

Implementation of Technology-Integrated Islamic Religious Education Learning at Cahaya Khalifah Elementary School

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ABSTRACT

This study aims to understand how technology-integrated Islamic Religious Education (PAI) learning is implemented at Cahaya Khalifah Islamic Elementary School and how teachers, students, and school administrators adapt to the digital learning transformation. This research employed a qualitative approach using a case study method, as it allows for an in-depth exploration of learning practices in a real-world context. Data were collected through in-depth interviews, participant observation, and documentation analysis with PAI teachers, students, and the principal, selected using purposive sampling.

The results reveal three main themes in the implementation of technology-based PAI learning: (1) the integration of technology in lesson planning and implementation, which strengthens interactivity and understanding of Islamic values; (2) the shift in the role of teachers to facilitators who instill Islamic digital ethics; and (3) challenges in adapting to technology, which are addressed through training and collaboration between teachers. These findings demonstrate that technology functions not only as a learning aid but also as a medium for character development and religious values in the digital era.

This research contributes theoretically to strengthening the concept of digital Islamic pedagogy, which emphasizes the integration of spiritual values and technological literacy. The results of this study provide practical implications for elementary Islamic schools to strengthen teachers' digital competencies and develop learning policies oriented towards Islamic values.

1. Introduction

In the digital era and the Industrial Revolution 4.0, education faces significant challenges and opportunities in the learning process. Globally, there is pressure to make learning more interactive, adaptive, and relevant to technological developments, including in religious education. The integration of technology in religious learning is not only about using gadgets or online platforms but also involves transforming how teachers deliver material, how students learn, and fostering social/religious interactions through digital media. Research shows that integrating technology in Islamic Religious Education (PAI) can enhance learning motivation, increase the appeal of teaching media, and foster active student engagement in the religious learning process. Examples from several Islamic educational institutions demonstrate the use of multimedia, e-learning

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platforms, and interactive applications that significantly enhance the student learning experience. (Zahrah et al., 2025) (Andriyani et al., 2025)

In the Indonesian national context, the development of digital technology in the education sector has become a policy focus, exemplified by the Independent Curriculum and various programs to improve teachers' digital competencies. However, in elementary schools, particularly private Islamic ones like Cahaya Khalifah Islamic Elementary School, real challenges often arise: limited technological facilities and infrastructure, teachers' digital literacy readiness, and varying student access to gadgets and internet connections. Research at Muhammadiyah Elementary School in Bojonggede revealed that despite digital-based Islamic Religious Education (PAI) lesson planning, obstacles such as limited student devices, limited internet signal, and varying student characteristics in their use of digital media remain. (Tholkhah et al., 2022)

Furthermore, the study "Integration of Islamic Educational Technology to Improve Effective Learning in Elementary Schools" found that teacher readiness and student interest are two factors that significantly influence the success of technology integration. Teachers who are unfamiliar with or have not received adequate training tend to use technology superficially, while students with limited access demonstrate low participation in digital learning activities. (Andriyani et al., 2025) Meanwhile, at SDIT Mutiara, Pariaman City, the use of multimedia computers in Islamic Religious Education (PAI) learning has positive potential. Still, the evaluation of its implementation is often conducted solely by teachers and lacks a comprehensive structure. (Erina, 2022)

However, there is a gap in research that has not been widely addressed, particularly in qualitative studies exploring the subjective experiences of teachers and students in Islamic elementary schools when technology is integrated into Islamic Religious Education (ISE) learning. Many studies are descriptive: describing what is done and the obstacles encountered, rather than how teachers and students interpret these changes, how religious identity and teacher professionalism are affected, or how students perceive religious learning using digital media from a social or cultural perspective. The lack of studies specifically on technology integration in learning at Cahaya Khalifah Islamic Elementary School leaves the local context unexplored, for example, how school culture and community characteristics influence implementation.

This study aims to explore how technology-integrated ISE learning is implemented at Cahaya Khalifah Islamic Elementary School. It examines how teachers plan and implement ISE learning with the help of technology, the experiences (meaning, challenges, adaptations) of teachers and students, and how cultural and environmental factors influence the process. The focus of the study is directed at three main aspects: (1) technology integration strategies in learning activities, (2) teacher and student perceptions of technology-integrated learning, and (3) specific supporting and inhibiting factors in the context of Cahaya Khalifah Islamic Elementary School.

