



Digital Learning Media in Islamic Religious Education: A Systematic Literature Review in Indonesia

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Abstract

This systematic literature review examines the trends, challenges, and future directions of digital learning media in Islamic Religious Education (IRE) across Indonesia. Following PRISMA guidelines, the study synthesizes articles published between 2022 and 2026 from Scopus, Sinta, and Google Scholar databases. Findings indicate significant growth in LMS adoption, interactive multimedia, blended learning, and AI/VR/AR integration, reflecting a paradigm shift toward personalized and flexible learning. However, persistent challenges encompass infrastructure disparities, limited teacher digital competence, content validity concerns, and digital ethics issues. The study proposes Value-Embedded Digital Pedagogy (VEDiP) as a future framework emphasizing the integration of technological advancement with Islamic spiritual and moral values. These findings offer practical implications for educators, policymakers, and researchers seeking to develop adaptive digital learning environments that balance innovation with the foundational principles of Islamic education.

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INTRODUCTION

Background and rationale of the study:

The integration of technology into Islamic Religious Education (IRE) has become an urgent necessity to enhance students' learning experiences and comprehension through the utilization of adaptive, inclusive digital media aligned with contemporary educational trends. Prior research indicates that the use of technologies such as Augmented Reality and Virtual Reality in IRE instruction in Indonesia continues to increase, although their application remains limited in areas such as hajj and umrah metaverse content, tajwid science, and hijaiyyah letter recognition ([Hammadamin & Nordin, 2024](#); [S. Maarif et al., 2023](#)). Concurrently, other studies reveal that the selection of IRE learning media in the technological era carries significant urgency, as accessibility and inclusivity are absolute considerations that educators must address to ensure that IRE instruction proceeds in accordance with contemporary challenges and student needs ([Hammadamin & Nordin, 2024](#); [Hendrik et al., 2024](#); [Husni & Mufidah, 2023](#)). This demonstrates that digital media in IRE functions not merely as a supplementary tool but as a transformative instrument capable of substantially enhancing student motivation and learning outcomes ([Hammadamin & Nordin, 2024](#); [S. Maarif et al., 2023](#)).

Enhancing digital literacy among educators and students constitutes a crucial factor in establishing effective and inclusive learning environments while accommodating diverse learning styles and improving interaction through blended learning approaches. Research demonstrates that IRE teachers must possess creativity, particularly in enhancing digital competencies, as the primary challenge in technology utilization lies in teachers' mastery of technological innovations in the digital era

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([Hammadamin & Nordin, 2024](#); [Ruzakki et al., 2024](#)). Furthermore, blended learning models that integrate traditional face-to-face instruction with digital online learning have proven more effective, efficient, and flexible, while also cultivating students' critical thinking skills within the IRE context ([Esa et al., 2025](#); [Hammadamin & Nordin, 2024](#)). Thus, strengthening digital literacy represents a fundamental prerequisite for optimizing technology integration in IRE and producing meaningful learning experiences for all students ([Hammadamin & Nordin, 2024](#); [Hendrik et al., 2024](#)).

Literature review:

Systematic Literature Review (SLR) constitutes an effective method for identifying, evaluating, and synthesizing research related to digital learning media, thereby providing a comprehensive overview and solutions to pedagogical challenges in Islamic Religious Education. SLR is defined as a systematic and structured research method for searching, collecting, analyzing, and synthesizing data from specific sources comprehensively ([Asdlori, 2023](#); [S. Maarif et al., 2023](#)). Within the IRE context, the SLR approach has been employed to explore various aspects such as 21st-century learning models, learning media during the pandemic, as well as authentic and diagnostic assessment strategies, all of which contribute significantly to understanding the challenges and opportunities of technology integration ([Fahd et al., 2021](#); [Hendrik et al., 2024](#)). Through this approach, researchers can obtain a comprehensive and objective understanding of existing literature, enabling findings that can serve as a foundation for developing improved IRE digital learning media ([Asdlori, 2023](#); [S. Maarif et al., 2023](#)).

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol-based SLR method enables transparent, valid, and reliable research while helping identify research gaps for further digital learning media development. PRISMA is a systematic review reporting guideline comprising checklists and flow diagrams, developed to enhance transparency and accuracy in literature reviews and has been widely employed across various disciplines worldwide ([Asdlori, 2023](#); [Karina et al., 2023](#)). PRISMA's advantage over other protocols lies in its comprehensiveness and potential to improve consistency across reviews, including assisting in establishing relevant inclusion and exclusion criteria for research ([Fahd et al., 2021](#); [Karina et al., 2023](#)). By following the identification, screening, eligibility, and inclusion stages, the PRISMA protocol ensures that the review process proceeds in a structured and reproducible manner, producing scientifically accountable findings ([Asdlori, 2023](#); [Karina et al., 2023](#)).

This study's research questions focus on the trends, challenges, and prospects of digital learning media in Islamic Religious Education, aiming to provide relevant and practical development recommendations. Previous research has identified that primary challenges in technology utilization in IRE include device limitations, poor internet infrastructure, and the inability of some parents to finance digital access ([Hammadamin & Nordin, 2024](#); [Hendrik et al., 2024](#)). On the other hand, the distribution of learning media used by IRE teachers in the technological era is divided into two categories: technology-based media without internet networks and technology-based media with internet networks, each possessing distinct advantages and limitations ([Hammadamin & Nordin, 2024](#); [S. Maarif et al., 2023](#)). Therefore, this research endeavors to address fundamental questions regarding current trends, challenges faced, and future prospects of digital learning media in IRE to provide practical guidance for educators and policymakers ([Hendrik et al., 2024](#); [S. Maarif et al., 2023](#)).

Gap analysis:

The development of digital learning media in IRE must consider the spiritual and moral values of Islamic education while simultaneously fostering students' critical thinking abilities, ensuring that the resulting media are both informative and educationally valuable. Research indicates that religious content used as learning materials is closely related to community life, placing responsibility on IRE teachers to instill good character through effective instruction so that students can acquire Islamic understanding and implement Islamic morals ([Hammadamin & Nordin, 2024](#); [Ruzakki et al., 2024](#)). Moreover, optimizing assessment in IRE through technology integration is necessary to make learning more dynamic, efficient, holistic, and meaningful, including in evaluating understanding of Islamic concepts and the application of Islamic values in daily life ([Fahd et al., 2021](#); [Hendrik et al., 2024](#)). Thus, IRE digital learning media must not merely pursue technological sophistication but must remain rooted in the fundamental values of Islamic education ([S. Maarif et al., 2023](#); [Ruzakki et al., 2024](#)).

