Learning Media Innovation by Islamic Religious Education Teachers in Indonesian Elementary Schools: A Qualitative SWOT Analysis

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Abstract: This study investigates learning media innovation conducted by Islamic Religious Education teachers in Indonesian elementary schools through a qualitative SWOT analysis. The research aims to examine the forms of media innovation, their alignment with the school vision and mission, and their implications for learning quality. A qualitative case study design was employed at SD Muhammadiyah 1 Candi Sidoarjo. Participants consisted of the school principal (1), Islamic Religious Education teachers (2 teachers responsible for grades III and V), and students from grades III and V selected purposively to represent active classroom users of the media. Data were collected through semi-structured interviews, classroom observations, and document analysis. Data analysis followed Miles and Huberman's interactive model combined with SWOT analysis. Empirical findings show that teachers implemented four dominant types of media: digital presentations, audio-visual videos, concrete teaching aids, and self-developed contextual modules. Classroom observations revealed increased student participation, longer engagement duration, and improved task completion when interactive media were used. SWOT results identified strong institutional support and teacher creativity as key strengths, while limited digital devices and varying technological skills emerged as primary constraints. These findings demonstrate that systematic media innovation significantly enhances student engagement and differentiated religious learning practices.

Abstrak: Penelitian ini mengkaji inovasi media pembelajaran yang dilakukan oleh guru Pendidikan Agama Islam di sekolah dasar Indonesia melalui pendekatan analisis SWOT kualitatif. Tujuan penelitian adalah menganalisis bentuk inovasi media pembelajaran, kesesuaiannya dengan visi dan misi sekolah, serta implikasinya terhadap kualitas pembelajaran. Penelitian menggunakan desain studi kasus kualitatif di SD Muhammadiyah 1 Candi Sidoarjo. Partisipan penelitian meliputi kepala sekolah (1 orang), guru Pendidikan Agama Islam (2 orang yang mengajar kelas III dan kelas V), serta siswa kelas III dan V yang dipilih secara purposif sebagai pengguna utama media pembelajaran. Data dikumpulkan melalui wawancara semi-terstruktur, observasi kelas, dan analisis dokumen. Analisis data dilakukan menggunakan model interaktif Miles dan Huberman yang dipadukan dengan analisis SWOT. Temuan empiris menunjukkan bahwa guru menerapkan empat jenis media utama, yaitu media digital berbasis presentasi, video audio-visual, alat peraga konkret, dan modul pembelajaran kontekstual. Hasil observasi mengindikasikan peningkatan partisipasi siswa, interaksi kelas yang lebih aktif, serta pemahaman materi yang lebih baik ketika media inovatif digunakan. Analisis SWOT mengungkap dukungan kelembagaan dan kreativitas guru sebagai kekuatan utama, sementara keterbatasan perangkat dan variasi penguasaan teknologi menjadi kendala utama.

INTRODUCTION

The rapid advancement of information and communication technology has fundamentally transformed global education systems, including learning practices at the primary school level. Technology integration in education is no longer perceived merely as a supplementary component but has become a strategic instrument for enhancing the quality, effectiveness, and relevance of learning in accordance with the characteristics of twenty-first-century students (Chiu, 2022; Abedi, 2024; Dhingra et al., 2026). Contemporary learners tend to be more responsive to visual, multimedia, and interactive information than to conventional textual and one-way instructional approaches (Mohammadi Zenouzagh et al., 2023; Sofi-Karim et al., 2023; Piqriani et al., 2023). These changes have encouraged education systems worldwide, including Indonesia, to redesign learning processes that are more adaptive, innovative, and student centered.

In Indonesia, this transformation is manifested through the implementation of the Merdeka Curriculum, which emphasizes flexibility, differentiated learning, and the strengthening of competencies and character (Kusumawati et al., 2025; Zainuddin et al., 2025). Within this curriculum framework, the role of teachers has shifted from merely delivering content to designing contextual and meaningful learning experiences that accommodate diverse student characteristics (Bhardwaj et al., 2025; An & Zhang, 2024). Teachers are expected to actively contribute to the Merdeka Belajar platform and to develop learning practices that align with institutional policies, learning objectives, and student needs (Restu et al., 2022; Fahril et al., 2024). Consequently, the ability to innovate in learning media has become an essential competence for teachers in creating effective and relevant learning environments.

One subject area that faces both significant challenges and promising opportunities in this transformation is Islamic Religious Education. Islamic Religious Education occupies a strategic position in the Indonesian national education system, as mandated by the 2003 National Education System Law, which emphasizes the development of students' spiritual potential, religious devotion, and moral character (Kosim et al., 2023; Akrim et al., 2022; Fitri & Fithria, 2024). At the elementary school level, learning in Islamic Religious Education is not only directed toward cognitive mastery of religious knowledge but also toward the internalization of values and the habituation of religious behavior in daily life. Therefore, instructional practices in this subject require pedagogical approaches that are simultaneously informative, contextual, and transformative.

Despite its strategic role, the implementation of Islamic Religious Education in primary schools still encounters various structural and pedagogical challenges. A major issue is the limited allocation of instructional time, which is only three hours per week under the Merdeka Curriculum policy (Alwi & Achadi, 2024; Rohman et al., 2024). This constraint requires teachers to optimize learning processes through effective strategies and appropriate media. However, classroom practices often remain dominated by lecture-based methods and conventional approaches, with minimal utilization of innovative learning media, which potentially reduces student interest and engagement (Alten et al., 2020; Cherukuri, 2025). These conditions

highlight the urgent need for systematic innovation in learning media as an integral component of teacher professionalism in Islamic Religious Education.