2. Literature Review

The integration of technology in Islamic Religious Education (PAI) can be understood through different theoretical perspectives, one of which is Technological Pedagogical Content Knowledge (TPACK). This model highlights the need for teachers to balance three main areas of knowledge: content, pedagogy, and technology. When these three are combined, the learning experience becomes richer, as teachers not only understand the essence of Islamic teachings but also present them using effective teaching strategies and technologies. (El Hiyaroh et al., 2022) In PAI, technology acts not only as a tool but also as a way to enhance understanding of religious values and foster interaction between teachers and students. A study shows that teachers proficient in TPACK are more successful in developing innovative and relevant PAI lessons. The implementation of TPACK in Islamic Religious Education enables teachers to create a more interactive and effective learning environment, increasing student engagement in the learning process. (Anggraini et al., 2024)

In addition to TPACK, the Diffusion of Innovations theory proposed by Everett Rogers provides an important perspective in understanding how technology is accepted and adopted in educational settings. This theory highlights five key factors influencing innovation adoption: relative advantage, compatibility, complexity, trialability, and observability. In the context of religious education, the application of technology will be more readily accepted if it is perceived as beneficial, aligned with Islamic values, easy to use, testable on a small scale, and capable of producing tangible results. (Hanifah Salsabila et al., 2023) The application of TPACK and the Diffusion of Innovation theory can help educators design more effective and relevant learning strategies in this digital era

Furthermore, the concept of value internalization and Bloom's taxonomy are relevant in enriching the pedagogical dimension of technology-based Islamic Religious Education (PAI) learning. Internalizing Islamic values emphasizes the importance of a learning process that focuses not only on cognitive understanding but also on the appreciation and practice of religious values. (Abdullah et al., 2024) Technology can be an effective medium for deepening this process through the use of videos, simulations, and interactive media that showcase the practice of Islamic values in real life. (Rini Susilowati et al., 2023) (Muslim, 2024) Meanwhile, Bloom's Taxonomy theory helps teachers design technology-based learning activities that encompass all levels of thinking, from understanding to creating. Recent studies have shown that digital technology enables students to analyze, evaluate, and create new ideas based on Islamic values, thus making the learning process more active and reflective. (Azizah, 2025) (Takrib, 2024)

Based on theoretical studies and empirical findings, the integration of technology in Islamic Religious Education (PAI) learning still faces various conceptual and practical challenges, particularly related to the subjective experiences of teachers and students. Although numerous studies have addressed aspects of perception, readiness, and quantitative impact on learning outcomes, (Andriyani et al., 2025) few studies have explored how religious values are internalized through digital learning and how teachers' religious and professional identities develop within this context. Therefore, this study combines TPACK and Diffusion of Innovation theories as the main framework, supported by the concept of value internalization and Bloom's taxonomy, to deeply analyze the experiences of teachers and students in implementing technology-based Islamic Religious Education (PAI) learning at Cahaya Khalifah Islamic Elementary School. This approach is expected to provide an empirical contribution to the development of technology integration theory in PAI while also offering a contextual model for improving the quality of religious learning in the digital era.

3. Methodology

This research uses a qualitative case study approach. The research location is Cahaya Khalifah Islamic Elementary School. Data collection techniques include: semi-structured interviews, participant observation, and documentation. Data analysis techniques include: data reduction, data presentation, and conclusion drawing/verification. Data validity is checked through member checking.

4. Results and Discussion

Cahaya Khalifah Islamic Elementary School in Palu is one of the elementary schools that has implemented 21st-century education, a form of student-centered learning. Teachers, in this case, act as facilitators, often assisting and guiding students in their learning. Furthermore, Cahaya Khalifah Islamic Elementary School has integrated learning with technology, as evidenced by the availability of projectors in each classroom, a computer laboratory to support learning, and Wi-Fi access throughout the school.

