

Development of Tajweed Learning Videos in Qur'an Hadith Subject to Improve Students' Understanding of Mad Reading Rules at Madrasah Tsanawiyah

A. Sa'dud Darain¹, Halimatus Sa'diyah,² Intan Nur Aini³,
Juhairiyah⁴, Achmad Anshari⁵

^{1,2,3,4,5} Universitas Islam Negeri Madura, Indonesia

***Correspondence:**
saduddaroin44@gmail.com

Article History:

Received:
June 22, 2025
Revised:
July 18, 2025
Accepted:
July 22, 2025
Published:
July 23, 2025

Keywords:

Tajweed, Learning
Video, Mad Reading
Rules, Qur'an Hadith,
R&D

Abstract: This study aims to develop a tajweed learning video in the Qur'an Hadith subject, specifically on mad reading rules (Mad Thabi'i, Mad Wajib Muttashil, and Mad Jaiz Munfashil), and to evaluate its feasibility and effectiveness in enhancing students' understanding. The research employed a Research and Development (R&D) method, including expert validation and limited trials involving seventh-grade students at Madrasah Tsanawiyah. The results indicate that the developed video is both feasible and effective for tajweed learning. Its integrated visual and auditory approach helps students grasp tajweed concepts both theoretically and practically. Expert validation scored above 85%, while student responses were highly positive in terms of comprehension, engagement, and content clarity.

Abstrak: Penelitian ini bertujuan untuk mengembangkan video pembelajaran tajwid pada mata pelajaran Al-Qur'an Hadis, khususnya materi hukum bacaan mad (Mad Thabi'i, Mad Wajib Muttashil, dan Mad Jaiz Munfashil), serta mengevaluasi kelayakan dan efektivitasnya dalam meningkatkan pemahaman siswa. Metode yang digunakan adalah Research and Development (R&D), mencakup tahap validasi ahli dan uji coba terbatas pada siswa kelas VII Madrasah Tsanawiyah. Hasil penelitian menunjukkan bahwa video yang dikembangkan layak digunakan dan efektif mendukung pembelajaran tajwid. Pendekatan visual dan auditori yang terintegrasi membantu siswa memahami teori dan praktik tajwid secara lebih konkret. Validasi ahli menunjukkan skor kelayakan di atas 85%, dan respons siswa sangat positif dalam hal pemahaman, ketertarikan, dan kejernihan materi.

Please cite this article in APA style as:

Darain, A. Sa'dud; Sa'diyah, Halimatus; Aini, Intan Nur; Juhairiyah, and Anshari, Achmad. (2025). Development of Tajweed Learning Videos in Qur'an Hadith Subject to Improve Students' Understanding of Mad Reading Rules at Madrasah Tsanawiyah. *Journal of Islamic Education Research*, 6 (3), 331-342; doi: <https://doi.org/10.35719/jier.v6i3.506>



INTRODUCTION

The rapid development of information and communication technology in the era of the Industrial Revolution 4.0 and the emerging Society 5.0 has significantly transformed the field of education (Ziatdinov, et al., 2024; Tavares, et al., 2022; Humayun, 2021; Dito & Pujiastuti, 2021). Today's learning paradigm no longer relies solely on conventional methods; it demands the integration of digital media to deliver learning content more effectively and engagingly (Almuhanna, 2024; Yahya & Hidayat, 2023). This applies comprehensively across disciplines, including Islamic Religious Education, which encompasses cognitive, affective, and psychomotor domains. One of the crucial components of PAI is the teaching of Qur'an Hadith, particularly the science of *tajweed* (Tohet & Alfaini, 2023). Tajweed refers to the correct and beautiful recitation of the Qur'an in accordance with *makhārij al-ḥurūf* (articulation points of letters) and *ṣifāt al-ḥurūf* (characteristics of letters) (Ningsih & El-Yunusi, 2025). Mastery of tajweed is an obligation for every Muslim who recites the Qur'an, as commanded in Surah Al-Muzzammil [73]:4, which means: "...and recite the Qur'an in a measured tone." Incorrect recitation can lead to distortion of meaning and even compromise the message of divine revelation (Sinaga & Qorib, 2023). Therefore, a proper understanding and application of tajweed is part of the etiquette toward the Holy Book. Abdul Majid emphasized the urgency of tajweed in preserving the authenticity of the Qur'an, as it reflects the way it was taught by the Prophet Muhammad (Mahfud, 2023).