A review of previous studies indicates that research on learning media innovation in Islamic Religious Education has generally focused on technical and descriptive aspects. Most studies emphasize the development or effectiveness of specific media, particularly digital applications and multimedia tools, without adequately addressing the strategic and sustainability dimensions of innovation. Bahri (2021), for example, concluded that innovative learning models are essential for improving teacher capacity in the digital era, yet the study did not provide comprehensive empirical evidence regarding the challenges of implementing and sustaining such innovations in real school contexts. Similarly, Sadriani, Ahmad, and Arifin (2023) emphasized the strategic role of teachers in educational technology development but did not explicitly discuss operational strategies or potential risks associated with technology integration. Kristiana and Aonillah (2025) found that digital and contextual approaches can improve students' religious understanding; however, their study was limited to literature analysis and lacked contextual empirical data. These studies collectively confirm the importance of technological innovation in Islamic Religious Education, but they remain limited in examining how such innovations are implemented and managed strategically at the school level.

More fundamentally, previous research tends to position learning media innovation as an individual and technical initiative of teachers rather than as part of a systematic and institutional strategy. Empirical studies that analyze the alignment between learning media innovation and school vision and mission as an organizational policy framework are still very limited, especially in the context of primary education. This limitation is critical because primary education represents a foundational phase for character formation, value internalization, and the establishment of learning habits among students (Suprapti & Fatimah, 2024; Muzakkir et al., 2024; Nurasiah et al., 2022). Without institutional alignment, innovations in learning media risk becoming fragmented practices that are difficult to sustain and develop in the long term.

Several empirical findings have demonstrated that innovative learning media positively influence student motivation, engagement, and understanding, including the use of smart spinners (Eka, 2025), TikTok-based media (Tanjung & Sebayang, 2023), pediatric flashcards (Arti, Widanti, & Wati, 2023), and dynamic visual methods in Arabic language learning (Hidayat, Mariono, & Sumarno, 2023). However, these studies primarily examine the effectiveness of specific media products rather than evaluating the broader strategic context in which media innovations are designed and implemented. In addition, teachers must consider differences in student characteristics and learning abilities so that the selected media can truly support effective learning (Sari & Batubara, 2023; Lambton-Howard et al., 2021). Differentiated learning approaches offer a relevant pedagogical foundation, enabling teachers to tailor strategies and media to students' needs (Goyibova et al., 2025; Grecu, 2023). Nevertheless, research that integrates differentiated learning, media innovation, and institutional strategy into a comprehensive analytical framework remains scarce.

This study was conducted at SD Muhammadiyah 1 Candi Sidoarjo, a school equipped with adequate learning facilities such as computers, projectors, and sound systems, and which has achieved an A accreditation status. The school provides a relevant context for examining how learning media innovation is implemented in real classroom settings. Despite the availability of infrastructure and institutional support, limited research has explored the extent to which innovative media developed by Islamic Religious Education teachers are aligned with the school's educational vision and mission and how such innovations influence the quality of learning processes.

The novelty of this study lies in its analytical and strategic orientation. Unlike previous studies that primarily focus on the effectiveness of particular media, this research positions learning media innovation as an institutional and strategic phenomenon. The study applies SWOT analysis as a comprehensive framework to evaluate the implementation of learning media innovation in Islamic Religious Education by considering internal strengths and weaknesses, as well as external opportunities and threats. This approach enables a more holistic understanding of how media innovation interacts with school policy, teacher competence, infrastructural conditions, and student needs. By linking media innovation with institutional vision and mission, this study offers a new perspective that moves beyond technical evaluation toward strategic sustainability in elementary Islamic education.

Therefore, this study aims: (1) to analyze the application of learning media innovation by Islamic Religious Education teachers at SD Muhammadiyah 1 Candi by examining its alignment with the school vision and mission and the innovative media used, and (2) to examine the implications of such innovations for the learning process. The findings are expected to contribute theoretically to the development of strategic studies on educational media innovation and practically to the improvement of Islamic Religious Education practices in Indonesian elementary schools.

METHOD

This study employed a qualitative research design to examine learning media innovations implemented by teachers of Islamic Religious Education at SD Muhammadiyah 1 Candi Sidoarjo. A qualitative approach was selected because it enables an in-depth and contextual understanding of learning practices in natural classroom settings. In this study, the researcher served as the primary instrument and main observer, engaging directly with participants and classroom activities to interpret meanings embedded in innovative instructional practices (Muzari et al., 2022; Arifin & Nurdyansyah, 2015). The research site was purposively selected because the school has consistently implemented diverse learning media innovations that align with the research focus.

Participants were selected using purposive sampling to ensure that informants had direct involvement, decision-making roles, or experiential exposure to learning media innovation in Islamic Religious Education classrooms. The participants comprised: (1) the school principal (one person) who provided institutional perspectives on policy direction and support systems; (2) two teachers

of Islamic Religious Education responsible for Grade III and Grade V who designed and implemented learning media innovations; and (3) Grade III and Grade V students selected purposively as active users and direct recipients of the learning media. This multi-perspective composition was intended to capture institutional, pedagogical, and learner viewpoints in a single coherent account of innovation practices and their classroom implications.