Comprehensive analysis of trends, challenges, and prospects of digital learning media in Islamic Religious Education is necessary to formulate effective strategies for integrating technology with Islamic educational values in the digital era. Previous studies affirm that further research needs to examine in depth the influence of technology-based learning models, particularly blended learning and e-learning, as 21st-century demands require learning to progress alongside technology and enhance student learning outcomes in IRE ([Esa et al., 2025](#); [Hammadamin & Nordin, 2024](#)). Similarly, challenges such as the scarcity of literature examining cutting-edge technology utilization in IRE indicate that the scope of technology-based learning materials delivered to students remains limited ([Hendrik et al., 2024](#); [S. Maarif et al., 2023](#)). Therefore, this research aims to provide a comprehensive systematic review to map the current research landscape and offer strategic recommendations for developing digital learning media aligned with Islamic educational values in the future ([Fahd et al., 2021](#); [Hammadamin & Nordin, 2024](#); [S. Maarif et al., 2023](#)).

Purpose or Hypotheses of the study:

In conducting a comprehensive and structured study on various aspects including AR technology in biology education, we formulated three Research Questions for this study, namely:

- RQ 1: What are the research trends concerning learning media in Islamic Religious Education studies in Indonesia?
- RQ 2: What are the challenges in developing Islamic Religious Education learning media in the future?
- RQ 3: What is the future research outlook in the field of learning media in Islamic Religious Education studies?

METHOD

To provide a comprehensive overview of the current literature concerning trends, challenges, and future prospects of learning media in the field of Islamic Religious Education, we conducted a Systematic Literature Review (SLR) following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The aim of this study was to analyze the content of selected articles to address all research questions we had formulated. Article searches were conducted across Scopus, Sinta, and Google Scholar databases using keywords such as 'Learning Media', 'Digital Learning', 'Islamic Education', 'Pendidikan Agama Islam', 'Media Pembelajaran', and 'PAI'. However, from the numerous articles obtained, only those meeting the following inclusion criteria were selected for analysis:

1. Articles published in reputable journals to ensure the quality of analyzed articles. In this regard, we selected articles from journals indexed in Scopus, Sinta, and Google Scholar.
2. Articles published within the last five years, specifically during the 2022–2026 period, to identify current research trends.
3. Articles written in English or Indonesian and available as open access.
4. Articles genuinely addressing IRE learning media.

To accurately identify targeted articles, we established exclusion criteria for document types identified by search engines, namely: conference proceedings, books, book reviews, magazines, brief surveys, correspondence, newsletters, discussions, product reviews, editorials, errata, and publisher notes. After applying these exclusion criteria, the final set of articles was read and analyzed. Figure 1 presents the PRISMA flow diagram employed in this study.

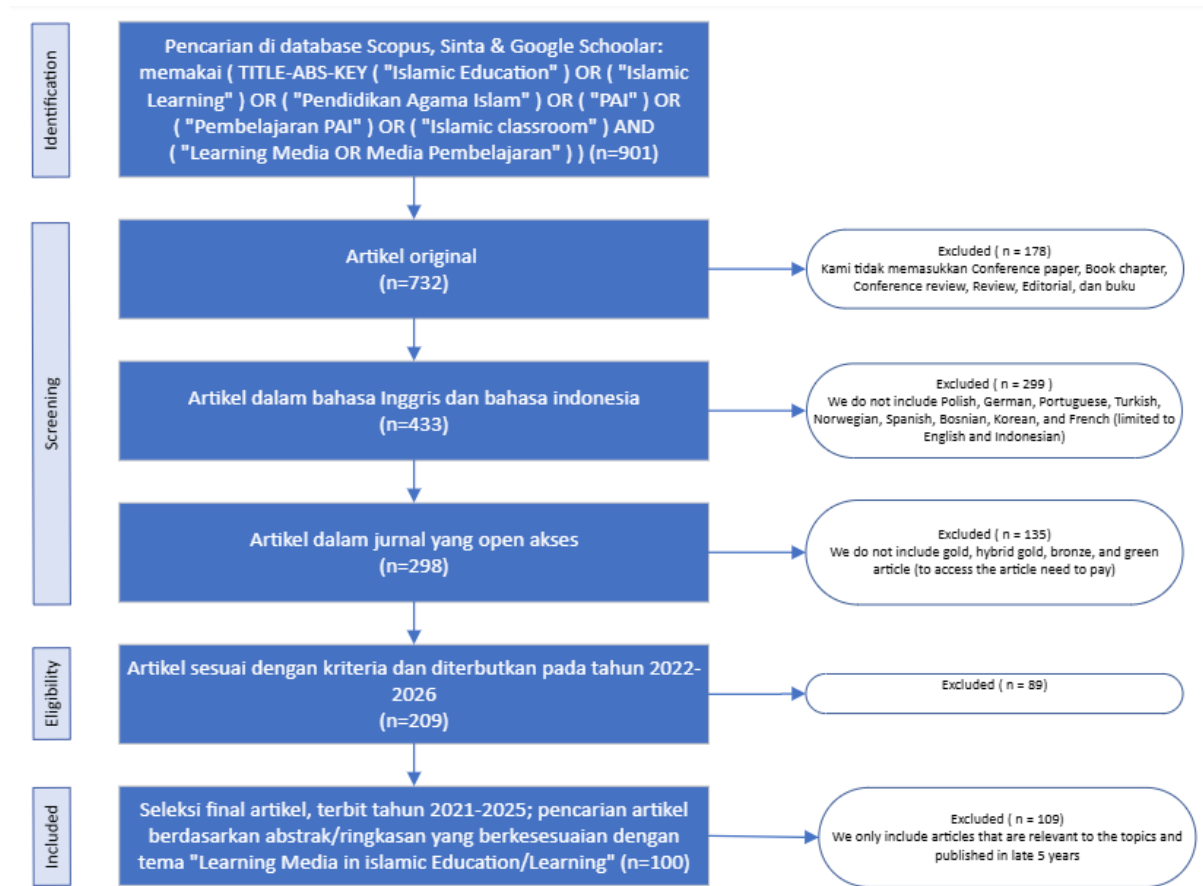


Figure 1. PRISMA Flow Diagram for Learning Media in Islamic Religious Education

RESULTS AND DISCUSSION

RESULTS

Data Extraction

In this study, the data extraction process was conducted systematically following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to obtain a comprehensive overview of trends, challenges, and the future of digital learning media in Islamic Religious Education (IRE). Literature identification was performed through Scopus, Sinta, and Google Scholar databases using keyword combinations such as "Learning Media", "Digital Learning", "Islamic Education", "Pendidikan Agama Islam", "Media Pembelajaran", and "PAI".

The initial identification phase yielded numerous articles relevant to the research focus. Subsequently, a screening process was conducted by removing duplicate articles and evaluating the alignment of titles, abstracts, and keywords with the research objectives. At this stage, articles that did not directly address digital learning media within the IRE context were eliminated.