In response to the need for more appealing learning approaches, video-based media has emerged as an innovative solution to these challenges (Tani, et al., 2022; Krumm, et al., Fifin, 2024). Educational videos enable the simultaneous presentation of material in audio and visual formats (Perdiana, 2024). According to Arsyad, video media provides concrete learning experiences, demonstrates dynamic processes, and helps students form perceptions and understanding of abstract content (Umam & Emma, 2025). Videos that explain tajweed theories accompanied by direct Qur'anic examples, animated Arabic scripts, and highlighted reading rules can facilitate students' comprehension and retention (Diba & Rusdiyah, 2022). Furthermore, students can access these videos independently, anywhere and anytime, supporting student-centered learning that aligns with the digital era (Kerimbayev, et al., 2023; Maulana & Saputra, 2022).

However, field observations reveal that tajweed instruction in madrasahs or schools is still largely theoretical and lacks contextualization. Teaching is often delivered through lectures and memorization of definitions without concrete examples or practical application. As a result, many students struggle to translate theoretical knowledge into correct recitation, particularly in applying rules of elongation (*mad*). Among the most frequently misapplied tajweed rules are Mad Thabi'i, Mad Wajib Muttashil, and Mad Jaiz Munfashil, which differ in terms of letter position and duration of elongation. Misapplication of these rules diminishes the beauty of recitation and can even distort meaning.

Several previous studies have explored the development of instructional media for Qur'an Hadith learning. Uswatun (2025) reported that tajweed content delivered through TikTok videos was more effective than direct instruction in

improving students' recitation skills. This was evidenced by significant differences in learning outcomes and practical test scores. Farah (2025) noted that low motivation in learning the Qur'an was due in part to the rare use of interactive learning media; in her study at SD Islam Baitussalam, traditional lectures were still dominant despite poor learning outcomes. Alyah (2025) found that animated videos developed using the ADDIE model significantly boosted student motivation in Qur'an Hadith classes, as confirmed by surveys, observations, and interviews. Miranda (2024) observed that students taught using audiovisual media showed a greater understanding of Qur'anic content compared to those taught with traditional methods, as seen in higher test scores and the ability to contextualize verses in daily life. Fatmona (2022) highlighted that technology, such as educational videos and interactive apps, enhances engagement and comprehension in Qur'an Hadith learning. Students found learning more enjoyable, and teachers appreciated the ease of content delivery and task management. However, challenges remain in the form of limited infrastructure and insufficient teacher training.

Although prior research has shown the success of various digital media in Qur'an Hadith education, including TikTok videos, interactive platforms, and audiovisual content, most of these studies focused on general Islamic learning or digital media use at large. Few have provided in-depth exploration of specific tajweed content, particularly the rules of mad (*mad thabi'i*, *wajib muttashil*, *jaiz munfashil*), in the form of dedicated instructional videos. This represents a significant gap in the literature.

This research specifically addresses that gap by designing and developing an interactive animated video focused on the comprehension and practical application of mad reading rules within tajweed learning. Emphasis on this material is crucial due to the frequent errors made in applying mad rules, which can alter meaning. Beyond evaluating motivational outcomes, this study also analyzes students' practical ability to recite accurately after using the developed media.