Table 1. Informant Profile

Informant Group	Code	Number	Core Role in Study	Main Data Contribution
School principal	P1	1	Institutional policy and strategic direction	School vision and mission alignment, infrastructure support, policy for innovation
Islamic Religious Education teachers (Grades III and V)	T1–T2	2	Media design and classroom implementation	Types of media used, implementation steps, challenges, and instructional considerations
Grade III and V students	S1–Sn	Selected purposively	Direct users and recipients of media	Learner responses, engagement patterns, perceived clarity, and learning constraints

Table 1 clarifies the informant structure and why each group was essential. The principal represents the institutional layer that shapes policy, resource allocation, and alignment with school direction. The two teachers represent the pedagogical layer where media are designed, selected, and enacted in classroom routines. Students represent the experiential layer where the effectiveness and practicality of innovative media are manifested through engagement, interaction, and learning responses. This triangulated informant structure strengthens the credibility of findings by capturing the phenomenon from decision, implementation, and user perspectives.

Data collection was conducted for one month in May 2025, with visit frequency adjusted to the instructional schedule of Islamic Religious Education. Three techniques were employed: semi-structured interviews, classroom observations, and documentation review.

Semi-structured interviews were conducted with the principal, the two teachers, and selected Grade III and V students. Each interview lasted approximately 60 to 90 minutes, focusing on experiences of learning media innovation, classroom implementation strategies, school support mechanisms, and perceived benefits and constraints. Semi-structured interviews were used because they enable systematic exploration while allowing flexible probing and follow-up questions based on conversational context (Wong et al., 2023; Wulandari et al., 2024).

Classroom observations were conducted directly during lessons to document how learning media were enacted, how teacher-student interactions unfolded, and how students responded to different media formats. Observations used a pre-designed guide to ensure systematic attention to instructional activities, student

participation, and the practical use of learning media during lessons (Koperová et al., 2025).

Documentation included school policy documents and instructional artifacts, such as the school vision and mission, curriculum-related documents, teacher modules, student worksheets, and other learning materials that provided evidence of media innovation practices and their institutional embedding.

To strengthen credibility and ensure trustworthiness, the study applied triangulation as a key validation strategy (Susanto et al., 2023). Triangulation was operationalized through: (1) cross-checking observational data against interview accounts; (2) comparing perspectives across participant groups including principal, teachers, and students; and (3) verifying interview claims using relevant documents (Schlunegger et al., 2024). These steps reduce single-source bias and strengthen interpretive rigor by ensuring that conclusions are supported by converging evidence. Recent methodological literature also highlights triangulation and transparent validation procedures as core pillars for robust qualitative research (Ahmed, 2024).

Table 2. Data Triangulation Matrix

Focus of Evidence	Interviews	Observations	Documents	Validation Logic
Forms of learning media innovation	Principal, teachers, students	Direct classroom enactment	Modules, worksheets, media artifacts	Confirm whether reported media are used as observed and documented
Alignment with school vision and mission	Principal, teachers	Classroom practices reflecting school direction	Vision and mission documents, policy notes	Verify institutional claims with documented school direction and classroom enactment
Constraints and challenges (devices, skills, costs)	Principal, teachers, students	Resource availability and classroom contingencies	Inventory notes, implementation records if available	Check consistency between perceived constraints and observed/documented limitations
Implications for learning process (engagement, interaction)	Teachers, students	Participation patterns, interaction flows	Learning modules and tasks	Verify perceived impacts through observed behavior and task evidence

Table 2 specifies how triangulation was executed at the level of themes and evidence sources. Each analytical focus was not concluded from a single dataset; instead, interview narratives were checked against classroom observations and supported with documentary traces. This structure ensures that claims about innovation forms, institutional alignment, constraints, and implications are grounded in convergent data rather than relying solely on conceptual interpretation.

Data analysis combined SWOT analysis with Miles and Huberman's interactive model (Miles et al., 2014). SWOT analysis was applied to map internal strengths and weaknesses and external opportunities and threats influencing the implementation of learning media innovation (Suriono, 2022). In this study, SWOT analysis was not

treated as a descriptive categorization only; rather, it functioned as a strategic analytical framework. Findings were thematically interpreted to explain relationships among school capacity, teacher competence, infrastructure conditions, and contextual demands, as well as their implications for the sustainability of learning media innovation in relation to institutional direction.

Miles and Huberman's interactive model was used to address the research focus on implications and patterns emerging from the data. The analysis proceeded through data reduction, data display, and conclusion drawing or verification. Data reduction involved selecting, coding, and organizing relevant interview, observation, and document data related to media innovation. Data display was performed through thematic narratives and analytical matrices to support pattern recognition and interpretation. Conclusions were drawn through iterative verification, ensuring that emerging interpretations were consistently supported by triangulated evidence. This analytical logic is consistent with established qualitative analysis guidance emphasizing iterative, evidence-based interpretation and transparent verification (Miles et al., 2014; Lim, 2025).
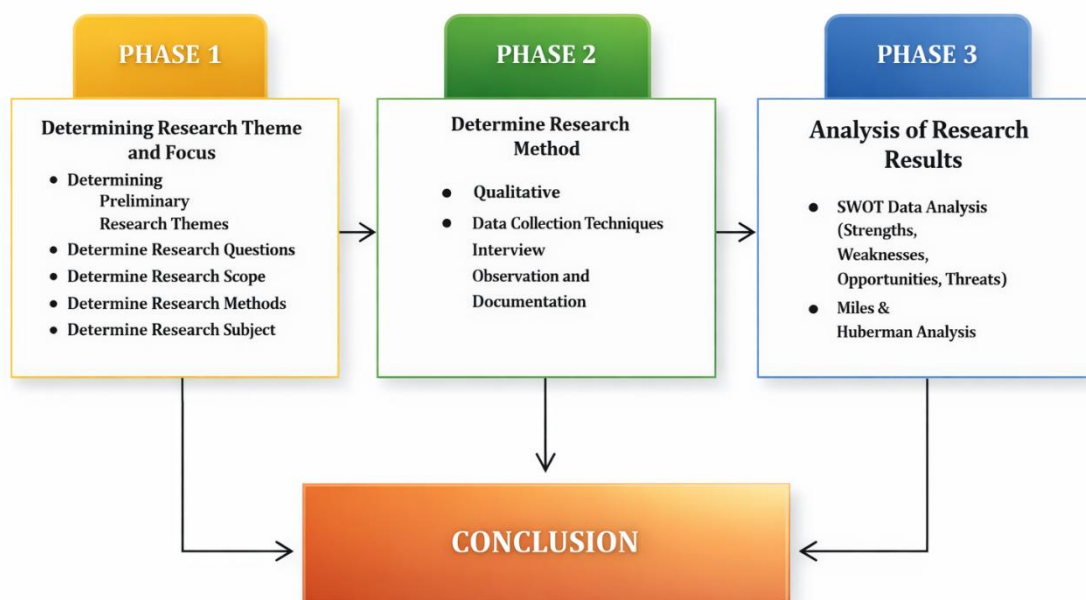

