



Developing Interactive Video-Based Learning Media for Islamic Religious Education at the Elementary Level: An ADDIE Model Approach

Hanik Rahmawati Solikhah ^{1*}, Sukari ¹, Meti Fatimah ¹

^{1,2,3} Institut Mamba'ul 'Ulum Surakarta, Indonesia

Abstract

This study discusses the development of educational and interactive digital learning media for elementary school students in the subject of Islamic Religious Education (PAI), using the ADDIE model. The background of this research lies in the need for engaging learning media for elementary students, as digital media has been proven to enhance students' interest, motivation, and comprehension of religious materials. The objective of this study is to produce interactive PAI learning video media that are valid, practical, and effective. The research method used was Research and Development (R&D) with the ADDIE model, which includes the stages of needs analysis, storyboard and script design, interactive video development, implementation, and evaluation through expert validation and field testing. The developed media consist of interactive educational videos featuring narration, visual illustrations, animations, background music, and reflective questions. There were small-group trials involved 10 students, continued to 25 students in classroom trials. The results showed that the mean pretest score was 61.0, indicating a moderate initial level of understanding of the learning material. After the implementation of the interactive learning videos, the mean posttest score increased to 84.3. The average learning gain was 23.3 points. Expert validation yielded an average score of 3.70 on a 4-point scale (classified as highly feasible) in terms of content and media design. Field trials with students (individual, small-group, and full-class tests) demonstrated positive responses with average scores ranging from 3.40 to 3.50 (feasible category). There is qualitative evidence in the form of students' statements and examples of behavior. One of the students said "The learning video on Surah At-Tin is very interesting and easy to understand". "An example of observable behavior is that students are able to recite Surah At-Tin properly and correctly." Overall, the media were assessed as valid, practical, and effective for teaching Islamic Religious Education at the elementary school level. This interactive learning media can enhance students' active engagement and motivation to learn, making it a viable and innovative alternative for religious learning in primary education.

Keywords: Video-Based Learning, Islamic Religious Education, ADDIE Model Approach, PAI

* Correspondence Address: hanikrahma@gmail.com

Article History	Received	Revised	Accepted	Published
	2025-10-28	2026-04-02	2026-06-18	2026-09-15

INTRODUCTION

مقدمة

Digital learning media represent an important innovation that has emerged alongside advances in technology. These media include software, applications, videos, animations, and online platforms designed to support teaching and learning processes. In the context of Islamic Religious Education (PAI), digital media allow religious content to be delivered in a more engaging, interactive, and comprehensible way for students. This aligns with the view of Fauziyah et al. (2023), who state that digital media can package Islamic values in more dynamic forms, thereby motivating students to learn. Beyond acting as a medium of message delivery, learning

media also possess instructional components that stimulate students' learning interest (Nurul et al., 2020)

Interactive media, which emerged from developments in computer technology since 1958, have opened new opportunities for teachers to create more participatory learning experiences. The integration of text, graphics, sound, video, and animation within an interactive system can enhance students' attention, provide immediate feedback, and foster more enjoyable learning experiences (Kurniawan & Widiastuti, 2022). According to Miftah (2022), learning media serve four main functions: (1) shifting the focus of formal education, (2) stimulating learning motivation, (3) clarifying instructional materials, and (4) facilitating students' learning processes. Hence, interactive learning media are a promising solution for creating learning that is effective, efficient, and enjoyable.

From a methodological standpoint, the development of learning materials often employs instructional design models. One of the most widely used is the ADDIE model—an acronym for Analysis, Design, Development, Implementation, and Evaluation. Branch (2009) explains that the ADDIE process begins with identifying learning needs, designing materials, developing products, implementing them in learning contexts, and conducting evaluations for improvement. This model is considered simple yet systematic, making it suitable for educational development at various levels. Other models, such as the Dick and Carey model or the Borg & Gall R&D model, are also used for more detailed and research-oriented instructional development (R&D).