The objective of the study "Development of Tajweed Learning Videos in Qur'an Hadith Subject to Improve Students' Understanding of Mad Reading Rules at Madrasah Tsanawiyah" is to determine the design of the video-based instructional product on mad reading rules (Mad Thabi'i, Wajib Muttashil, and Jaiz Munfashil), and assess its feasibility and effectiveness in enhancing students' understanding of tajweed. The clear visuals and proper *tartil* recitations offer students a more engaging and enjoyable learning experience, thereby increasing motivation. These videos also support independent learning at home, strengthening the concept of family-based learning.

METHOD

This study employed a Research and Development (R&D) method aimed at producing a tajweed learning video and evaluating its effectiveness in the learning process. R&D is defined as a process of developing new products or refining existing ones to ensure their functionality, usability, and accountability in practical settings (Santos & Brandão, 2022; Borden & Torstrick, 2025; Okpatrioka, 2023). The

development model used in this study was the ADDIE model, which consists of five systematic stages: Analyze, Design, Development, Implementation, and Evaluation. ADDIE is a commonly used instructional design framework known for its clarity and structured workflow in educational media development (Spatioti, et al., 2022; Zou, et al., 2024; Syahid, et al., 2024).

In the analysis stage, researchers identified the learning needs and common obstacles faced by students in understanding mad reading rules in tajweed. During the design phase, a blueprint for the video content was created, focusing on the three core mad rules: Mad Thabi'i, Mad Wajib Muttashil, and Mad Jaiz Munfashil. In the development stage, the video was produced using multimedia editing tools, incorporating audio-visual elements such as voiceover narration, animation, and highlighted Arabic script. This product was then implemented in a classroom setting during a limited trial. Finally, in the evaluation phase, expert validations and student feedback were collected to assess the video's quality, clarity, and instructional effectiveness.

The study was conducted at MTs Nahdliyatul Islamiyah and involved 20 seventh-grade students selected through purposive sampling based on their active participation in the Qur'an Hadith subject. In addition to student participants, one subject teacher with expertise in tajweed was involved to validate the content and instructional design of the video. Data were collected using questionnaires, expert validation sheets, and semi-structured interviews. The student questionnaire was developed to measure various aspects such as engagement, ease of understanding, and the video's usefulness in supporting learning. Meanwhile, the expert validation focused on assessing the accuracy of tajweed content, the clarity of narration, and the appropriateness of visual elements.

The data analysis used a combination of qualitative and quantitative techniques. Likert scale responses from the student questionnaire were converted into numerical scores, then quantified into percentages to determine the feasibility and level of student acceptance. Content validity was examined through expert evaluations, and descriptive quantitative analysis was used to identify trends and calculate mean values from the student responses. This combination of methods provided a comprehensive assessment of the animated tajweed learning video from both pedagogical and user-centered perspectives.

RESULT AND DISCUSSION

RESULT

This study resulted in the development of an animated video as a learning product, designed through an online-based platform. The material delivery and evaluation were guided by structured questions and student questionnaires. The animated video includes several essential components, which are outlined in the table below:

Table 1. Video Content Components

No.	Video Content	Description
1	Introduction to Tajweed	A brief overview to connect the topic with the importance of proper Qur'anic recitation.
2	Theoretical Explanation	Definitions and short theoretical explanations for each mad reading rule.
3	Qur'anic Verse Examples	Includes verses exemplifying each mad rule, recited in tartil by a narrator.
4	Color Highlighting	Color coding on mad letters and hamzah to assist identification of rules.
5	Arabic Text, Transliteration, and Translation	Presented sequentially and dynamically.
6	Narration and Intonation	Clear and rule-compliant narration and intonation.

The media was developed using a simplified 2D design approach. Some of the video animation visuals are shown in the following figure:



Figure 1. Display of Animated Video

The final product of this study is an animated instructional video on tajweed, which has been validated by both media and content experts. The following section presents the validation results.

Expert Validation

Expert validation involved feedback from both a media expert and a content expert.

1. Media Expert

The media expert, Mr. Yahya, a master's student in media communication, assessed the video and gave a score of 93% after one revision, placing it in the "Excellent" category. Before the revision, several suggestions were made, such as

improving the visual appeal (particularly the color choices and audio clarity), and resizing some of the Arabic letters which were initially too small and dense, making them uncomfortable to view. Following revisions based on this feedback, the product was considered ready for trial.