Figure 1. Research Procedure

Figure 1 presents the sequential flow of the study from initial planning to conclusion building. The procedure began with determining the research theme and focus, followed by formulating research questions, defining the scope, selecting methods, and identifying participants. The second stage consisted of field data collection through interviews, observations, and documentation. The third stage involved integrated analysis using SWOT and the Miles and Huberman interactive model, culminating in conclusion drawing based on iterative verification. This structured procedure supports methodological transparency and strengthens the study's analytical traceability from data generation to interpretive outcomes.

RESULT AND DISCUSSION

RESULT

Institutional Context of Learning Media Innovation

Classroom observations demonstrate that SD Muhammadiyah 1 Candi has relatively adequate facilities to support innovative learning practices. Each classroom is equipped with LCD projectors, speakers, internet access, and other instructional tools. The school also provides a computer laboratory and a library that are regularly utilized for learning activities.

Interviews with the principal revealed that institutional support for learning media innovation is deliberately embedded in school policy. The principal stated that the school continuously motivates teachers to design more creative learning approaches:

> "The school always encourages teachers to be innovative. We try to provide facilities and freedom for teachers to explore various learning media so that learning becomes more interesting and meaningful for students" (P1).

Observational data confirm this statement. During several classroom sessions, teachers were seen using visual presentations, short videos, and printed interactive worksheets. These practices indicate that innovation is not incidental but has become part of daily instructional routines.
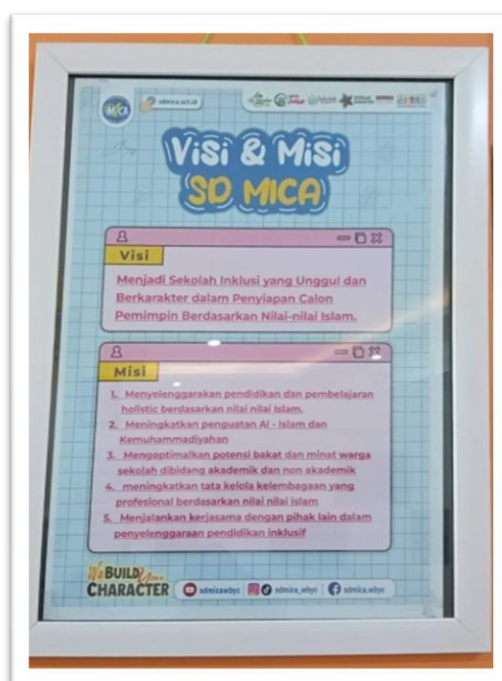

Figure 2. Vision and Mission of M1CA Elementary School

Figure 2 presents the official vision and mission of the school. Analysis of these documents shows a strong institutional orientation toward quality learning, character development, and the integration of technology in education. Interviews with teachers confirm that these institutional goals significantly influence instructional planning. One teacher explained:

"We always refer to the school vision when designing lessons. Media innovation is part of our effort to realize that vision in real classroom practice" (T1).

The combination of observational, interview, and documentary data indicates that learning media innovation at SD Muhammadiyah 1 Candi is institutionally driven rather than individually motivated. The vision and mission function not merely as formal statements but as operational guidelines that shape classroom practices. This finding suggests that innovation in this school context is structurally supported and strategically oriented. The existence of clear institutional direction differentiates this case from many schools where media innovation depends solely on personal teacher initiative. Thus, the data reveal an important pattern: sustainable innovation emerges when school policy, infrastructure, and teacher motivation interact coherently.

