attention, participating in activities, and striving to understand the material. This in turn supports the achievement of better learning outcomes. In other words, learning motivation and learning outcomes in this study are related to the learning process. Increased motivation can encourage students to be more active in learning, while this active engagement provides greater opportunities for students to understand the material.

Therefore, the use of AR impacts not only the cognitive aspects but also the psychological aspects of students in the learning process. These findings reinforce previous research showing that AR can improve learning outcomes, as well as student motivation and engagement. The visualizations provided through AR make it easier for students to understand material that is difficult to visualize

using conventional methods. Overall, the research results show that AR can be an effective learning medium for Islamic jurisprudence (Fiqh). This medium helps students gain more concrete learning experiences, increases interest and engagement during learning, and facilitates better understanding and application of prayer material. Therefore, AR can be considered as an innovative medium for Islamic jurisprudence (Fiqh) learning at the elementary madrasah level.

CONCLUSION

Based on the results of research on the effect of using Augmented Reality media on students' motivation and learning outcomes in the Fiqh subject, it can be concluded that the use of Augmented Reality has a significant influence on students' motivation and learning outcomes. The results of the study show that students who participate in learning using Augmented Reality media experience increased learning motivation characterized by increased interest and attraction, willingness to participate in learning, acceptance and understanding of learning objectives, and a sense of capability and self-confidence. In addition, the learning outcomes of students in the group using Augmented Reality show a higher increase compared to the group that participates in learning without using the media. The use of Augmented Reality allows Fiqh material, especially prayer material, to be presented in a more visual, concrete, and interactive manner so that students not only receive verbal explanations, but also gain a more interesting learning experience and help them understand the material better. This increased motivation also supports student engagement during the learning process, thus contributing to the achievement of more optimal learning outcomes. Thus, Augmented Reality can be used as an alternative, innovative learning medium in Islamic jurisprudence (Fiqh) teaching because it integrates visual, interactive, and experiential elements, which can boost student motivation and improve learning outcomes. Using this medium can also be a way for teachers to create more engaging, active, and technologically advanced learning experiences.

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