2. Content Expert

The content expert, Mr. Masbahuddin, a university lecturer and tajweed specialist, gave a score of 83%, also placing it in the "Excellent" category after one revision. His feedback prior to revision included expanding the content coverage, aligning assessment items more accurately with learning objectives, and adjusting test questions to better match the competencies being measured.

Product Trial

The product trial was conducted in the form of classroom implementation involving the animated video as a teaching aid. The lesson began with a warm greeting and a personal check-in with students, such as asking how they were feeling, if anyone was ill, or absent with permission. This step was intended to create a comfortable emotional atmosphere before entering the core learning phase.

By initiating a human-centered learning environment, the researcher aimed to foster a sense of care and build rapport with the students. This was followed by motivational questioning to spark critical thinking, along with a brief explanation of the *mad* reading rules to give students a conceptual preview before watching the animated video. Before entering the main material, an ice-breaking activity, such as a group cheer, was introduced to lighten the mood and build enthusiasm. This simple act effectively relaxed the class and encouraged students to participate more actively in the lesson.

Student Reactions to the Animated Learning Video

Seventh-grade students at MTs Nahdliyatul Islamiyah responded very positively and enthusiastically to the use of animated instructional videos. Many expressed a preference for learning through animated videos compared to traditional lecture-based videos alone. The animation-based approach was found to be more effective in increasing student engagement and motivation, which aligns with the field data: 74% of the students agreed that animated instructional videos serve as an effective supplementary teaching tool to prevent boredom in class.

In addition, students highly appreciated the accessibility of the video, stating that they could watch it anytime and anywhere. The visual appeal and dynamic content made it easier for them to grasp tajweed concepts, and many noted that the animations enhanced their learning experience significantly.

The novelty of this research lies in its specific focus on the development of animated instructional videos targeting the rules of *mad* in tajweed, namely *Mad Thabi'i*, *Mad Wajib Muttashil*, and *Mad Jaiz Munfashil*. While previous studies have generally explored digital media for Qur'an and Hadith learning, most have treated tajweed as a broad subject or focused on increasing motivation without addressing concrete tajweed content. This study fills that gap by designing an interactive learning tool that not only explains theoretical tajweed principles but also

demonstrates their practical application through visual and auditory elements. The targeted nature of the material makes this product especially valuable for foundational tajweed instruction at the junior secondary level.

Furthermore, this research contributes to the field by integrating pedagogical content knowledge with digital media through the ADDIE model, resulting in a learning product that is both theoretically grounded and practically implementable in madrasah classrooms. The video allows students to learn tajweed in a student-centered, flexible, and accessible format, addressing the challenges of conventional, lecture-based methods that often fail to engage learners. By focusing on the often-neglected area of *mad* rules and validating the product through expert review and classroom trials, this study offers a scalable and replicable model for future innovations in Islamic education technology.

DISCUSSION

The development of an animated instructional video on *mad* recitation rules in this study aligns with the broader objective of enhancing Qur'an-Hadith learning through multimedia innovation. The video content was designed via an online-based platform and structured using clear delivery and evaluation frameworks, such as guided questions and student feedback. Several core components were embedded in the animation, including introductory tajweed context, theoretical explanation, Qur'anic verse examples, and supportive features such as color coding, transliteration, and dynamic narration. These features are consistent with previous research, which emphasized the importance of combining auditory and visual elements to support learning engagement and comprehension (Pasampuri, et al., 2024; Pellicer-Sánchez, 2021; Shaojie, et al., 2022).