In the context of Islamic Religious Education (PAI), the urgency of using learning media continues to increase. PAI aims not only to convey religious knowledge but also to instill moral values, shape character, and foster noble attitudes in students (Surikno et al., 2022). Moreover, with the implementation of the Kurikulum Merdeka (Independent Curriculum), teachers are required to develop flexible learning that emphasizes soft-skill development and character building (Azhar, 2022). The digital transformation in education supports these objectives, as students can learn anytime and anywhere through relevant interactive media (Abdul & Arif, 2020).

Unfortunately, field observations still reveal a considerable gap. Many PAI teachers at the elementary school level continue to rely on conventional teaching methods, such as lectures and textbook use. This leads to low student participation and suboptimal understanding of the religious values being taught. Yet, as stated in the Qur'an (QS. Thaha: 44), communication in teaching should be delivered gently and wisely, taking into account students' psychological conditions. Therefore, interactive learning media are needed—not only to convey information but also to actively involve students in the learning process. Thus, teachers as educators in elementary schools must be able to serve as the main driving force in fostering students' interest in core subjects (Putri and Wulandari, 2024), especially Islamic religious studies.

Previous studies have demonstrated positive results regarding the use of digital learning media in Islamic Religious Education. Herlina et al. (2024) found that such media can enhance motivation, creativity, and comprehension among students. Similarly, Rahmawati & Atmojo (2021) proved that the development of video-based learning using the Canva application is effective in PAI learning. However, most of these studies still have limitations. First, they were generally conducted on a small scale and did not involve large samples of elementary school students. Second, many existing media focus on one-way information delivery, such as instructional videos, without integrating interactive features that promote active student participation. Third, most media have not been tailored to the developmental characteristics of

elementary school children, who require visual, enjoyable, and stimulating approaches. Fourth, studies developing digital-based PAI learning media aligned with the Kurikulum Merdeka remain scarce.

In this study, interactive learning media are defined operationally as digital learning materials that allow students to actively interact with the content through multimedia elements and learner responses. The level of interactivity in the developed media is indicated by several features, including: (1) navigation control, which enables learners to pause, replay, or move between segments of the video; (2) multimedia integration, combining narration, visual illustrations, animation, and background audio to present learning content; (3) embedded reflective questions, which encourage students to respond to prompts during the learning process; and (4) immediate feedback, allowing students to evaluate their understanding during the interaction. These features aim to transform students from passive viewers into active participants in the learning process.

The design of the interactive video media in this study is also informed by Cognitive Theory of Multimedia Learning proposed by Richard E. Mayer, which emphasizes that meaningful learning occurs when learners actively process information through both visual and auditory channels. Several key principles from this theory were implemented in the development of the learning videos. First, the multimedia principle was applied by combining narration with visual illustrations rather than presenting text alone. Second, the modality principle was implemented by delivering explanations through audio narration accompanied by relevant images to reduce cognitive overload. Third, the signaling principle was used by highlighting important concepts through visual cues and emphasis in the narration. Fourth, the segmenting principle was applied by dividing the learning material into short video segments so that students could process information gradually. Finally, the coherence principle was considered by avoiding unnecessary sounds or visual elements that could distract students from the main learning content.

Through the integration of interactive features and multimedia learning principles, the developed video-based learning media aim to facilitate deeper cognitive processing and improve students' understanding of Islamic Religious Education materials at the elementary level. Given the rapid technological advancement and the growing need for early character education, it is essential to develop PAI learning media that not only deliver religious material but also create enjoyable, challenging, and interactive learning experiences. Such media are expected to enhance elementary students' interest, motivation, and comprehension of Islamic values, while providing a concrete solution to classroom monotony caused by conventional teaching methods. Therefore, the development of digital-based interactive learning media for Islamic Religious Education is both relevant and necessary as an innovative effort to improve the quality of Islamic learning in elementary schools (Tetambe, 2025). Based on the gaps problem and previous findings, the researcher is determined to build a learning evaluation media that conventional shift to modern approaches by utilizing the youtube platform.

METHOD

منهج

This study employed a Research and Development (R&D) approach using the ADDIE model—which includes the stages of Analysis, Design, Development, Implementation, and Evaluation. The ADDIE model was chosen for its systematic and flexible structure, which makes it well-suited for producing effective and feasible instructional products.