SWOT Analysis of Learning Media Innovation

To examine the strategic landscape of media innovation, a SWOT analysis was conducted based on interviews and classroom observations.
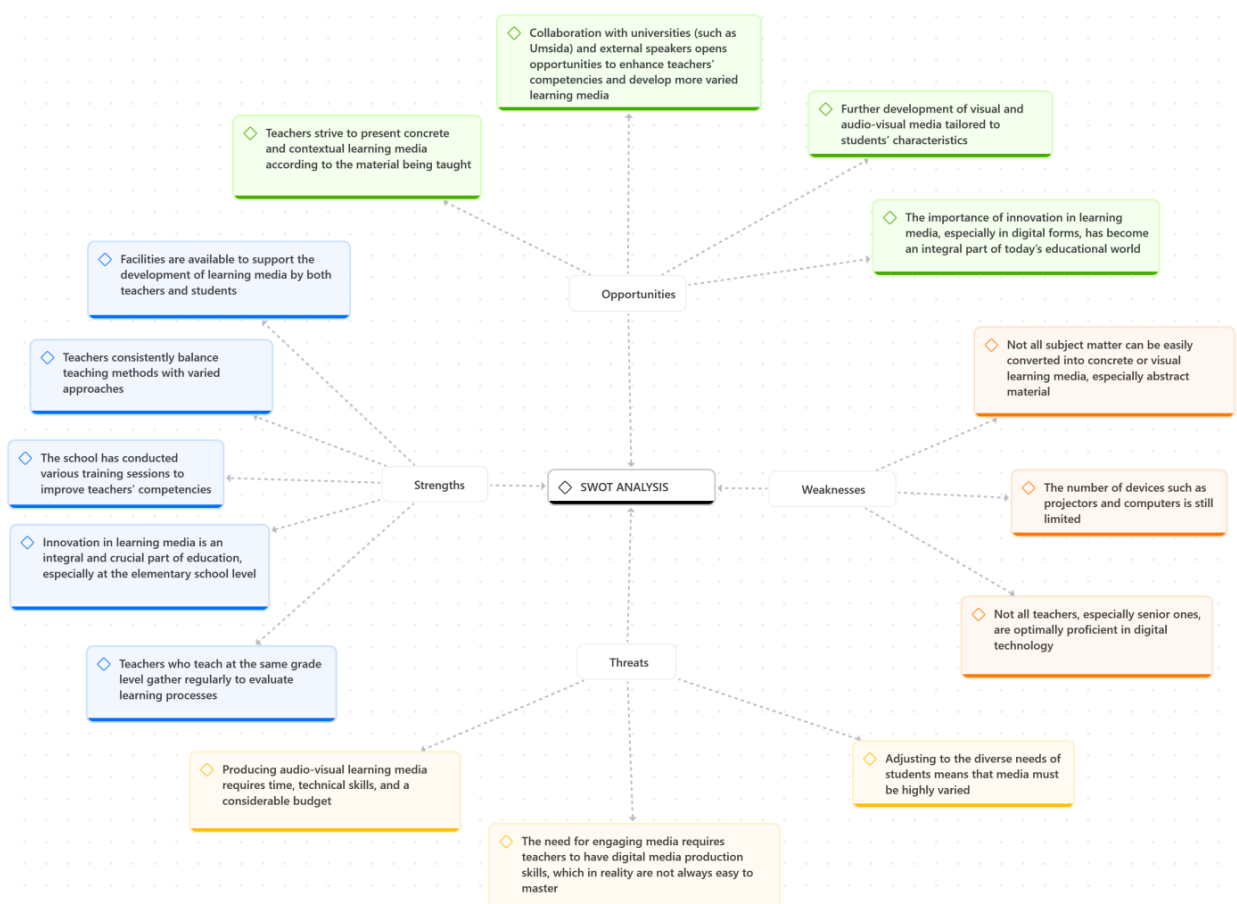

Figure 3. SWOT Analysis Results

Figure 3 summarizes the main internal and external factors influencing innovation practices at the school. Each component is elaborated below based on field evidence.

1. Strengths (S)

Interview data reveal that one of the strongest internal assets is continuous teacher development. The school regularly organizes training sessions related to digital learning and pedagogical innovation.

"We often receive training on how to design more interactive learning. This really helps us to develop better media" (T2).

Observations during teacher meetings show a collaborative culture among teachers. They frequently share experiences, evaluate learning outcomes together, and discuss new ideas for media development. Such collegial interaction was observed to positively influence classroom practices.

Another strength lies in the availability of basic technological infrastructure. During observations, teachers were seen confidently using projectors and internet-based materials. Teachers also demonstrated high creativity in producing low-cost concrete media such as picture cards and manipulatives.

2. Weaknesses (W)

Despite these strengths, several limitations were identified. The most prominent issue is the limited number of devices. Observations confirmed that projectors must be shared among classes, which sometimes restricts optimal implementation.

Digital literacy gaps among teachers also emerged as a significant weakness. The principal acknowledged:

"Some teachers are still not fully confident with technology, especially senior teachers who are more familiar with traditional methods" (P1).

Furthermore, time constraints hinder media preparation. Teachers admitted that designing high-quality media requires considerable time, which is often unavailable due to administrative workload.

3. Opportunities (O)

External opportunities for innovation are widely recognized. Teachers highlighted the potential of collaboration with universities and educational institutions.

"Through cooperation with universities, we can get new insights and assistance in developing better digital media" (T1).

Students' familiarity with digital devices also provides favorable conditions for technology-based learning. Observations showed that students quickly adapt to interactive platforms and multimedia content.

4. Threats (T)

Several threats were identified, particularly the technical complexity of producing attractive media.

"Creating good videos or interactive materials is not easy. It requires skills, time, and sometimes additional costs" (T2).

Financial limitations and the diverse characteristics of students were also considered challenges. Teachers emphasized that designing media that suit all learners simultaneously remains a difficult task.

The SWOT analysis reveals a nuanced picture of innovation dynamics. Strengths and opportunities are dominant, indicating a fertile environment for further development. However, weaknesses and threats highlight structural issues that must be addressed to prevent innovation from becoming sporadic. The analysis demonstrates that learning media innovation is not simply a pedagogical matter but a strategic organizational issue involving policy, resources, competencies, and external networks. This deeper interpretation underscores that sustainable innovation requires systemic support rather than isolated teacher effort.