The product was developed using a simplified 2D design, validated through expert assessment. A media expert provided a 93% validation score (excellent category), citing visual appeal and audio clarity as initial areas for improvement. Similarly, the content expert assigned a score of 83%, also categorized as excellent after addressing feedback related to content depth and alignment with learning objectives. This level of expert validation supports the product's feasibility and pedagogical robustness, echoing prior findings by Cici Farida, Destiniar, and Nyiayu Fahriza Faudiah, whose animation-based media on data presentation also achieved high validation scores (93%) for both content and design (Farida, Destiniar, & Faudiah, 2022).

Field implementation further confirmed the product's effectiveness. The instructional session began with emotionally supportive routines and interactive activities to establish a learner-centered atmosphere, followed by motivational questioning and conceptual previews. This human-centered instructional design successfully created a comfortable and participatory classroom environment, which proved essential for maintaining student engagement throughout the lesson.

Students' responses to the animated learning video were overwhelmingly positive. Approximately 74% of students expressed that the video format helped prevent boredom and improved their motivation to learn tajweed. This is consistent with the claims of previous studies stating that animation-based media can enhance

student focus and interest (Singh & Ozarkar, 2024; Budakoğlu, et al., 2023; Pasampuri et al., 2024). Students also highlighted the video's flexibility, noting its accessibility for repeated viewing and the clarity of the visual representations.

Crucially, this study emphasizes *mad* rules (*mad thabi'i*, *mad wajib muttashil*, and *mad jaiz munfashil*) which are often overlooked in previous digital media developments that treat tajweed more generally or focus solely on motivational impact. The specificity of the content represents a novel contribution. As a result, this research not only addresses the existing theoretical and practical gaps but also presents a replicable model of instructional media development grounded in the ADDIE model and Higher Order Thinking Skills (HOTS) framework.

The animation video produced in this study features HOTS-oriented materials and assessments. Approximately 70% of the instructional slides and 100% of the evaluation components were designed with HOTS criteria, targeting cognitive levels C1–C3, particularly emphasizing level C3 (application). This aligns with Wati and Widiana (2024), who suggest that incorporating HOTS in digital media supports the development of students' analytical and creative thinking. For instance, learners were stimulated to infer the relationships between letter visuals and tajweed rules, thereby encouraging deep processing and reflective understanding.

Overall, the integration of pedagogical content knowledge with digital media through the ADDIE model and a HOTS-based approach resulted in a product that is both educationally sound and practically implementable in madrasah classrooms. As noted by Hanafi, Syamsuri, and Mutaqin (2022), such approaches train students to analyze, evaluate, and solve problems, skills that are critical for mastering tajweed beyond rote memorization.

This study makes a significant contribution to the development of digital-based Islamic education, particularly in the context of tajweed instruction. By focusing specifically on *mad* rules (*mad thabi'i*, *mad wajib muttashil*, and *mad jaiz munfashil*) the research addresses a concrete and often underrepresented component in Qur'anic learning media. The structured integration of visual, textual, and auditory elements in the animated video allows for clearer conceptualization of abstract tajweed rules, bridging the gap between theory and practice. This makes the product a practical instructional tool for teachers, especially in madrasah settings where limited resources and conventional lecture-based approaches can hinder student engagement.

In addition, this research contributes methodologically by applying the ADDIE development model in a way that emphasizes Higher Order Thinking Skills (HOTS). The product does not merely transfer knowledge but also fosters analytical thinking by encouraging students to relate visual patterns with tajweed concepts. The media's accessibility and flexibility support differentiated learning, allowing students to revisit material independently outside class hours. This makes the research relevant for future innovations in Islamic educational technology and a valuable reference for educators, curriculum developers, and media designers seeking to integrate religious content with contemporary pedagogical strategies.

CONCLUSION

The quality of the developed interactive multimedia, based on expert validation results, indicates that the product is highly feasible for use in instructional settings. The media expert provided an average score of 93%, and the content expert provided an average score of 83%, both falling into the “very feasible” category and requiring no further revisions. These findings suggest that the animated instructional video is ready for classroom application. The development process, supported by structured design and pedagogical alignment, demonstrates that the animation effectively supports students' understanding of the *mad* recitation rules in the Qur'an.