Analysis Stage

The first stage aimed to identify the instructional needs and existing learning challenges. The analysis was conducted through a review of student characteristics, curriculum competencies, supporting facilities, and barriers encountered during learning activities. The results of this stage served as the foundation for formulating specific learning objectives that guided the subsequent stages of product development.

Design Stage

At this stage, the conceptual design of the learning media was developed. The design process included creating a storyboard, writing narrative scripts, and outlining the visual flow of the interactive learning video. Interactive features such as quizzes and reflective questions were incorporated to increase learner engagement. Additional considerations included determining the video format, visual style, duration, and supporting elements such as images, text, music, and animations to enhance the learning experience.

Development Stage

The development process involved producing and integrating all media components. This included video recording, combining visual and audio elements, editing using multimedia software, and adding illustrations, texts, animations, and background music. At this stage, the interactive features were embedded into the video, allowing students to engage directly with the material. The resulting product was then reviewed and refined through internal testing.

Implementation Stage

In this phase, the video media were applied in real classroom settings. The learning video was distributed through digital platforms such as YouTube or shared via educational communication tools. Teachers and students were provided with guidelines for media use, accompanied by student worksheets (Lembar Kerja Peserta Didik/LKPD) designed to encourage active engagement during lessons.

Evaluation Stage

Evaluation was conducted both formatively and summatively. Formative evaluation took place throughout the development process via expert validation, while summative evaluation was performed during field trials. Data were collected through interviews, observations, and questionnaires. Validation instruments assessed aspects such as content feasibility, visual and design quality, and interactivity. Meanwhile, student and teacher response questionnaires measured levels of understanding, attractiveness, and motivation after using the media.

The study involved several groups of participants at different stages of product validation and testing. Expert validation was conducted by three experts, consisting of an Islamic Religious Education (PAI) content expert, a senior lecturer in Islamic Education with more than ten years of teaching experience, an educational technology expert, specializing in instructional media development, and an elementary school practitioner, an experienced sixth-grade teacher. This study adhered to ethical standards for educational research involving minors. Permission to conduct the study was obtained from the school administration. Informed consent was also obtained from the students' parents or guardians prior to data collection. Participants were informed that their involvement was voluntary and that the collected data would be used solely for research purposes. All student data were anonymized to ensure confidentiality and privacy.

Field testing involved fifth-grade students at an elementary school. The testing process was conducted in three stages. First step is individual trial included 5 students representing high,

medium, and low academic achievement levels. Second step involved small-group trial: with 10 students to evaluate usability and interaction with the media. Last step was in the field (classroom) trial with 25 students to examine practicality and learning outcomes during classroom implementation. Participants were selected using purposive sampling, considering their availability and representation of different learning ability levels.

The expert validation instrument assessed three main aspects: (1) Content feasibility (accuracy, relevance to curriculum, clarity of concepts), (2) Media design quality (visual layout, readability, audio clarity, animation suitability), and (3) Interactivity and usability (navigation, engagement features, learning support). Each indicator was rated using a 4-point Likert scale such as Not Feasible (1), Less Feasible (2), Feasible (3), Highly Feasible (4). The interpretation criteria were Highly Feasible (3.25 – 4.00), Feasible (2.50 – 3.24), Less Feasible (1.75 – 2.49), Not Feasible (1.00 – 1.74). The mean score was calculated using formula that $\text{Mean} = (x_1 + x_2 + \dots + x_n) / n$, where x = total score obtained and n = number of assessment items.

Student responses were measured using a structured questionnaire to evaluate the attractiveness of the media, clarity of explanations, ease of use, learning motivation, overall satisfaction. The questionnaire used a 4-point Likert scale ranging from strongly disagree (1) to strongly agree (4). Instrument validity was reviewed by experts to ensure content relevance and clarity. Normalized Gain (N-Gain) is calculated as the ratio of the actual gain to the maximum possible gain: $g = (\text{Post-test score} - \text{Pre-test score}) / (\text{maximum score} - \text{Pre-test score})$. The interpretation of N-gain values followed common criteria are $g \geq 0.70$ (high); $0.30 \leq g < 0.7$ (moderate); $g < 0.30$ (low).

