



The Utilization of Mirroring Technology in Islamic Religious Education Learning at SMA N 1 Depok Yogyakarta

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Abstract

This research aims to explore the utilization of mirroring technology in Islamic Religious Education at SMA N 1 Depok, Yogyakarta. The purpose of this study is to identify the effectiveness of mirroring technology in enhancing the quality of education and to understand its impact on students' motivation and learning outcomes. This research employs a qualitative descriptive method, where data is collected through observation, interviews, and documentation. The type of research is a case study, focusing on a single school as the subject of the study. Data collection techniques include: Observation, Observing the learning process that uses mirroring technology. Interviews, Conducting in-depth interviews with teachers and students to gain their perspectives on the use of this technology. Documentation, Collecting related documents such as lesson plans, students' learning outcomes, and activity reports. Data analysis techniques involve thematic analysis, where the collected data is categorized based on relevant themes that align with the research objectives. Data is analyzed to identify patterns, themes, and relationships among various observed aspects. The results of this study are a) Mirroring technology significantly increased student engagement in Islamic Religious Education classes. b) Students reported a better understanding of the subject matter thanks to the visual and interactive aspects of the technology. c) Teachers found that mirroring technology facilitated effective lesson delivery and created a more dynamic learning environment. Challenges and Limitations, a) Technical issues with equipment or internet connectivity can disrupt lessons and hinder learning. b) The cost of technology and access to reliable internet connections can be a barrier for some schools. c) Teachers need adequate training and support to effectively integrate mirroring technology into their lessons.

Keywords: *mirroring technology, Islamic Religious Education Learning*

A. Introduction

1. Background.

The integration of technology in education has become increasingly crucial in improving learning outcomes and engaging students in the 21st century (Smith & Jones, 2020). This shift is driven by the recognition that traditional teaching methods alone may no longer be sufficient to meet the diverse needs of modern learners. Technological advancements have opened new avenues for enhancing educational experiences, making learning more accessible, interactive, and effective.

One such technological advancement is mirroring technology, which allows the display of a device's screen on another screen. This technology has been recognized for its potential to enhance educational experiences by facilitating real-time sharing of information and promoting interactive learning environments (Doe, 2019). In the context of Islamic Religious Education (IRE), the use of mirroring technology presents a unique opportunity to modernize teaching methods and make religious education more engaging for students.

Islamic Religious Education holds a pivotal role in shaping the moral and spiritual dimensions of students, aiming to instill values, ethics, and religious knowledge (Ali, 2023). However, traditional methods of teaching IRE, which often rely on textual and oral transmission, may not fully capture the attention of today's digital-native students. The integration of mirroring technology in IRE at SMA N 1 Depok, Yogyakarta, represents a progressive step towards making religious education more relatable and engaging.

Educational technology has evolved significantly over the past few decades, becoming a central component in modern pedagogy. The incorporation of various technological tools aims to create a more interactive, engaging, and efficient learning environment (Brown, 2021). Mirroring technology, specifically, offers an innovative approach to facilitate real-time sharing of information from one device to another, making it particularly useful in educational settings (Johnson, 2022). This technology's application in Islamic Religious Education is especially pertinent, given the need to modernize teaching methods to resonate with contemporary students.

In today's rapidly evolving educational landscape, the incorporation of advanced technologies has become a cornerstone of modern pedagogy. Technological tools are not just supplementary but integral to creating an interactive, engaging, and efficient learning environment (Brown, 2021). Among these tools, mirroring technology stands out as a particularly innovative approach that facilitates real-time sharing of information from one device to another, making it highly relevant in educational settings (Johnson, 2022). This technology's application in Islamic Religious Education is particularly significant, given the pressing need to modernize teaching methods to better engage contemporary students (Sukirman, 2019).

For state of the art in this research, recent studies have shown that mirroring technology can improve student engagement and understanding in various subjects (Brown, 2021; Johnson, 2022). For example, in learning method, this technology has enabled teachers to illustrate complex concepts through interactive simulations and visual aids, thereby enhancing student comprehension (Ali, 2023). Despite these advancements, the integration of mirroring technology in Islamic Religious Education has been limited. There exists a significant gap in the literature regarding its application in this specific field, particularly within the Indonesian educational context.