Based on in-depth interviews, participant observation, and document analysis, three main themes emerged that illustrate the implementation of technology-integrated Islamic Religious Education (PAI) learning at Cahaya Khalifah Islamic Elementary School:

1. Integration of technology in the planning and implementation of PAI learning

Islamic Religious Education (PAI) teachers at Cahaya Khalifah Islamic Elementary School demonstrated strong pedagogical awareness and competence in utilizing technology to support meaningful learning. Observations revealed that teachers utilized various digital media, including Google Classroom, ClassDojo, and interactive PowerPoint presentations. They also used other applications that support more enjoyable and effective learning, such as Quizizz/Wayground, Kahoot, Pandlet, and Wordwall. The use of these digital media encourages more visual, contextual, and interactive learning. Furthermore, lesson plans (RPP) and teaching materials demonstrate that teachers have aligned Islamic Religious Education (PAI) learning achievement indicators with students' digital literacy. This integration reflects the implementation of a blended learning model in the context of basic Islamic education.

2. Changing Teacher Roles and Student Participation in Digital Learning

Findings indicate a shift in the role of teachers from primary sources of knowledge to facilitators and spiritual guides. Teachers not only teach religious material but also instill ethical Islamic practices in technology use. Students play an active role in seeking information, creating presentations, and uploading religious reflections through the school's digital platform. This demonstrates the internalization of Islamic values through educational digital literacy. Learning has become more collaborative and contextual, in line with the digital native characteristics of 21st-century students.

3. Challenges and Strategies for Adapting to Technology

However, several challenges were also identified, including limited internet access in some classrooms and disparities in digital skills among teachers. However, the school is working to address these challenges through weekly in-house training, peer mentoring (KKG Internal), and mentoring through KKG PAI Cluster 13. These efforts demonstrate the institution's commitment to supporting teacher professional development and the sustainability of the PAI learning digitalization program in schools.

The findings of this study confirm that implementing technology-based Islamic Religious Education (PAI) learning at Cahaya Khalifah Islamic Elementary School is not just a media transformation but also a paradigm shift in Islamic education. The integration of technology not only increases learning effectiveness but also broadens the meaning of tarbiyah (Islamic education) as a process of moral and spiritual formation that is contextualized to current developments. The results of this study further emphasize the importance of continuous training and a collaborative culture among teachers as key factors in sustainable innovation.

Theoretically, this study enriches the study of digital Islamic pedagogy by demonstrating that technology can be a medium for fostering values and morality, not simply a tool for transferring knowledge. From the perspective of Vygotsky's social constructivism theory, integrating technology in Islamic Religious Education (PAI) learning enables meaningful social interactions that shape students' religious understanding through collaborative and contextual learning experiences. Meanwhile, from the perspective of Al-Attas's theory of knowledge integration, the use of technology focused on Islamic values demonstrates an effort to unify knowledge, faith, and good deeds in modern educational practices.

The practical implications of these findings include the need to enhance the digital literacy skills of Islamic Religious Education (PAI) teachers, grounded in Islamic values, and to strengthen school policies that support learning innovation. Furthermore, this research opens the door to exploring technology implementation models that are appropriate to the characteristics of elementary-aged students, particularly in the development of digital spirituality and morality.

Thus, this research provides empirical and theoretical contributions to strengthening the paradigm of digital Islamic education that is humanistic, adaptive, and rooted in religious values.

5. Conclusion

This research shows that technology-integrated Islamic Religious Education (PAI) learning at Cahaya Khalifah Islamic Elementary School represents an adaptation of Islamic education to the digital era. The use of technology not only aids in the delivery of material but also serves as a means of developing Islamic values and students' digital character. Through interactive media and online learning platforms, students become more active, creative, and develop a more contextual understanding of religious teachings.

The success of this technology-based learning implementation is supported by several key factors: teacher competence in digital literacy, school support in providing facilities and training, and student readiness to participate in digital learning. Teachers play a crucial role as facilitators, not only teaching but also guiding students in using technology wisely and in accordance with Islamic values.

However, this research also identified several challenges, such as limited internet access and differences in technological skills among teachers. Nevertheless, regular training and collaboration among teachers are effective strategies to overcome these obstacles. This demonstrates the school's commitment to implementing innovative and sustainable PAI learning.

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