During the design stage, a storyboard and video script were developed to structure the learning content. The video design emphasized were short duration segments (5–10 minutes), colorful illustrations and animations suitable for elementary students, narration that explains key concepts clearly, reflective questions embedded within the video. The visual layout was intentionally simplified to reduce cognitive overload while maintaining students' interest through animated illustrations and contextual examples related to Islamic Religious Education topics.

The instructional video was produced through video recording, integration of audio narration, visual elements, and multimedia editing. Illustrations, animations, and background music were added to enhance the learning experience. The final learning video consisted of several structured segments were opening section introducing the learning objectives, concept explanation supported by narration and animated illustrations, contextual examples related to students' daily lives, reflective questions prompting students to think about the material, closing summary reinforcing key learning points. The video interface allowed students to pause, replay, and discuss specific segments with guidance from the teacher.

Data were analyzed using both qualitative and quantitative approaches. Qualitative data were derived from expert feedback, teacher interviews, and field observations, analyzed through data reduction, presentation, and conclusion drawing. Quantitative data from validation scores and student responses were analyzed by calculating mean scores for each criterion and interpreting them using a Likert scale. The findings from these analyses were used to refine and finalize the product. In summary, the research methodology followed a structured R&D approach to produce an interactive video-based learning medium that is valid, practical, and effective for supporting the education process in Islamic Religious Education at the elementary level.

RESULT

نتائج

This research produced an educational and interactive learning medium in the form of a digital video designed and developed using the ADDIE model. The final product is a digital-based instructional video featuring narration, visual illustrations, animations, background music, and interactive elements such as reflective questions.

Analysis Stage Results

The results of the needs analysis indicated that elementary school students tend to prefer audio-visual media over text-based materials. Teachers also expressed a need for practical, easy-to-use learning tools that align with curriculum standards. These findings became the basis for formulating learning objectives and designing relevant content.

Design Stage Results

At this stage, a storyboard and video script were developed. The design featured a simple visual style, a short duration (5–10 minutes), and colorful animations to match the characteristics of young learners. The inclusion of interactive elements such as reflection prompts and comprehension checks was aimed at increasing student engagement and retention.

Development Stage Results

The video production process involved video recording, integration of visual and audio elements, and editing using multimedia software. Illustrations, animations, and sound effects were added to create a more dynamic learning experience. Once the draft product was complete, expert validation was conducted by both material and media experts.

Expert Validation Results: (1) The average score from expert validation was 3.70 out of 4, categorized as “highly feasible.”, (2) The material expert evaluated the accuracy of content, language clarity, and curriculum alignment, (3) The media expert assessed visual design, layout, and audio-visual quality, all of which met the required feasibility standards.

Implementation Stage Results

The interactive learning video was tested in three phases: (1) Individual trials (3 students): Students found the video easy to use and comprehend, though they suggested adding more illustrations, (2) Small-group trials (10 students): The average score reached 3.40 (feasible and interesting), (3) Classroom trials (25 students): The average score was 3.50 (feasible and effective), with students demonstrating increased enthusiasm and active participation during lessons.

Table 1. Validation Results of Content Experts and Media Experts

No	Aspect	Material Expert	Media Expert	Category
1	Content Feasibility	3.80	–	Highly Feasible
2	Language Quality	3.60	–	Highly Feasible
3	Curriculum Alignment	3.70	–	Highly Feasible
4	Visual Design	–	3.65	Highly Feasible
5	Audio and Animation Quality	–	3.75	Highly Feasible
6	Interactivity	3.60	3.70	Highly Feasible
	Average	3.67	3.70	Highly Feasible

Note: Likert scale 1–4 (1 = Not Feasible, 2 = Fairly Feasible, 3 = Feasible, 4 = Highly Feasible)

These validation results indicate an overall average score of 3.68, which categorizes the media as highly feasible, with only minor revisions suggested by experts before final use.