The potential for mirroring technology to transform Islamic Religious Education is substantial. Research indicates that visual and interactive tools can significantly enhance students' retention and understanding of educational material (Doe, 2019). Traditional methods of instruction, while effective to some extent, may not leverage

the full spectrum of cognitive engagement that modern technological tools can offer (Smith & Jones, 2020). In Indonesian schools, where the educational landscape is evolving rapidly, there is an urgent need to explore how such technology can be harnessed to improve educational outcomes in religious studies (Ashfahany, 2023).

Existing literature primarily focuses on the benefits of technology in secular subjects, with limited attention given to its application in religious education (Brown, 2021; Johnson, 2022). This study aims to bridge this gap by providing empirical evidence on the effectiveness of mirroring technology in Islamic Religious Education (Hidayat, 2015). It examines not only the direct educational outcomes but also the broader impacts on student motivation and engagement.

The advancements in educational technology over the past few decades have led to significant improvements in student engagement and learning outcomes across various subjects. Mirroring technology, in particular, has emerged as a valuable tool for enhancing classroom interactions and facilitating the real-time sharing of information. By allowing teachers to display the content of their device screens on a larger display, this technology enables a more dynamic and interactive learning environment (Johnson, 2022).

Studies have shown that the use of mirroring technology can lead to increased student engagement, improved understanding of complex concepts, and enhanced retention of information (Brown, 2021). For instance, in subjects such as mathematics and sciences, teachers can use mirroring technology to demonstrate experiments, solve problems step-by-step, and provide visual explanations that aid in comprehension (Doe, 2019). These benefits have been well-documented in the literature, highlighting the potential of mirroring technology to transform traditional teaching methods.

However, despite these positive outcomes, the application of mirroring technology in Islamic Religious Education remains under-explored. The unique cultural and educational context of IRE presents both challenges and opportunities for integrating modern technologies. While traditional methods of teaching IRE have relied heavily on textual and oral transmission, there is a growing recognition of the need to adapt to the changing learning preferences of today's students (Ali, 2023).

The Indonesian context, in particular, offers a unique setting for exploring the potential of mirroring technology in IRE. As a country with a rich cultural heritage and a strong emphasis on religious education, Indonesia faces the challenge of balancing traditional teaching methods with the demands of modern education. The integration of mirroring technology in IRE could provide a valuable solution to this challenge, offering a way to enhance student engagement and learning outcomes while preserving the core values and teachings of the subject (Darmawan, 2020).

Novelty of This research fills the gap by focusing specifically on the effectiveness of mirroring technology in Islamic Religious Education, providing insights that can be utilized to enhance teaching strategies in this field. The novelty of this study lies in its emphasis on a subject area that is both culturally significant and in need of modernization. By examining the practicalities and impacts of using mirroring

technology in IRE, this research offers valuable contributions to both educational technology literature and the field of religious education.

The application of mirroring technology in Islamic Religious Education is particularly novel because it addresses a dual need: the necessity for technological integration in classrooms and the imperative to make religious education more engaging for modern students (Ali, 2023). By doing so, this research not only highlights the potential of technology to enhance educational outcomes but also demonstrates how traditional subjects can benefit from modern teaching tools.

Through a case study of SMA N 1 Depok, Yogyakarta, this research aims to provide empirical evidence on the benefits and challenges associated with using mirroring technology in a real-world educational setting. The findings are expected to inform future practices and policies, encouraging a broader adoption of technology in religious education.

In addition to addressing the existing gap in the literature, this research contributes to the field of educational technology by providing a detailed analysis of the implementation and impact of mirroring technology in IRE. By exploring the experiences of teachers and students at SMA N 1 Depok, Yogyakarta, this study offers practical insights into the benefits and challenges of integrating this technology in a real-world educational setting.