The Importance of Media Innovation in Learning

Observations consistently show that innovative media significantly increase student engagement. In classes where teachers used visual or interactive materials, students appeared more attentive, asked more questions, and participated more actively.

One teacher explained:

"When we use pictures or videos, students become more enthusiastic and focused. They enjoy the lesson more than when we only lecture" (T1).

Students confirmed this perception:

"Learning with media is more fun and easier to understand" (S4).
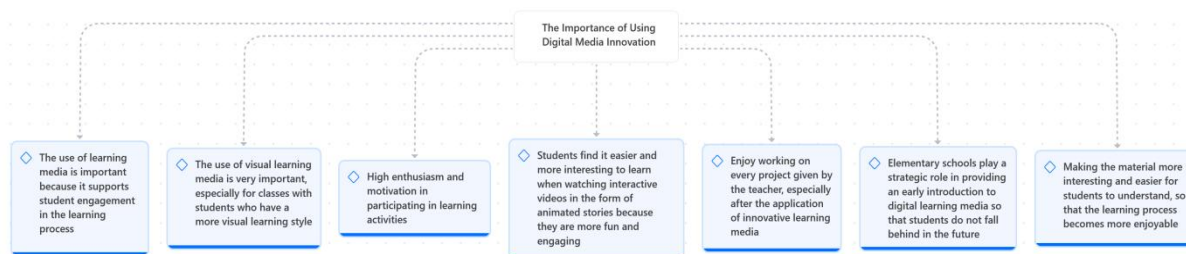

Figure 4. The Importance of Using Digital Media Innovation

Figure 4 illustrates participants' perceptions regarding the importance of digital media. The figure reflects that innovative media contribute to clearer understanding, higher motivation, and more interactive learning environments.

The triangulation of interviews and observations indicates that media innovation directly influences the emotional and cognitive dimensions of learning. Students do not merely receive information but experience learning as an engaging process. This suggests that innovative media function as a bridge between abstract religious concepts and concrete student experiences. The findings imply that in Islamic Religious Education, where many materials are value-based and conceptual, media innovation plays a crucial role in translating religious messages into forms that are accessible to young learners.

Application of Media Innovation in Learning

Classroom observations reveal that teachers apply various forms of media across different subject clusters. Islamic Religious Education is divided into seven areas, and each area is delivered using tailored instructional media.

A prominent example was found in Arabic language lessons, where teachers used interactive word cards.

"Students understand Arabic sentences better when they directly practice arranging words instead of just listening to explanations" (T2).

Figure 5. Application of Print Media Innovation

Figure 5 shows students using printed interactive worksheets. Observations confirm that this approach stimulates collaboration, peer discussion, and active problem solving.

Figure 6. Learning Process of Print Media Innovation Implementation

Figure 6 illustrates the dynamic classroom atmosphere during media-based activities. Students were actively involved in arranging words, asking questions, and helping each other.

The application of media innovation demonstrates that teachers at this school are not merely consumers of ready-made digital products but creators of contextual learning tools. The data reveal that innovation is adapted to local needs, student characteristics, and lesson objectives. This localized and contextualized innovation is particularly significant because it shows that effective media do not always require sophisticated technology. Simple, teacher-made materials can also generate meaningful learning experiences when designed thoughtfully. This finding highlights an important pedagogical insight: innovation in Islamic Religious Education is more about pedagogical creativity than technological sophistication alone.

Implications of Media Innovation for Learning

The use of innovative media produces various implications for the teaching and learning process.
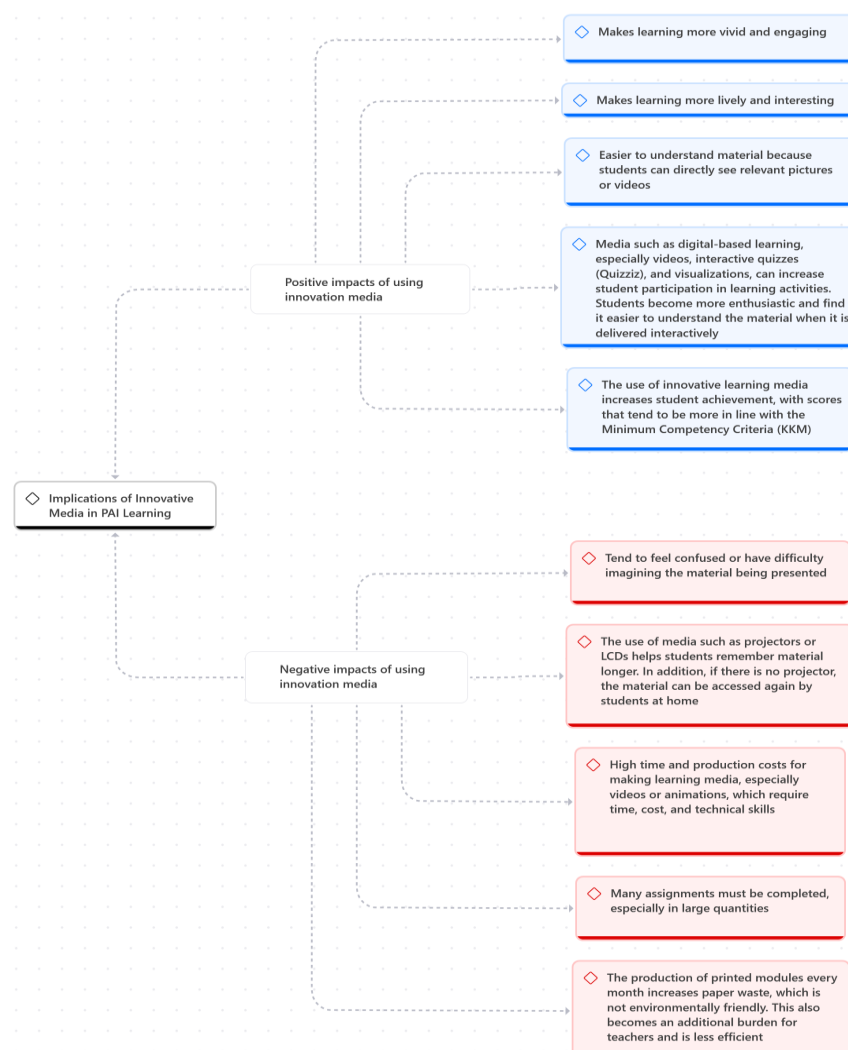