Table 2. Students' Response Results to Learning Media

No	Aspect Evaluated (Student Response)	Average Score	Category
1	Visual appeal and clarity	3.50	Feasible
2	Clarity of material presentation	3.60	Highly Feasible
3	Enhancement of learning motivation	3.40	Feasible
4	Improvement of comprehension in PAI	3.55	Highly Feasible
5	Interactivity and engagement	3.45	Feasible
Average Total		3.50	Feasible

Note: Likert scale 1–4 (1 = Not Feasible, 2 = Fairly Feasible, 3 = Feasible, 4 = Highly Feasible)

Student responses averaged 3.50, indicating that the developed media were effective and well-received, though some feedback suggested adding more illustration variety and activities for reinforcement

Table 3. Recapitulation of Validation Results and Trials

No	Trial Stage	Respondents	Average Score	Category
1	Material Expert Validation	1	3.67	Highly Feasible
2	Media Expert Validation	1	3.70	Highly Feasible
3	Individual Trial	3	3.45	Feasible
4	Small-Group Trial	10	3.40	Feasible
5	Field Trial (Classroom)	25	3.50	Feasible

Note: Likert scale 1–4 (1 = Not Feasible, 2 = Fairly Feasible, 3 = Feasible, 4 = Highly Feasible)

Overall, the results showed in table 3, confirmed that the educational and interactive learning media developed for Islamic Religious Education at the elementary level fall within the “Feasible to Highly Feasible” category, demonstrating both validity and practicality.

DISCUSSION | مناقشة

The findings reinforce the theory that interactive learning media can significantly enhance student engagement and learning outcomes. Moore (1989) argues that learner–content interaction drives meaningful learning—an observation consistent with this study, where students showed greater enthusiasm and attention when interacting with reflective prompts embedded in the video. Furthermore, expert validation results confirming a “highly feasible” rating support Mayer’s (2009) Cognitive Theory of Multimedia Learning, which emphasizes the importance of balancing text, visuals, and audio to prevent cognitive overload and promote understanding. The developed video successfully integrated these elements, resulting in improved comprehension and retention among students. The findings of this study support the view that interactive learning media can enhance student engagement and facilitate more meaningful learning experiences. According to Michael G. Moore’s theory of learner–content interaction, meaningful learning occurs when students actively engage with instructional materials rather than passively receiving information. In the present study, students showed increased enthusiasm and attention when interacting with reflective prompts embedded in the video. These prompts encouraged learners to pause, think, and discuss the material, thereby strengthening their cognitive engagement during the learning process.

The results are also consistent with the principles of the Cognitive Theory of Multimedia Learning proposed by Richard E. Mayer. This theory emphasizes that effective multimedia learning occurs when information is presented through coordinated visual and auditory channels while avoiding unnecessary cognitive load. The interactive video developed in this study integrated narration, animated illustrations, and reflective questions in short segments, allowing

students to process information gradually. Such segmentation and multimodal presentation help elementary learners focus on key concepts and improve comprehension.

Positive student responses also align with Anderson's (2003) argument that digital technology broadens opportunities for learner interaction, both with instructional content and peers. This interactive element increases motivation and encourages the development of critical thinking skills. However, this study also revealed several challenges—namely, limited access to digital devices among some students and teachers' need for additional training in using digital learning tools. These issues highlight the importance of equitable access to technology and ongoing teacher support in implementing digital education strategies. Beyond these theoretical perspectives, the findings align with research on digital learning environments proposed by Terry Anderson, who argues that digital technologies expand opportunities for interaction between learners, content, and peers. In this study, the interactive video not only provided explanations of Islamic Religious Education concepts but also encouraged classroom discussion and collaborative reflection among students. This interactive dimension contributed to higher motivation and greater classroom participation.

The present findings are consistent with several international studies examining interactive multimedia in religious and moral education contexts. Research conducted in Malaysia has shown that interactive digital media can improve students' engagement in Islamic education by combining visual storytelling, animation, and interactive questioning. Similar trends have been reported in studies from the Middle East, where multimedia-based Qur'anic and religious instruction has been found to support deeper conceptual understanding among elementary students. Globally, studies on interactive video learning have demonstrated that embedding reflective questions and visual explanations within instructional videos can significantly increase learner engagement and retention. The findings of this study reinforce these results, suggesting that interactive video is also an effective approach for teaching Islamic Religious Education at the elementary level.