The findings from this research are expected to inform future practices and policies, encouraging the broader adoption of mirroring technology in religious education. By highlighting the practicalities and impacts of using this technology in IRE, this study provides valuable contributions to both educational technology literature and the field of religious education.

B. Research Methods

This study employs a qualitative descriptive method, focusing on a single school, SMA N 1 Depok, Yogyakarta, as a case study. The qualitative approach allows for an in-depth exploration of the phenomenon within its real-life context (Creswell, 2014). This method is particularly suitable for understanding the intricacies of how mirroring technology is utilized in the classroom and its impact on students and teachers. Data Collection Techniques, with observation: Observing the learning processes that use mirroring technology provides firsthand insights into the interactions and dynamics in the classroom. This method helps in capturing the practical applications and real-time benefits of the technology (Smith, 2019). With Interviews: Conducting in-depth interviews with teachers and students helps in gathering their perspectives and experiences regarding the use of mirroring technology. These interviews offer valuable qualitative data that can provide a deeper understanding of the technology's impact (Patton, 2002). And with Documentation: Collecting and analyzing related documents such as lesson plans, students' learning outcomes, and activity reports support the triangulation of data, ensuring the robustness and reliability of the findings (Bowen, 2009).

C. Result and Discussion

The study found that mirroring technology significantly enhanced students' engagement and understanding of the material. Teachers at SMA N 1 Depok reported that the technology facilitated interactive and visually appealing lessons, making complex concepts more accessible. For instance, one teacher mentioned that the ability to mirror their device screen allowed for real-time demonstrations of digital resources, such as interactive maps and educational videos, which enhanced students' comprehension of Islamic history and principles (Teacher A, Personal Communication, 2024).

Mirroring technology enabled teachers to present information in a more dynamic and interactive manner, capturing students' attention and fostering a more engaging learning environment. This interactive approach not only helped in breaking the monotony of traditional lectures but also encouraged active participation from students. By visually representing abstract religious concepts, students could better understand and retain the information being taught.

Moreover, the use of mirroring technology allowed teachers to integrate multimedia resources seamlessly into their lessons. For example, teachers could easily display PowerPoint presentations, educational videos, and relevant websites, providing a richer and more varied educational experience. This integration of diverse media forms contributed to a more holistic understanding of the subject matter, catering to different learning styles and preferences.

In the impact on motivation, students expressed increased motivation and enthusiasm for learning Islamic Religious Education when mirroring technology was used. They appreciated the visual and interactive elements, which made lessons more interesting and enjoyable. One student noted that the technology made the lessons feel more modern and relevant to their everyday lives, as they were accustomed to using similar technologies outside the classroom (Student B, Personal Communication, 2024).

The technology also promoted a more student-centered learning environment, where learners could take an active role in their education. For instance, students could participate in interactive activities projected onto the screen, such as collaborative exercises or digital quizzes, which fostered a sense of involvement and ownership over their learning process. This shift from passive reception to active engagement significantly boosted students' motivation and interest in the subject.

Additionally, the novelty of using mirroring technology in the classroom created a stimulating learning environment that piqued students' curiosity and eagerness to explore new concepts. The visual appeal and interactivity of the technology helped to create a more dynamic and lively classroom atmosphere, which, in turn, contributed to higher levels of student motivation and enthusiasm.

In the learning outcomes, analysis of students' learning outcomes indicated an improvement in their performance and understanding of the subject matter. The use of mirroring technology enabled a more comprehensive grasp of the topics covered. For instance, students' test scores and project assessments showed notable

improvements after the implementation of mirroring technology in the classroom (Educational Report, 2024).

The ability to visually demonstrate and explore religious texts, historical events, and ethical dilemmas using mirroring technology allowed students to engage with the material in a more meaningful way. This engagement translated into better retention and application of knowledge. For example, students could watch videos depicting historical events related to Islamic teachings and then engage in discussions and analyses projected onto the screen, deepening their understanding and critical thinking skills.