The next stage involved eligibility assessment, comprising a thorough examination of article content to ensure compliance with the study's inclusion and exclusion criteria. Articles in the form of conference proceedings, editorials, book reviews, magazines, and non-empirical documents were excluded from analysis. Additionally, articles lacking full-text access and those without direct relevance to IRE learning media development were removed from the review process.

Following the selection process, articles meeting the criteria were analyzed using an integrative thematic analysis approach. This technique was employed to identify patterns, themes, and relationships across studies concerning digital learning media development in Islamic Religious Education. Extracted data encompassed:

1. Year of article publication,
2. Country and institutional affiliation of authors,
3. Types of digital learning media employed,
4. Pedagogical and digital competencies of teachers,
5. Research methods utilized,
6. Research keywords,
7. Challenges in implementing digital media,
8. Recommendations and future research directions.

Subsequently, the extracted data were categorized into several main thematic areas representing the research focus, namely: (1) trends in digital learning media development in IRE, (2) challenges of digital media implementation, and (3) future research outlook for Islamic Religious Education learning media.

Overview of Findings

Literature analysis results indicate that digital transformation has brought significant changes to Islamic Religious Education learning practices. Research findings generally demonstrate that the use of digital media in IRE has grown rapidly following the COVID-19 pandemic, particularly in supporting flexible, interactive, and technology-based learning.

a. Distribution of Publication Years

The majority of analyzed articles were published during the 2023-2025 period. The increase in publications during this period reflects substantial academic attention to the digitalization of Islamic Religious Education, particularly concerning the use of Learning Management Systems (LMS), Android-based interactive media, blended learning, and Artificial Intelligence (AI) integration in instruction. This phenomenon indicates that digital transformation in Islamic education is no longer merely an alternative learning approach but has become a strategic necessity in facing the development of Society 5.0 and the Industrial Revolution 4.0. The following graph illustrates the increasing publication trend of digital learning media research in Islamic Religious Education during the 2022-2026 period.

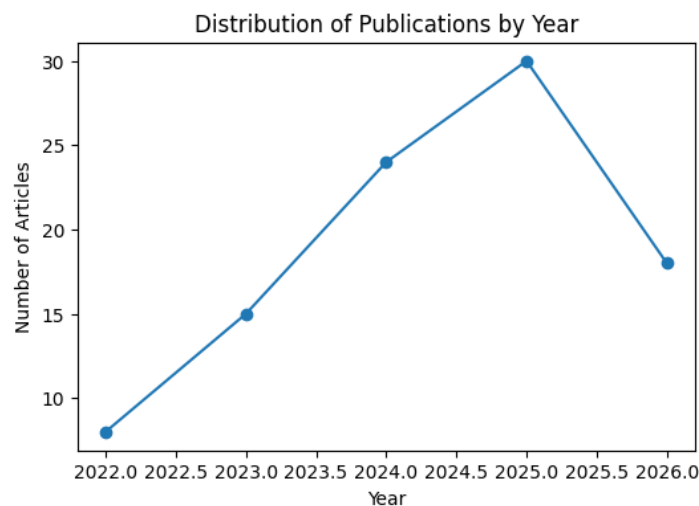


Figure 2: Distribution of Publications on Digital Learning Media in IRE (2022-2026)

b. Distribution of Countries and Author Institutions

The majority of research originates from Indonesia, reflecting substantial attention to the development of digital learning media within the national Islamic Religious Education context. The following diagram demonstrates Indonesia's dominant research contribution compared to other countries.

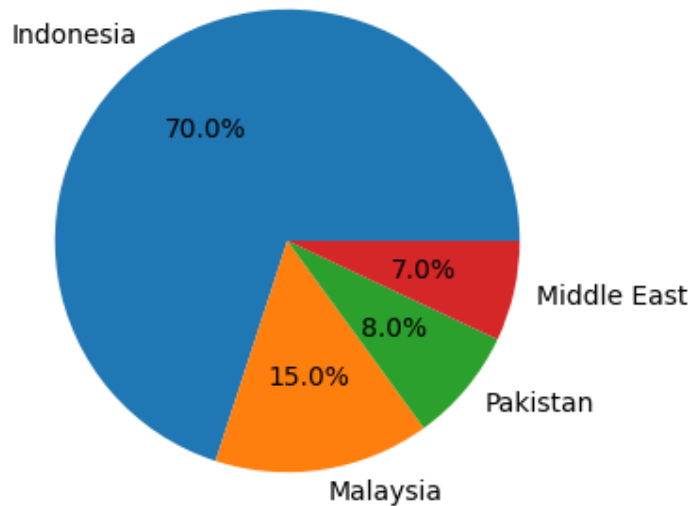


Figure 3: Distribution of Research Contributions by Country

The most contributing institutions include:

1. State Islamic Universities (UIN),
2. State Islamic Institutes (IAIN),
3. Muhammadiyah Universities,
4. Nahdlatul Ulama Universities, and
5. Several general universities offering Islamic education programs.

Beyond Indonesia, several studies also originate from Malaysia, Pakistan, and Middle Eastern countries addressing technology integration in global Islamic education. Studies from Malaysia emphasize the development of Technological Pedagogical Islamic Content (TPIC), while research from Middle Eastern countries focuses more on integrating Islamic values within educational technology.

c. Dominant Keywords

Keyword analysis reveals several of the most frequently used terms, including:

1. Digital Learning,
2. Islamic Education,
3. Learning Media,
4. Blended Learning,
5. E-learning,
6. Interactive Media,
7. Digital Literacy,
8. Technology Integration,
9. Artificial Intelligence, and
10. Mobile Learning.

The dominance of these keywords indicates that IRE learning media research remains primarily focused on digital technology integration, digital literacy, and technology-based pedagogical innovation.

d. Author Collaboration Patterns

Research findings indicate that the majority of articles were collaboratively authored by researchers within the same institution. However, cross-institutional and cross-country collaboration remains relatively limited. Some international studies have begun to incorporate multidisciplinary perspectives combining Islamic education, educational technology, and computer science to produce more comprehensive digital learning models. The following diagram illustrates author collaboration patterns in IRE learning media research.

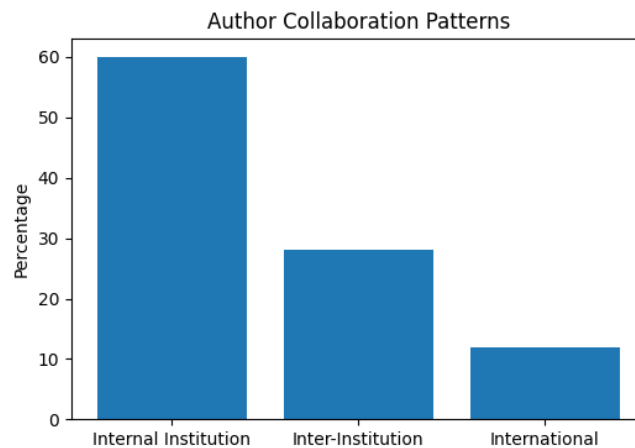


Figure 4: Author Collaboration Network in IRE Learning Media Research

This condition indicates that IRE learning media research still holds substantial potential for expanding international research networks, particularly in the fields of Artificial Intelligence, Virtual Reality (VR), and technology-based adaptive learning.