Moreover, the animated video increases students' interest and engagement, especially in mastering abstract concepts such as the types and pronunciation of *mad* letters. The integration of moral values through interactive visual narratives also proves to be an effective approach in making character education more meaningful and relatable for students. The visual and dynamic presentation fosters active student participation and supports student-centered learning models. Additionally, the use of this animation-based instructional media has shown potential in improving students' conceptual understanding and academic performance, particularly in materials related to moral and character education. Therefore, it is recommended that future research extend this development to a larger-scale trial to measure its effectiveness more comprehensively and explore its application across other subjects, including physics.

ACKNOWLEDGMENT

The authors would like to express their deepest gratitude to Universitas Islam Negeri Madura for the continuous support and encouragement throughout the research process. Special appreciation is extended to the headmaster, teachers, and students of MTs Nahdliyatul Islamiyah Blumbungan, Larangan, Pamekasan, who generously provided their time, participation, and valuable feedback during the development and trial of the animated instructional video.

We also sincerely thank the media and content validation experts whose insights significantly improved the quality of the product. This collaborative research was made possible through the dedicated efforts of all contributing authors: A. Sa'dud Darain, Halimatus Sa'diyah, Intan Nur Aini, Juhairiyah, and Achmad Anshari, who shared a unified commitment to enhancing the quality of tajweed learning through innovative and accessible multimedia solutions.

REFERENCES

- Almuhanha, M. A. (2024). Teachers' perspectives of integrating AI-powered technologies in K-12 education for creating customized learning materials and resources. *Education and Information Technologies*, 1-29. <https://doi.org/10.1007/s10639-024-13257-y>

- Alyah, S. N., Ijudin, I., & Anisah, S. (2025). Pengembangan video animasi untuk meningkatkan motivasi belajar siswa pada pelajaran Qur'an Hadits. *Journal of Classroom Action Research*, 7(Special Issue), 388–396. <https://doi.org/10.29303/jcar.v7iSpecialIssue.10509>
- Borden, V., & Torstrick, R. (2025). Strategic academic research and development: Definitions and defining case. *Education Sciences*, 15(3), 276. <https://doi.org/10.3390/educsci15030276>
- Budakoğlu, I. İ., Coşkun, Ö., & Özeke, V. (2023). e-PBL with multimedia animations: a design-based research. *BMC Medical Education*, 23(1), 338. <https://doi.org/10.1186/s12909-023-04298-x>
- Diba, I. F., & Rusdiah, E. F. (2022). Implementasi pembelajaran daring terintegrasi digital melalui model ASSURE pada materi tajwid. *Jurnal Basicedu*, 6(1), 1075–1085. <https://doi.org/10.31004/basicedu.v6i1.2127>
- Dito, S. B., & Pujiastuti, H. (2021). Dampak revolusi industri 4.0 pada sektor pendidikan: Kajian literatur mengenai digital learning pada pendidikan dasar dan menengah. *Jurnal Sains dan Edukasi Sains*, 4(2), 59–65. <https://doi.org/10.24246/juses.v4i2p59-65>
- Farah, S. A. (2025). Efektivitas penggunaan video animasi dalam pembelajaran BTQ terhadap hasil belajar membaca Al-Qur'an siswa kelas III di SD Islam Baitussalam 01 Pesindon Pekalongan [Skripsi, UIN KH Abdurrahman Wahid Pekalongan].
- Fatmona, R. (2022). Penggunaan teknologi informasi dalam pembelajaran Al-Qur'an Hadits: Studi kasus di kelas IXA MTsN 1 Kepulauan Sula. *Al-Mizan: Jurnal Kajian Hukum dan Ekonomi*, 167–180. <https://ejurnal.staibabussalamsula.ac.id/index.php/al-mizan/article/view/159>
- Fifin, F. I. (2024). Penggunaan media video animasi edukasi pada materi mengenal huruf hijaiyah dan ilmu tajwid bagi siswa madrasah ibtidaiyah. *TSAQAFATUNA: Jurnal Ilmu Pendidikan Islam*, 6(1), 1–14. <https://doi.org/10.54213/tsaqafatuna.v6i1.337>
- Hanafi, M., Syamsuri, S., & Mutaqin, A. (2022). Pengembangan instrumen soal Higher Order Thinking Skills (HOTS) matematika berdasarkan Brookhart konteks motif batik Pandegelang pada siswa MTs. *Media Pendidikan Matematika*, 10(1), 43. <https://doi.org/10.33394/mpm.v10i1.5207>
- Humayun, M. (2021). Industrial revolution 5.0 and the role of cutting edge technologies. *International Journal of Advanced Computer Science and Applications*, 12(12). <https://doi.org/10.14569/IJACSA.2021.0121276>
- Kerimbayev, N., Umirzakova, Z., Shadiev, R., & Jotsov, V. (2023). A student-centered approach using modern technologies in distance learning: a systematic review of the literature. *Smart Learning Environments*, 10(1), 61. <https://doi.org/10.1186/s40561-023-00280-8>