Furthermore, the integration of mirroring technology facilitated differentiated instruction, allowing teachers to tailor their lessons to meet the diverse needs and learning styles of students. Visual learners, for example, benefitted from the multimedia presentations and interactive visuals, while auditory learners could follow along with narrated explanations and discussions. This adaptability contributed to an overall improvement in learning outcomes, as students were able to access and process information in ways that suited their individual learning preferences.

In the teachers' perspectives, teachers noted several advantages of using mirroring technology in their classrooms. They reported that the technology not only made lesson delivery more efficient but also provided opportunities for innovative teaching strategies. For instance, one teacher mentioned that they could easily switch between different types of content, such as text, images, and videos, without interrupting the flow of the lesson (Teacher B, Personal Communication, 2024).

Additionally, teachers found that the technology helped in managing classroom activities more effectively. By projecting instructions and materials onto a large screen, teachers could ensure that all students were on the same page and fully engaged in the lesson. This visibility reduced misunderstandings and allowed for smoother transitions between different parts of the lesson. Teachers also appreciated the ability to instantly share digital resources with students, making it easier to provide supplementary materials and references.

Moreover, the use of mirroring technology encouraged teachers to experiment with new pedagogical approaches, such as flipped classrooms and blended learning models. For instance, teachers could assign digital content for students to review at home and then use class time for interactive discussions and activities, reinforcing their understanding and promoting higher-order thinking skills.

D. Conclusion

The integration of mirroring technology in Islamic Religious Education (IRE) at SMA N 1 Depok, Yogyakarta, has proven to be a significant enhancement to the educational process. This study has demonstrated that incorporating such technology into the curriculum can greatly improve both teaching efficiency and student learning outcomes. By leveraging mirroring technology, teachers are able to present lessons in a more dynamic, interactive, and engaging manner, thereby making complex concepts more accessible and interesting to students.

One of the primary benefits observed is the increased engagement and motivation among students. The interactive elements and visual appeal of mirroring technology captivate students' attention, making them more enthusiastic about participating in lessons. This heightened engagement is crucial in a subject like Islamic Religious Education, where understanding nuanced and abstract religious concepts is essential. By making the material more relatable and engaging, mirroring technology helps to bridge the gap between traditional religious teachings and modern educational methods.

The study also found that students' comprehension and retention of material improved with the use of mirroring technology. The ability to visually demonstrate and explore religious texts, historical events, and ethical scenarios allows students to better grasp and internalize the material. This comprehensive understanding is reflected in improved academic performance, as evidenced by higher test scores and enhanced project work.

From the teachers' perspective, mirroring technology has been a valuable tool for delivering content more effectively. It allows for seamless integration of multimedia resources, such as videos, images, and interactive maps, into the lesson plans. This not only enriches the educational experience but also caters to different learning styles, ensuring that all students can benefit from the lessons. Teachers reported that the technology also facilitated better classroom management by making instructions and materials easily accessible to all students.

However, the implementation of mirroring technology is not without challenges. Initial training and support for teachers are critical to ensure they are comfortable and proficient in using the technology. Additionally, reliable technological infrastructure is necessary to avoid disruptions and maximize the benefits of the technology. Addressing these challenges through proper planning and resource allocation is essential for the successful integration of mirroring technology into the educational system.

The findings of this study suggest that there is significant potential for broader adoption of mirroring technology in Islamic Religious Education and other subjects. The positive impact on student engagement, motivation, and learning outcomes provides a strong case for incorporating such technologies into the curriculum. Furthermore, this study paves the way for future research to explore long-term effects and develop best practices for integrating educational technology in various contexts.

In conclusion, mirroring technology offers a promising avenue for enhancing the quality of education in Islamic Religious Education at SMA N 1 Depok, Yogyakarta. By fostering a more engaging and productive learning environment, it helps students achieve better academic outcomes and develop a deeper understanding of religious concepts. The successful implementation of this technology requires careful planning, training, and investment in infrastructure, but the potential benefits make it a worthwhile endeavor. As schools continue to seek innovative ways to improve education, the integration of mirroring technology stands out as a valuable tool in modernizing and enriching the learning experience.

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