Research Trends in Learning Media in Islamic Religious Education Studies in Indonesia

The review results indicate that research trends in digital learning media in Islamic Religious Education have shifted from conventional approaches toward more interactive, flexible, and learner-centered technology-based learning.

a. Integration of Learning Management Systems (LMS)

The use of LMS such as Google Classroom, Moodle, and other online learning platforms has become a primary trend in IRE instruction. LMS enables teachers to manage materials, assessments, and learning communication more systematically and flexibly. Several studies demonstrate that LMS can increase student participation, facilitate material distribution, and expand learning access beyond the classroom.

b. Utilization of Interactive Multimedia

Recent research shows increased use of:

1. Islamic animated videos,
2. Audiovisual media,
3. Android applications,
4. Da'wah podcasts,
5. Interactive multimedia based on educational games.

Such media are considered capable of enhancing learning motivation, student engagement, and comprehension of abstract concepts in Islamic Religious Education.

c. Blended Learning and Hybrid Learning

The blended learning model has become one of the most dominant approaches in IRE learning media research. The combination of face-to-face and online learning is viewed as capable of creating more flexible learning experiences without eliminating social interaction between teachers and students. Additionally, hybrid learning models have begun to develop, particularly in Islamic higher education following the COVID-19 pandemic.

d. Integration of Artificial Intelligence (AI)

Recent research has begun to explore the utilization of Artificial Intelligence (AI) in IRE instruction, including:

1. Islamic chatbots,
2. AI tutors,
3. Adaptive learning systems,

4. Automated learning assessment.

AI utilization is considered capable of enhancing learning personalization and supporting data-driven learning effectiveness.

e. Strengthening Islamic Values in Digital Media

Another significant finding indicates that IRE learning media research emphasizes not only technological aspects but also the strengthening of spiritual, moral, and Islamic character values. This characteristic distinguishes IRE learning media research from other educational fields.

Challenges in Developing Islamic Religious Education Learning Media in Indonesia

Despite significant progress, the implementation of digital learning media in Islamic Religious Education continues to face various complex challenges.

a. Infrastructure and Internet Access Gaps

Limited internet access, technological devices, and electricity networks remain primary obstacles, particularly in rural areas and outside Java Island. Infrastructure disparities result in uneven implementation of digital media.

b. Digital Competence of the Teacher

Many IRE teachers continue to experience difficulties in:

1. designing digital learning media,
2. integrating technology with pedagogy,
3. and connecting technology use with Islamic values.

Some teachers have been able to operate digital devices but have not fully understood effective and Islamically valuable digital learning design.

c. Curation and Validity of Islamic Content

The abundance of Islamic content on the internet poses risks of disseminating invalid information, lacking contextual relevance, and potentially containing extreme religious understandings. Therefore, rigorous curation and verification processes for digital content are necessary.

d. Digital Ethics and Cybersecurity

Digital media use also presents challenges related to:

1. student data security,
2. exposure to negative content,
3. social media misuse, and
4. low awareness of digital ethics.

In the context of Islamic Religious Education, this challenge is particularly significant because education aims not only at cognitive aspects but also at character and moral formation.

e. Misalignment of Assessment Systems

Most learning assessments remain focused on cognitive aspects, while evaluation of Islamic value internalization, character, and digital ethics remains very limited. This condition means that IRE digital learning has not fully measured students' affective and spiritual impact.

Future Research Outlook in the Field of Learning Media in Islamic Religious Education Studies

Based on the synthesis of literature, the future of digital learning media research in Islamic Religious Education is predicted to increasingly develop toward adaptive, personalized, and value-based learning.

a. AI Development and Adaptive Learning

Future research is expected to focus on developing:

1. Islamic digital ethics,
2. digital security,
3. media literacy, and
4. student character formation in digital spaces.

Such technologies enable more personalized learning experiences tailored to each student's needs.

b. Utilization of Virtual Reality (VR) and Augmented Reality (AR)

VR and AR technologies are predicted to be widely used for:

1. Islamic digital ethics,
2. digital security,
3. media literacy, and
4. student character formation in digital spaces.

c. Strengthening Digital Ethics

Future research is expected to focus not only on technological sophistication but also on strengthening:

1. Islamic digital ethics,
2. digital security,
3. media literacy, and
4. student character formation in digital spaces.

d. Multidisciplinary Collaboration

Future IRE learning media development is expected to involve collaboration between:

1. Islamic education scholars,
2. technology developers,
3. computer scientists,
4. educational psychologists, and
5. digital media practitioners.

Such multidisciplinary collaboration is necessary to produce innovative, relevant learning media that remain grounded in Islamic values.

e. Shift Toward Value-Embedded Digital Pedagogy

Future research directions indicate a tendency toward the Value-Embedded Digital Pedagogy model, a digital learning approach that emphasizes not only technological aspects but also the integration of values, ethics, spirituality, and comprehensive Islamic character formation within digital environments.

DISCUSSION

Data Extraction and Overview of Findings

The data extraction results demonstrate that the PRISMA-based Systematic Literature Review (SLR) approach provides a more comprehensive picture of digital learning media development in Islamic Religious Education (IRE). The use of the PRISMA protocol assisted researchers in systematically identifying, screening, evaluating, and synthesizing articles, thereby ensuring the quality of analyzed literature. Recent research indicates that the SLR approach is increasingly employed in digital Islamic education studies due to its capacity to integrate various empirical findings into more complete and structured conceptual frameworks ([Mahmudah & Putra, 2021](#); [Winarno, 2024](#)).

Furthermore, the SLR method is considered effective in mapping research trends and identifying gaps requiring further development in the field of digital Islamic education ([Asdlori, 2023](#); [Huda et al., 2024](#)).