- Krumm, I. R., Miles, M. C., Clay, A., Carlos Ii, W. G., & Adamson, R. (2022). Making effective educational videos for clinical teaching. *Chest*, 161(3), 764-772. <https://doi.org/10.1016/j.chest.2021.09.015>
- Mahfud, R. (2023). *Pelajaran ilmu tajwid*. PT RajaGrafindo Persada-Rajawali Pers.
- Maulana, R., & Saputra, D. (2022). Pengembangan media video sebagai pembelajaran ilmu tajwid. *Journal Informatic, Education and Management (JIEM)*, 4(1), 1-7. <https://doi.org/10.61992/jiem.v4i1.40>
- Miranda, M., Sutarto, S., & Siswanto, S. (2024). *Media audio visual dalam pembelajaran dan implementasi terhadap pemahaman siswa pada mata pelajaran Al-Qur'an penggunaan Hadis*. Institut Agama Islam Negeri Curup. <https://e-theses.iaincurup.ac.id/8122/>
- Ningsih, R. Y., & El-Yunusi, M. Y. M. (2025). Pembinaan dalam meningkatkan pengetahuan dan pemahaman ilmu tajwid bagi santri di TPQ Musholla Hikmah Batam. *Jurnal Pengabdian Kepada Masyarakat*, 1(2), 87-99. <https://doi.org/10.71305/jpkm.v1i2.201>
- Okpatrioka. (2023). *Research and development (R&D): Penelitian yang inovatif dalam pendidikan*. Dharma Acariya Nusantara: Jurnal Pendidikan, Bahasa dan Budaya, 1(1), 86-100. <https://doi.org/10.47861/jdan.v1i1.154>
- Pasampuri, T., Syarifnur, & Jusman. (2024). Pengenalan media pembelajaran berbasis video animasi untuk meningkatkan motivasi belajar siswa di SDN 110 Lura. *Journal Scientific of Mandalika (JSM)*, 5(12), 496-501. <https://doi.org/10.36312/10.36312/vol5iss12pp496-501>
- Pellicer-Sánchez, A. N. A., Conklin, K., Rodgers, M. P., & Parente, F. (2021). The effect of auditory input on multimodal reading comprehension: An examination of adult readers' eye movements. *The Modern language journal*, 105(4), 936-956. <https://doi.org/10.1111/modl.12743>
- Perdiana, Y. N. U. R. (2024). *Pengembangan media video animasi "Yuk Belajar Tajwid" untuk meningkatkan motivasi belajar siswa pada mata pelajaran PAI kelas X SMAN 3 Kediri*. IAIN Kediri. https://etheses.iainkediri.ac.id/13455/1/20201078_prabab.pdf
- Santos, J., & Brandão, A. S. (2022). The R&D Canvas: A Design Thinking Tool for the Management of R&D Projects. *Journal of Research Administration*, 53(1), 62-92. <https://eric.ed.gov/?id=EJ1348009>
- Shaojie, T., Samad, A. A., & Ismail, L. (2022). Systematic literature review on audio-visual multimodal input in listening comprehension. *Frontiers in Psychology*, 13, 980133. <https://doi.org/10.3389/fpsyg.2022.980133>
- Sinaga, N. N., & Qorib, M. (2023). Penerapan ilmu tajwid Al-Qur'an kepada siswa kelas VII di sekolah MTs. Al-Jam'iyatul Washliyah Tembung. *Jurnal Penelitian Ilmu Pendidikan Indonesia*, 2(4), 439-443. <https://doi.org/10.31004/jpion.v2i4.189>