Figure 7. Implications of Learning Media Innovation

Figure 7 categorizes the implications into positive and negative dimensions. On the positive side, observations indicate higher student participation, better attention, and improved comprehension. Teachers reported that assessment results tend to improve when media are used consistently.

"Students become more confident and active when we use interesting media. Their understanding is also better" (T1).

Students expressed similar experiences:

"I understand the lesson faster when there are pictures or videos" (S2).

However, several negative implications were also observed. Technical problems, limited devices, and preparation time sometimes disrupted learning plans. Teachers admitted that producing innovative media often adds to their workload.

These implications demonstrate that innovation brings both pedagogical benefits and managerial challenges. The positive impacts are clearly visible in student engagement and comprehension, while the negative aspects relate more to structural and logistical issues. This distinction is important because it suggests that the effectiveness of media innovation depends not only on teacher creativity but also on institutional management. When organizational support is strong, the positive implications outweigh the negative ones. Therefore, the findings emphasize that innovation should be accompanied by strategic planning and resource allocation.

The comprehensive analysis of interviews, observations, and documents indicates that learning media innovation at SD Muhammadiyah 1 Candi operates within an integrated institutional ecosystem. Innovation is supported by school policy, teacher collaboration, and available infrastructure. Teachers employ a wide range of media, from digital presentations to simple concrete materials, and these practices significantly enhance student participation and understanding. Nevertheless, challenges remain in terms of device availability, digital literacy variation, and time constraints. The findings demonstrate that innovation in Islamic Religious Education is a dynamic process shaped by the interaction of institutional support, teacher agency, and student characteristics.

The novelty of this research lies in its empirical demonstration that learning media innovation in Islamic Religious Education should be understood as a systemic and strategic practice rather than a purely technical classroom activity. Unlike previous perspectives that treat media innovation as an individual teacher initiative, this study reveals that innovation emerges from the alignment between school vision, organizational culture, teacher collaboration, and classroom implementation. The findings provide new insight that effective innovation in religious education is achieved not only through digital technology but also through contextual, teacher-created media that respond to students' real learning needs. This study offers an original contribution by showing how SWOT-based strategic analysis can be used to map, evaluate, and understand media innovation within a primary school context, thereby expanding the conceptual understanding of innovation in Islamic Religious Education from a technical domain to an institutional and pedagogical ecosystem.

DISCUSSION

From the perspective of instructional practice, the findings of this study demonstrate that learning media innovation in Islamic Religious Education at SD Muhammadiyah 1 Candi plays a strategic role in improving instructional quality and supporting differentiated learning practices. Empirical evidence gathered from interviews, classroom observations, and documentation confirms that the availability of supporting facilities such as classrooms equipped with projectors, computer laboratories, libraries, and stable internet access enables teachers to utilize both digital and concrete learning media in a systematic and sustainable manner (García-Hernández et al., 2022; Frameilia et al., 2023). These facilities are not merely complementary resources but function as structural enablers that allow teachers to design more interactive, contextual, and student-centered learning experiences.

In relation to classroom pedagogy, the diversity of learning media implemented by teachers illustrates how instructional practices are adapted to accommodate differences in students' readiness, interests, and learning styles (Gheyssens et al., 2022; Gafar, 2025). This finding expands previous understandings of differentiated learning, which have often been associated with variations in tasks or levels of difficulty. The present study provides concrete empirical confirmation that differentiated learning can also be effectively operationalized through the strategic use of varied learning media. In the context of Islamic Religious Education, differentiation is realized not only in cognitive aspects but also in affective and spiritual domains, which represent the distinctive characteristics of religious education. Media such as worship cards, visual images, audio-visual presentations, and interactive worksheets allow teachers to translate abstract religious concepts into forms that are more accessible and meaningful for elementary school students.

Viewed from an institutional standpoint, SWOT analysis further reveals that internal strengths within the school environment strongly support the success of learning media innovation. Regular teacher training programs, collaborative evaluation among teachers, and the availability of basic technological infrastructure constitute essential factors that facilitate innovation-based differentiated learning (Sifak et al., 2024; Rubalcaba, 2022; Zhao & Yang, 2024). Teachers demonstrate flexibility in selecting and adapting learning media according to the specific characteristics of their classes. Classroom observations indicate that when teachers employ innovative media, students show higher levels of participation, increased motivation, and more active interaction during learning activities. These outcomes suggest that teacher competence and institutional commitment are central determinants of effective media-based instruction.