The data extraction process in this study also revealed that publications related to IRE learning media experienced significant increases following the COVID-19 pandemic, as demonstrated by content analysis showing rising publication trends in IRE learning innovation over the past four years and increasing studies on multimedia effectiveness post-pandemic at the elementary education level ([Musafiri, 2022](#); [Tuhuteru et al., 2023](#)). This condition indicates that digital transformation has become an important component in developing modern Islamic education systems, where digital platform optimization is viewed as a realization of progressive Islamic education providing new directions for learning innovation ([Fandir, 2024](#); [Muttaqin, 2023](#)). Other research explains that the pandemic accelerated educational technology adaptation, particularly the use of LMS such as Google Classroom and Edmodo, online learning through Zoom and Google Meet, and WhatsApp-based interactive media in Islamic religious instruction, although data indicates that only approximately 37.85% of educators in Indonesia are capable of adequately implementing digital systems ([Nofrianti & Arifmiboy, 2021](#); [Salsabila et al., 2022](#); [Sulistyo & Ismarti, 2022](#)). Moreover, the increased use of digital media following the pandemic demonstrates that technology has become a strategic necessity for maintaining the continuity of religious instruction across various Islamic educational institutions ([Huda et al., 2024](#)).

Additionally, data extraction results show that most studies employ descriptive qualitative approaches and Research and Development (R&D) studies. The dominance of these approaches indicates that IRE learning media research remains focused on media product development, implementation evaluation, and measuring the effectiveness of digital media in enhancing student motivation and learning outcomes. Previous research also shows that media development approaches remain the dominant method in technology-based education research in Indonesia, as evidenced by numerous studies using Research and Development (R&D) methods to produce online learning media products relevant to institutional needs ([Musafiri, 2022](#); [Suryanto et al., 2022](#)). This is considered relevant to 21st-century learning needs, where the COVID-19 pandemic has driven a digital revolution in education, making the design and development of digital platform-based learning media such as Moodle and other LMS a primary focus of post-pandemic IRE research ([Prasetya et al., 2023](#); [Prasetya & Rosida, 2022](#)).

Extraction results also indicate that keywords such as digital learning, Islamic education, interactive media, blended learning, and digital literacy dominate scientific publications over the past five years. The dominance of these keywords demonstrates a paradigm shift from conventional models toward more flexible, learner-centered digital learning. Previous research affirms that digital transformation in IRE not only changes learning media but also alters interaction patterns, pedagogical strategies, and student learning culture, as shown by the concept of cybergogy advocating changes in cognitive, social, and emotional aspects of digital IRE learning interactions ([Umar & Jamaluddin, 2023](#)), the shift in educator roles from classroom leaders to digital facilitators encouraging student learning independence ([Gafarurrozi, 2022](#)), and the demands of the Society 5.0 era requiring mastery of critical thinking, communication, collaboration, and creativity skills ([Maulidya & Indriani, 2024](#)). Furthermore, the increased use of the term digital literacy indicates that digital literacy competence has become a primary focus in modern Islamic education development, given that digital literacy has become a reference in increasingly evolving technology use and needs to be integrated into the educational curriculum ([S. Maarif, 2022](#)), with teachers required to possess digital pedagogical competence to improve learning quality in accordance with 21st-century demands ([Hermila & Bau, 2023](#)).

Research Trends in Learning Media in Islamic Religious Education Studies in Indonesia

Research trends in learning media in Islamic Religious Education in Indonesia demonstrate a significant transformation from conventional approaches toward interactive technology-based digital learning. This change is influenced by information technology development, the characteristics of the digital generation, and 21st-century learning needs demanding flexibility and learning personalization. Recent research shows that the use of digital media in IRE is no longer viewed as a learning supplement but has become a primary need in modern education systems. Moreover, digital technology integration in Islamic education can enhance student participation and expand learning access more effectively ([Huda et al., 2024](#)).

One of the most dominant trends is the use of Learning Management Systems (LMS) such as Google Classroom, Moodle, and other e-learning platforms. LMS enables teachers to manage learning more systematically through material distribution, online assessment, and digital communication between teachers and students. Research demonstrates that LMS use in IRE can improve learning effectiveness, expand educational access, and increase student engagement in the learning process. Additionally, LMS-based learning provides more independent and flexible learning experiences for students.

Beyond LMS, the use of interactive multimedia has also become a rapidly growing trend in IRE learning media research. Media such as Islamic animated videos, da'wah podcasts, Android applications, and Islam-based educational games are considered capable of enhancing learning motivation and facilitating comprehension of abstract concepts in Islamic Religious Education. Other research shows that interactive multimedia can improve critical thinking skills, learning interest, and student engagement in Islamic religious instruction. Furthermore, audiovisual media use can create more engaging and contextual learning experiences for today's digital generation ([S. Maarif et al., 2023](#)).

Another developing trend is the implementation of blended learning and hybrid learning in IRE instruction. This learning model combines face-to-face and online instruction, creating more flexible and adaptive learning experiences. Recent systematic review research demonstrates that blended learning models are effective in enhancing students' critical thinking and collaboration skills in Islamic Religious Education learning. Moreover, blended learning approaches are considered capable of maintaining social and spiritual interaction between teachers and students within digital learning environments ([Huda et al., 2024](#)).

Artificial Intelligence (AI) development has also begun to become a research focus in IRE learning media. AI use in Islamic education encompasses Islamic chatbot development, adaptive learning systems, assessment automation, and data-based learning material recommendations. Recent research indicates that AI can enhance learning personalization and assist teachers in managing learning evaluation processes more effectively. Additionally, AI has the potential to create more efficient learning experiences tailored to individual student needs.

Beyond technological aspects, IRE learning media research trends also demonstrate significant attention to integrating Islamic values within digital environments. Recent research affirms that digital media in Islamic education must internalize values of adab, trustworthiness, digital ethics, and Islamic spirituality amid modern technological development ([S. Maarif et al., 2023](#)). Furthermore, digital media use should be directed toward strengthening student character and moral formation, not merely enhancing academic ability.

Research on gamification in Islamic learning has also experienced significant growth in recent years. The use of game elements such as points, levels, badges, and leaderboards has proven capable of enhancing student learning motivation in hijaiyyah letter instruction and other Islamic material. Recent research demonstrates that technology-based gamification approaches can improve student learning outcomes while instilling discipline and responsibility values in Islamic learning. Additionally, gamification is considered effective in increasing students' emotional engagement during the learning process ([Huda et al., 2024](#)).

Thus, IRE learning media research trends in Indonesia indicate that Islamic digital education development is moving toward more interactive, flexible, personalized, and value-based learning. This transformation not only changes learning media but also shifts the pedagogical paradigm of Islamic education toward more adaptive learning responsive to contemporary developments and digital technology. Moreover, educational technology development reinforces the need for learning models capable of integrating cognitive, affective, and spiritual aspects simultaneously ([S. Maarif et al., 2023](#)).

Challenges in Developing Islamic Religious Education Learning Media in Indonesia

The primary challenge in developing Islamic Religious Education learning media in Indonesia is the significant digital infrastructure gap across regions. Limited internet access, technological devices, and network quality pose serious obstacles to digital learning implementation, particularly in remote areas and traditional Islamic boarding schools. Recent research indicates that technology access disparities mean digital-based learning cannot yet be equally enjoyed by all students in Indonesia ([Eraku et al., 2021](#)). Furthermore, limited technological facilities impact the low effectiveness of online learning implementation in Islamic education ([Batac et al., 2021](#)).