- Singh, P. K., & Ozarkar, A. (2024). Use of Animation in Design Education—A Review of Literature. *International Journal of Educational Reform*. <https://doi.org/10.1177/10567879241278685>
- Spatioti, A. G., Kazanidis, I., & Pange, J. (2022). A comparative study of the ADDIE instructional design model in distance education. *Information*, 13(9), 402. <https://doi.org/10.3390/info13090402>
- Syahid, I. M., Istiqomah, N. A., & Azwary, K. (2024). Model ADDIE dan ASSURE dalam pengembangan media pembelajaran. *Journal of International Multidisciplinary Research*, 2(5), 258–268. <https://doi.org/10.62504/jimr469>
- Tani, M., Manuguerra, M., & Khan, S. (2022). Can videos affect learning outcomes? Evidence from an actual learning environment. *Educational technology research and development*, 70(5), 1675–1693. <https://doi.org/10.1007/s11423-022-10147-3>
- Tavares, M. C., Azevedo, G., & Marques, R. P. (2022). The challenges and opportunities of era 5.0 for a more humanistic and sustainable society—a literature review. *Societies*, 12(6), 149. <https://doi.org/10.3390/soc12060149>
- Tohet, M., & Alfaini, F. Z. (2023). Pembelajaran hybrid: Integrasi pembelajaran berbasis teknologi dengan konvensional untuk meningkatkan motivasi belajar tajwid. *At-Tajdid: Jurnal Pendidikan dan Pemikiran Islam*, 7(2), 509–521. <http://dx.doi.org/10.24127/att.v7i2.3005>
- Umam, K., & Emma, K. (2025). Meningkatkan kemampuan membaca fasih Al-Qur'an melalui video pembelajaran interaktif pada mata pelajaran Al-Qur'an Hadits di MTs Islamiyah. *Jurnal Miftahul Ilmi: Jurnal Pendidikan Agama Islam*, 2(2), 62–72. <https://doi.org/10.59841/miftahulilmi.v2i2.82>
- Wati, L. S. D., & Widian, I. W. (2024). Media pembelajaran literasi berbasis kearifan lokal untuk meningkatkan kemampuan HOTS peserta didik. *Jurnal Media dan Teknologi Pendidikan*, 4(4), 563–571. <https://doi.org/10.23887/jmt.v4i4.57857>
- Yahya, M., & Hidayat, A. (2023). Implementasi artificial intelligence (AI) di bidang pendidikan kejuruan pada era revolusi industri 4.0. In *Seminar Nasional Dies Natalis* 62 (Vol. 1, pp. 190–199). <https://doi.org/10.59562/semnasdies.v1i1.794>
- Ziatdinov, R., Atteraya, M. S., & Nabiye, R. (2024). The fifth industrial revolution as a transformative step towards society 5.0. *Societies*, 14(2), 19. <https://doi.org/10.3390/soc14020019>
- Zou, D., Jong, M. S. Y., Huang, X., Cheng, G., Hwang, G. J., & Jiang, M. Y. C. (2024). A systematic review of SVVR in language education in terms of the ADDIE model. *Interactive Learning Environments*, 32(10), 6672–6697. <https://doi.org/10.1080/10494820.2023.2277747>