The effectiveness of the developed media can be explained through several pedagogical mechanisms. First, the use of animated visual illustrations helps translate abstract religious concepts into concrete representations that are easier for elementary students to understand. Young learners typically benefit from visual explanations that connect new knowledge with familiar real-life contexts. Second, the inclusion of reflective questions within the video promotes active cognitive processing. Instead of passively watching the video, students are prompted to pause and think about the presented material. This process supports deeper learning because it encourages learners to organize information and relate it to prior knowledge. Third, the segmented structure of the video allows students to process information gradually. Short video segments with clear explanations reduce cognitive overload and make the learning process more manageable for elementary learners. From a pedagogical perspective, these design principles suggest that interactive media for Islamic Religious Education should emphasize visual clarity, structured explanations, and opportunities for reflection.

Despite these positive findings, the study also identified several practical challenges. Some students had limited access to digital devices, which may hinder the widespread implementation of video-based learning media. Additionally, teachers indicated that they require further training to effectively integrate digital learning tools into classroom instruction. These findings highlight the importance of ensuring equitable access to educational technology and providing professional development programs that support teachers in adopting digital pedagogies.

This study also contributes theoretically to the field of Islamic Religious Education by demonstrating how the ADDIE development model can be adapted for the design of interactive digital learning media in religious education contexts. While the ADDIE model has been widely applied in instructional design, its application in developing multimedia learning resources specifically for Islamic Religious Education remains relatively limited. The present study offers a practical framework for integrating multimedia learning principles, reflective questioning strategies, and curriculum-based content into interactive instructional videos for elementary-level PAI learning. By combining these elements within the ADDIE development process, the study illustrates how interactive digital media can support both cognitive engagement and conceptual understanding in religious education.

In summary, the study demonstrates that educational and interactive learning media developed through R&D methods can enhance learning quality by fostering engagement, motivation, and understanding. This result is in line with previous studies showing that the application of new learning methods can make children more interested in studying Islamic teachings (Sundirah et al., 2025). The media produced in this study met the criteria of being valid, practical, and effective, and thus serve as a valuable alternative instructional tool for Islamic Religious Education (PAI) at the elementary school level. From a pedagogical perspective, the findings suggest that the use of interactive multimedia can complement traditional teaching methods in Islamic Religious Education. Rather than replacing the teacher's role, digital media can serve as a supportive instructional tool that enhances explanation, visualization, and student participation. In summary, the developed interactive learning media demonstrate strong feasibility and practical value for supporting elementary-level Islamic Religious Education. The integration of multimedia elements and reflective interaction not only enhances student engagement but also creates a more dynamic and meaningful learning environment.

CONCLUSSION | خاتمة

This research and development study successfully produced an educational and interactive learning medium in the form of a digital instructional video designed to support learning in Islamic Religious Education at the elementary school level. Based on expert validation, the developed media achieved an average score categorized as "highly feasible," indicating that the instructional content, curriculum alignment, language clarity, and visual design met appropriate standards for classroom implementation. Student trials conducted through individual, small-group, and classroom testing also showed consistently positive responses, with average ratings in the "feasible" category. These findings indicate that the developed media are practically useful for supporting student engagement and facilitating the understanding of Islamic Religious Education concepts.

From a pedagogical perspective, the developed media demonstrate how interactive video can complement traditional classroom instruction by integrating narration, visual illustrations, animations, and reflective questions that encourage active participation. For teachers of Islamic Religious Education, several practical strategies can be considered when implementing this type of media. For example, teachers may integrate the video into classroom lessons by combining video segments with guided discussions, using student worksheets (LKPD) to encourage reflection on the content, and pausing the video at specific points to ask comprehension questions. Teachers may also develop structured reflection prompts and short formative quizzes that allow students to evaluate their understanding during the learning process. Such strategies can help transform video-based learning from passive viewing into an interactive and reflective

learning experience.