Beyond infrastructure issues, teacher digital competence also presents a dominant challenge in IRE learning media implementation. Many teachers have been able to use basic digital devices but have not yet been able to design learning that integrates technology with pedagogical strategies and Islamic values effectively. Recent studies affirm that IRE teachers require competencies encompassing not only technical abilities but also digital pedagogical competence, Islamic content curation, and ethical technology use in instruction ([Huda et al., 2024](#)). Additionally, low teacher digital literacy leads to technology use in learning remaining technically oriented and not fully supporting value-based learning objectives (Pradana et al., 2024).

The next challenge concerns the validity and curation of Islamic content in digital spaces. The abundance of religious information on the internet poses risks of disseminating invalid content, lacking contextual relevance, and potentially containing radical ideologies or religious disinformation. Recent research indicates that without rigorous verification and curation processes, digital media can convey partial religious understandings inconsistent with Islamic moderation principles ([S. Maarif et al., 2023](#)). Furthermore, unverified digital content can also influence students' understanding of religious teachings inappropriately (Azizah et al., 2024).

Digital security aspects and social media ethics also present important challenges in IRE learning media development. Students are potentially exposed to negative content, cyberbullying, personal data misuse, and digital distractions that can disrupt the internalization of religious values. Recent research affirms that Islamic digital education must consider digital wellbeing principles, data security, and the formation of digital adab in students' online interactions ([Huda et al., 2024](#)). Moreover, unsupervised digital media use can diminish the quality of social and spiritual interaction among students in Islamic religious instruction ([S. Maarif et al., 2023](#)).

Another challenge relates to the gap between learning innovation and the assessment systems employed. Most IRE learning assessments remain focused on cognitive aspects and material memorization, while evaluation of character, digital ethics, and spiritual value internalization has not developed optimally. Recent research indicates that digital learning requires portfolio-based evaluation systems, self-reflection, and authentic assessment capable of measuring students' affective development more comprehensively (Saputro & Sukiman, 2024). Additionally, authentic assessment approaches are considered more relevant in measuring the success of value-based learning in Islamic education (Zh et al., 2024).

Furthermore, student learning motivation in digital environments presents its own challenge. Always-on online learning environments often cause digital fatigue, multitasking, and decreased student focus. Research indicates that without proper cognitive load management, digital learning can reduce student attention quality toward Islamic religious material ([Eraku et al., 2021](#)). Additionally, low social interaction in online learning can diminish students' emotional attachment to the learning process ([Batac et al., 2021](#)).

In a broader context, IRE learning media development challenges also relate to maintaining a balance between technological innovation and preservation of Islamic spiritual values. Technology use that is overly technically oriented risks reducing the depth of spiritual interaction and emotional connection between teachers and students. Therefore, recent research emphasizes that technology in Islamic education should be positioned as a means of value reinforcement, not merely a tool for delivering learning materials ([S. Maarif et al., 2023](#)). Furthermore, Islamic learning media development must maintain moral and spiritual dimensions as the core of Islamic religious education (Azizah et al., 2024).

Overall, the challenges of IRE learning media development in Indonesia indicate that digital transformation in Islamic education requires a holistic approach. Learning media development cannot focus solely on technology but must also consider pedagogical aspects, ethics, digital security, teacher competence, and sustainable internalization of Islamic values ([Huda et al., 2024](#)). Moreover, the success of Islamic education digital transformation is also significantly influenced by synergy between educational policy, infrastructure readiness, and human resource quality (Pradana et al., 2024).

Future Research Outlook in the Field of Learning Media in Islamic Religious Education Studies

The future of learning media research in Islamic Religious Education is predicted to increasingly orient toward the integration of intelligent technology based on Artificial Intelligence (AI). The use of AI in Islamic education enables more personalized, adaptive, and data-driven learning based on student

analytics. Recent research demonstrates that AI is beginning to be utilized in developing Islamic chatbots, automated material recommendations, adaptive evaluation systems, and the development of learning media based on individual student needs (Pradana et al., 2024). Additionally, AI is considered capable of assisting teachers in analyzing student learning development more quickly and accurately, making the learning process more effective and efficient (Zh et al., 2024).

Beyond AI, Virtual Reality (VR) and Augmented Reality (AR) technologies are expected to become primary focuses of future IRE learning media research. These technologies enable students to gain more immersive and contextual learning experiences, such as hajj ritual simulations, Islamic history visualization, and Al-Qur'an tafsir learning based on three-dimensional objects. Recent research indicates that AR use in Islamic learning can enhance student engagement and deepen understanding of religious material significantly (Azizah et al., 2024). Furthermore, VR technology is considered capable of creating more realistic learning experiences so that students can understand Islamic practices and history more deeply ([Eraku et al., 2021](#)).

Future research is also predicted to place greater emphasis on personalized learning approaches in Islamic Religious Education. Digital learning systems will be designed to adapt materials, learning strategies, and evaluation based on each student's abilities, interests, and learning styles. Recent studies show that technology-based learning personalization can enhance motivation, learning effectiveness, and student engagement in Islamic religious instruction ([Batac et al., 2021](#)). Additionally, personalized learning approaches are considered capable of helping students obtain learning experiences more suited to their individual needs (Saputro & Sukiman, 2024).

On the other hand, issues of digital ethics and digital adab are expected to become important focuses in future Islamic learning media development. Rapid technological development demands that Islamic education not only produce technologically literate students but also those with ethical awareness in using digital media. Recent research indicates that integrating Islamic values such as trustworthiness, adab, responsibility, and academic honesty constitutes an essential element in IRE digital learning design ([S. Maarif et al., 2023](#)). Furthermore, value-based digital education is considered capable of helping students build stronger Islamic character amid the rapid flow of digital information ([Huda et al., 2024](#)).

Other predictions indicate that IRE learning media research will increasingly move toward the Value-Embedded Digital Pedagogy (VEDiP) model. This approach positions technology as a means of integrating cognitive, affective, social, and spiritual objectives simultaneously in digital learning. Recent studies show that value-based digital learning can create learning environments that are not only academically effective but also support the formation of students' Islamic character ([S. Maarif et al., 2023](#)). Moreover, this approach affirms that technology in Islamic education should function as a medium for value internalization rather than merely an information delivery tool ([Huda et al., 2024](#)).

Future research is also expected to strengthen multidisciplinary collaboration between Islamic education, educational technology, learning psychology, and computer science fields. This collaboration is necessary to produce more adaptive, contextual learning media innovations suited to the needs of the digital generation. Recent bibliometric research indicates that educational technology development requires synergy across disciplines to produce more effective and sustainable innovations (Zh et al., 2024). Furthermore, cross-institutional and cross-country collaboration is considered important for accelerating technology transfer and developing more universal digital learning models (Saputro & Sukiman, 2024).