At the same time, the study also identifies several internal weaknesses that limit the optimal implementation of innovation. Limited numbers of digital devices and variations in teachers' technological proficiency create disparities in the quality of media utilization across classrooms. These constraints confirm that innovation in learning media is not solely dependent on teacher creativity but also requires sufficient infrastructural support and continuous capacity building. Recent studies emphasize that teacher readiness and digital literacy significantly influence the successful integration of technology into classroom practices (Nurhikmah et al.,

2024; Lin et al., 2023; Ning & Danso, 2025). Therefore, professional development programs need to focus not only on technical skills but also on pedagogical strategies for integrating media into differentiated learning designs.

From an external perspective, the study finds that there are considerable opportunities for further development of learning media innovation. Collaboration with higher education institutions, access to new educational technologies, and the rapid growth of digital platforms provide promising avenues for enriching instructional practices. The emergence of artificial intelligence and adaptive learning technologies offers additional possibilities for creating more personalized and responsive learning environments. Recent literature suggests that artificial intelligence can support individualized learning pathways and enhance student engagement when applied thoughtfully within appropriate pedagogical frameworks (Nirwana et al., 2025; Tapalova & Zhiyenbayeva, 2022; Zou et al., 2025; Sajja et al., 2025). In the context of Islamic Religious Education, such technologies can assist teachers in providing varied learning experiences while maintaining the essential role of teachers as moral and spiritual guides.

Conversely, several external threats need to be managed carefully. Teachers reported that producing high-quality digital media often requires substantial time, technical skills, and financial resources (Lana et al., 2023; Alenezi et al., 2023). These challenges indicate that sustainable innovation demands strategic planning, institutional support, and realistic workload management. Without systematic support, learning media innovation risks becoming sporadic and dependent on individual teacher initiative rather than being embedded as an organizational culture.

One particularly important outcome of this research is the effectiveness of combining concrete and digital media in supporting differentiated learning. Observational data show that concrete media help students understand practical aspects of worship and faith through direct manipulation and experience, while digital media enhance learning through visualization, animation, and contextual simulation. This combinative approach enables teachers to accommodate diverse learning styles and preferences within a single classroom. Students who are more responsive to hands-on activities benefit from concrete materials, whereas visual and auditory learners gain greater understanding from multimedia presentations (Sukamto, 2022; Kassa et al., 2024). Such integration creates a balanced learning ecosystem that supports both conceptual comprehension and value internalization.

Nevertheless, the study also uncovers potential negative implications of media innovation that require careful consideration. Overreliance on technological devices can disrupt learning when equipment is unavailable or technical problems occur. Some students experience confusion when media are overly complex or not aligned with their level of readiness. In addition, the increased use of printed modules raises concerns regarding efficiency and environmental sustainability. These findings highlight that differentiated learning through media innovation must be guided by thoughtful instructional planning that prioritizes effectiveness, accessibility, and sustainability rather than novelty alone.

From a theoretical point of view, this study contributes to the development of differentiated learning theory by situating it within the specific context of Islamic

Religious Education. Previous conceptualizations of differentiated learning have largely focused on general academic subjects and cognitive outcomes (Fauziyah et al., 2025; Nurmalia et al., 2024). The present research demonstrates that in Islamic education, differentiation must encompass a broader range of objectives, including the internalization of religious values, character formation, and spiritual development. By positioning learning media as the primary instrument for differentiation, this study extends the application of differentiated learning theory into a domain where moral and affective dimensions are as important as cognitive mastery.

Equally significant, the findings emphasize that effective innovation in Islamic Religious Education does not always require sophisticated technology. Contextual, teacher-created media that are simple, concrete, and culturally relevant can be equally powerful in facilitating meaningful learning. This perspective challenges the assumption that digitalization alone defines innovation and highlights the importance of pedagogical creativity and contextual sensitivity.

Taken together, the discussion of findings indicates that learning media innovation in Islamic Religious Education is a multidimensional process shaped by institutional policy, teacher competence, infrastructural conditions, and student characteristics. Innovation becomes effective when these elements interact synergistically within a coherent educational ecosystem. The study provides strong empirical support for the argument that differentiated learning in Islamic Religious Education is best achieved through strategic, varied, and contextually grounded use of learning media.

CONCLUSION

This study concludes that learning media innovation implemented by Islamic Religious Education teachers at SD Muhammadiyah 1 Candi effectively enhances instructional quality and supports differentiated learning practices. The use of diverse media, including digital tools, audio-visual materials, concrete teaching aids, and contextual modules, has been shown to increase student engagement, participation, and understanding. These innovations are aligned with the school vision and mission, indicating that media innovation is not merely an individual initiative but part of an institutional strategy.

The findings reveal that internal strengths such as teacher competence, continuous professional development, collaborative evaluation, and available infrastructure are key factors supporting successful innovation. However, challenges remain in the form of limited digital devices, disparities in technological skills, and the time and cost required to develop learning media. These constraints highlight the need for strategic management and sustainable institutional support.

Theoretically, this study expands the concept of differentiated learning in Islamic Religious Education by demonstrating that differentiation can be realized through innovative learning media across cognitive, affective, and spiritual domains. Practically, the study recommends strengthening teacher competencies in media development, improving digital infrastructure, and developing contextual teaching modules. Future research is encouraged to explore media innovation in broader

school contexts and to evaluate the potential of artificial intelligence-based learning media. Overall, the integration of innovative learning media holds significant potential to create more interactive, meaningful, and values-based Islamic Religious Education.

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