Despite these positive findings, several limitations should be acknowledged. First, the study was conducted in a single elementary school, which may limit the generalizability of the results to other educational contexts. Second, the number of participants involved in the trials was relatively small, particularly in the individual and small group testing stages. Third, the implementation period was relatively short, focusing mainly on feasibility and student responses rather than long-term learning outcomes. Therefore, the results should be interpreted with caution when applied to broader educational settings.

Future research can extend the findings of this study in several ways. Longitudinal studies could be conducted to examine the long-term impact of interactive video media on students' knowledge retention and learning motivation. Comparative studies may also explore differences between interactive video-based learning and other instructional approaches, such as traditional lecture methods or other forms of digital learning media. In addition, future research may investigate the integration of emerging educational technologies such as adaptive learning systems or artificial intelligence based feedback to enhance interactivity and provide more personalized learning experiences for students.

BIBLIOGRAPHY

مراجع

- Abdul, M., & Arif, H. (2020). Transformasi Digital dalam Pembelajaran Pendidikan Agama Islam di Era Industri 4.0. *Jurnal Pendidikan Islam*. 7(2), 145–158.
- Anderson, T. (2003). Getting the mix right again: An updated and theoretical rationale for interaction. *International Review of Research in Open and Distributed Learning*. 4(2), 1–14. <https://doi.org/10.19173/irrodl.v4i2.149>
- Azhar, S. (2022). Implementasi Kurikulum Merdeka dalam Pembelajaran Pendidikan Agama Islam di Sekolah Dasar. *Jurnal Inovasi Pendidikan Islam*. 4(1), 55–66.
- Branch, R. M. (2009). *Instructional Design: The ADDIE Approach*. New York: Springer.
- Fauziyah, N., Ramdani, R., & Suryana, T. (2023). Pemanfaatan Media Digital dalam Meningkatkan Motivasi Belajar Pendidikan Agama Islam. *Jurnal Teknologi Pendidikan Islam*. 6(2). 101–112.
- Herlina, D., Rahmadani, L., & Putri, A. (2024). Efektivitas Media Pembelajaran Digital terhadap Motivasi dan Hasil Belajar Siswa pada Mata Pelajaran PAI. *Jurnal Pendidikan dan Teknologi*. 8(1), 25–36.
- Kurniawan, A., & Widiastuti, D. (2022). Media pembelajaran interaktif berbasis teknologi dalam meningkatkan keaktifan siswa. *Jurnal Inovasi Teknologi Pendidikan*. 5(3), 211–223.
- Mayer, R. E. (2009). *Multimedia Learning (2nd ed.)*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511811678>.
- Miftah, M. (2022). Fungsi dan Peran Media Pembelajaran dalam Meningkatkan Kualitas Proses Belajar Mengajar. *Jurnal Ilmu Pendidikan*. 10(1), 33–42.
- Moore, M. G. (1989). Three types of interaction. *American Journal of Distance Education*. 3(2), 1–6. <https://doi.org/10.1080/08923648909526659>

- Nurul, A., Rahma, S., & Lestari, P. (2020). Pengaruh Penggunaan Media Pembelajaran Digital terhadap Minat Belajar Siswa Sekolah Dasar. *Jurnal Pendidikan Dasar*. 12(4), 274–283.
- Putri, D.I.R.A., Wulandari, F. (2004). Analysis Of Students' attitudes Towards Stem and 21st Century Skills in Elementary School from A Gender Perspective. *Abjadia: International Journal of Education*. 9.1: 267-278.
- Sundirah, S., Sutaman, S., & Hilmi, D. (2025). Development of Interactive Arabic Language Learning Evaluation Media Using the Wordwall Platform for Students at MIN 1 Malang. *Abjadia: International Journal of Education*. 10(3), 528-535.
- Surikno, S., Hidayati, N., & Yuliana, R. (2022). Urgensi Media Pembelajaran dalam Pendidikan Agama Islam di Sekolah Dasar. *Jurnal Pendidikan Islam Dasar*. 9(2), 145–157.
- Tetambe, A. G. (2025). Meta-analysis of the Effect of Interactive Learning Media on Student Learning Outcomes in Islamic Religious Education. *Dirasah: Jurnal Pendidikan Islam*. 6(2), 296-305.