Moreover, the use of gamification approaches in Islamic education is expected to continue developing in the coming years. The integration of game elements in IRE learning is considered capable of enhancing learning motivation, student engagement, and more enjoyable learning experiences. Recent research demonstrates that technology-based gamification can significantly improve student learning outcomes while strengthening discipline and responsibility values in Islamic learning ([Eraku et al., 2021](#)). Additionally, gamification approaches can create more interactive learning atmospheres and reduce student boredom during the learning process (Azizah et al., 2024).

The future of IRE learning media research is also predicted to increasingly move toward developing more authentic and comprehensive technology-based evaluation systems. Learning assessment will measure not only cognitive aspects but also affective, spiritual, and digital behavioral aspects of students. Recent research indicates that the use of e-portfolios, digital reflection, and

learning analytics can help teachers monitor student character development and spiritual values more comprehensively (Saputro & Sukiman, 2024). Furthermore, authentic assessment approaches are considered more relevant in Islamic religious learning because they can measure value internalization in students' daily lives (Batac et al., 2021).

Overall, the future of Islamic Religious Education learning media research will move toward smarter, adaptive, collaborative, and value-based learning. This transformation indicates that technology is not merely a learning aid but has become an integral part of building an Islamic education system relevant to contemporary developments while maintaining Islamic spiritual and moral identity (S. Maarif et al., 2023). Moreover, future digital learning media development must be able to maintain a balance between technological innovation, pedagogical needs, and strengthening Islamic values in students' lives (Huda et al., 2024).

CONCLUSION

The Systematic Literature Review conducted demonstrates that digital learning media development in Islamic Religious Education (IRE) has experienced significant growth over the past five years. This transformation is characterized by the increasing use of Learning Management Systems (LMS), interactive multimedia, blended learning, Artificial Intelligence (AI), as well as Virtual Reality (VR) and Augmented Reality (AR) technologies in IRE instruction. This development indicates that digital technology has become an important part of modern Islamic education. Research trends show that IRE learning media is evolving toward more interactive, flexible, personalized, and Islamic value-based learning. Research not only focuses on developing learning technology but also on integrating adab values, digital ethics, and Islamic character formation within digital learning environments. Nevertheless, the development of digital learning media in IRE continues to face various challenges, such as limited technological infrastructure, low teacher digital competence, Islamic content validity, as well as security and ethics of digital media use. Furthermore, value-based learning assessment systems still require development to measure cognitive, affective, and spiritual aspects of students more comprehensively. In the future, IRE learning media research is predicted to increasingly move toward AI-based learning development, personalized learning, VR/AR, and Value-Embedded Digital Pedagogy (VEDiP). Therefore, IRE learning media development requires multidisciplinary collaboration to produce innovative, adaptive learning that remains grounded in Islamic values in the digital era.

AUTHOR CONTRIBUTIONS STATEMENT

IS contributed to data collection, data analysis, interpretation of findings, discussion development, and formulation of conclusions. MH provided academic guidance, supervision, and direction throughout the research process. Both authors reviewed and approved the final manuscript.

REFERENCES

- Asdlori, A. (2023). Learning Media for Islamic Religious Education during a Pandemic: Systematic Literature Review Analysis. *International Journal of Social Science and Religion (IJSSR)*, 4(2), 235–250. <https://doi.org/10.53639/ijssr.v4i2.179>
- Batac, K. I. T., Baquiran, J. A., & Agaton, C. B. (2021). Qualitative content analysis of teachers' perceptions and experiences in using blended learning during the COVID-19 pandemic. *International Journal of Learning, Teaching and Educational Research*, 20(6), 225–243. <https://doi.org/10.26803/ijlter.20.6.12>
- Eraku, S. S., Baruadi, M. K., Anantadjaya, S. P., Fadjarajani, S., Supriatna, U., & Arifin, A. (2021). Digital literacy and educators of Islamic education. *Edukasi Islami: Jurnal Pendidikan Islam*, 10(01), 569–576. <https://doi.org/10.30868/ei.v10i01.1533>
- Esa, M. S. M., Wahid, H., Yaacob, S. E., & Mohamad, A. H. H. (2025). Asnaf Development Outcome: A Systematic Literature Review and Logic Model Development. *Sage Open*, 15(3). <https://doi.org/10.1177/21582440251357982>

- Fahd, K., Venkatraman, S., Miah, S. J., & Ahmed, K. (2021). Application of machine learning in higher education to assess student academic performance, at-risk, and attrition: A meta-analysis of literature. *Education and Information Technologies*, 27(3), 3743–3775. <https://doi.org/10.1007/s10639-021-10741-7>
- Fandir, M. (2024). Transformation of Islamic education: Implementation of technological innovation in education management. *Jurnal Ilmiah Mandala Education*, 10(1), 232–240. <https://doi.org/10.58258/jime.v10i1.6671>
- Gafarurrozi, M. (2022). Kurikulum PAI di era digital (Konsep, desain dan implementasinya). *Ta'limdiniyah: Jurnal Pendidikan Agama Islam (Journal of Islamic Education Studies)*, 3(1), 1–14. <https://doi.org/10.53038/tlmdiniyah.v3i1.56>
- Hammadamin, A. B., & Nordin, J. (2024). Learning challenges of architectural education in early twenty-first century: A systematic literature review. *Al-Qadisiyah Journal for Engineering Sciences*, 17, 339–351. <https://doi.org/10.30772/qjes.2024.149312.1220>
- Hendrik, H., Kusumawardani, S. S., & Permanasari, A. E. (2024). The emerging landscape of halal tourism in the digital era: an IT perspective. *Journal of Islamic Marketing*, 15(8), 1995–2015. <https://doi.org/10.1108/jima-04-2023-0130>
- Hermila, S., & Bau, R. A. (2023). E-learning sebagai komplemen dalam pembelajaran: Perwujudan akselerasi transformasi digital dalam pendidikan. *Jurnal Studi Kebijakan Publik*, 2(1), 1–16. <https://doi.org/10.21009/jskp.021.01>
- Huda, M., Arif, M., Rahim, M. M. A., & Anshari, M. (2024). Islamic Religious Education Learning Media in the Technology Era: A Systematic Literature Review. *At-Tadzkir*, 3(2), 83–102. <https://doi.org/10.59373/attadzkir.v3i2.62>
- Huda, M., & Suwahu, I. (2024). Peran Artificial Intelligence (AI) dalam pembelajaran Pendidikan Agama Islam. *Referensi Islamika: Jurnal Studi Islam*, 2(2), 53–61. <https://doi.org/10.61220/ri.v2i2.005>
- Husni, M., & Mufidah, A. (2023). Optimalisasi Perancangan Media Pembelajaran PAI di SMP Islam Sultan Agung Sudimoro Malang. *Jurnal Tinta*, 5(1), 12–22. <https://doi.org/10.35897/jurnaltinta.v5i1.929>
- Karina, R. S., Pujiningsih, S., & Makaryanawati, M. (2023). Literature Study of Sukuk as a Sharia Securities Instrument. *Economics and Business Journal (Ecbis)*, 1(4), 411–426. <https://doi.org/10.47353/ecbis.v1i4.43>
- Kasman, K., & Madjid, N. (2024). Opportunities and challenges of Artificial Intelligence and their implications in Islamic education. *Intiqad: Jurnal Agama Dan Pendidikan Islam*, 16(1), 135–149. <https://doi.org/10.30596/intiqad.v16i1.18805>
- Maarif, S. (2022). Mencetak tenaga kerja unggul (Studi penguatan kompetensi literasi digital berdasarkan faktor-faktor pendukung). *Dinar: Jurnal Prodi Ekonomi Syariah*, 6(1), 159–176. <https://doi.org/10.61088/dinar.v6i1.478>
- Maarif, S., Ibda, H., Ahmadi, F., Qosim, N., & Muanayah, N. A. (2023). Islamic moderation in education and the phenomenon of cyberterrorism: a systematic literature review. *Indonesian Journal of Electrical Engineering and Computer Science*, 31(3), 1523. <https://doi.org/10.11591/ijeecs.v31.i3.pp1523-1533>
- Mahmudah, F. N., & Putra, E. C. (2021). Tinjauan pustaka sistematis manajemen pendidikan: Kerangka konseptual dalam meningkatkan kualitas pendidikan era 4.0. *Jurnal Akuntabilitas Manajemen Pendidikan*, 9(2), 221–230. <https://doi.org/10.21831/jamp.v9i2.42374>
- Maulidya, A., & Indriani, D. E. (2024). Pengembangan kurikulum merdeka belajar di era Society 5.0. *Jurnal Edukasi Sumba (JES)*, 8(1), 60–67. <https://doi.org/10.53395/jes.v8i1.2457>
- Musafiri, M. (2022). Tren penelitian inovasi manajemen pembelajaran Pendidikan Agama Islam dalam jurnal PAI di Indonesia: Dari desain penelitian hingga analisis data. *Southeast Asian Journal of Islamic Education Management*, 3(2), 175–192. <https://doi.org/10.21154/sajiem.v3i2.862>
- Muttaqin, A. (2023). Challenges Islamic education management in the digital era. *Ta'allum: Jurnal Pendidikan Islam*, 11(1), 175–194. <https://doi.org/10.21274/taalum.2023.11.1.175-194>
- Nofrianti, Y., & Arifmiboy, A. (2021). Challenges and problems of learning Islamic religious education in the digital era. *Islam Transformatif: Journal of Islamic Studies*, 5(2), 123–138. <https://doi.org/10.30983/it.v5i2.4774>

- Nurhayati, R., Nur, T., P, S., Adillah, N., Agustina, A., & Urva, M. (2024). Dinamika pembelajaran Pendidikan Agama Islam berbasis Artificial Intelligence (AI). Prosiding Seminar Nasional Fakultas Tarbiyah Dan Ilmu Keguruan IAIM Sinjai, 3, 1–7. <https://doi.org/10.47435/sentikjar.v3i0.3131>
- Prasetya, S. A., & Rosida, R. (2022). Desain pembelajaran PAI di MAN Kota Surabaya pasca pandemi Covid-19. Al-Tarbawi Al-Haditsah: Jurnal Pendidikan Islam, 7(2), 1–22. <https://doi.org/10.24235/tarbawi.v7i2.11671>
- Prasetya, S. A., Wafi, A., & Hasan, M. N. (2023). Desain pembelajaran Pendidikan Agama Islam berbasis Moodle di SMA Muhammadiyah 10 GKB Gresik post-pandemi. Belajea: Jurnal Pendidikan Islam, 8(1), 1–22. <https://doi.org/10.29240/belajea.v8i1.6358>
- Ruzakki, H., Nashrullah, N., Junaedi, D., Khoiriyah, S., & Asror, M. (2024). Trend Pemanfaatan Teknologi Augmented Reality dan Virtual Reality dalam Pembelajaran Pendidikan Agama Islam di Indonesia. Edukasi Islami Jurnal Pendidikan Islam, 13(01). <https://doi.org/10.30868/ei.v13i01.4888>
- Salsabila, U. H., Sari, L. I., Lathif, K. H., Lestari, A. P., & Ayuning, A. (2022). Optimasi platform digital sebagai transformasi Pendidikan Islam berkemajuan. Iqro: Journal of Islamic Education, 5(1), 1–14. <https://doi.org/10.24256/iqro.v5i1.2770>
- Sulistyo, A., & Ismarti, I. (2022). Urgensi dan strategi penguatan literasi media dan digital dalam pembelajaran agama Islam. At-Turots: Jurnal Pendidikan Islam, 3(2), 129–139. <https://doi.org/10.51468/jpi.v3i2.75>
- Suryanto, A., Mulyadi, D., & Arifin, Z. (2022). Development of online learning media through utilization of the ASSURE learning model on Islamic law source material. Formosa Journal of Sustainable Research, 1(4), 475–490. <https://doi.org/10.55927/fjsr.v1i4.1285>
- Syaikhudin, A., & Laili, M. (2024). Development of AI-based Arabic learning model to improve non-native speaker Arabic speaking skills. Syaikhuna: Jurnal Pendidikan Dan Pranata Islam, 15(1), 1–16. <https://doi.org/10.36835/syaikhuna.v15i1.6590>
- Tuhuteru, L., Misnawati, D., & Manu, A. P. (2023). The effectiveness of multimedia-based learning to accelerate learning after the pandemic at the basic education level. Tafkir: Interdisciplinary Journal of Islamic Education, 4(1), 40–54. <https://doi.org/10.31538/tijie.v4i1.260>
- Umar, U., & Jamaluddin, J. (2023). Cybergogy untuk implementasi pembelajaran PAI yang bermakna. Prosiding Seminar Nasional Fakultas Tarbiyah Dan Ilmu Keguruan IAIM Sinjai, 2, 1–12. <https://doi.org/10.47435/sentikjar.v2i0.1840>
- Winarno, W. (2024). Implementasi personalized learning menggunakan literacy ICT digital: Sebuah systematic literature review. HINEF: Jurnal Rumpun Ilmu Pendidikan, 3(1), 26–37. <https://doi.org/10.37792/hinef.v3i1.1169>