

Faith in the Digital Age: Narrative Accounts of Madrasah Teachers Navigating Islamic Education in the 4.0 Industrial Revolution

Zaenol Fajri¹, Khofidhah Dwi Sholehah²,
Muhammad Naim Fakhirin Rezani³

¹Nurul Jadid University, Indonesian

²Nurul Jadid University, Indonesian

³Universiti Sultan Zainal Abidin, Indonesian

ABSTRACT

Background. The rapid digital transformation in the Industrial Revolution 4.0 requires Islamic Religious Education (IRE) to adopt innovative approaches to improve learning quality and student achievement. However, prior studies predominantly focus on general digitalization or higher education contexts, with limited empirical evidence on context-specific strategies at the elementary madrasah level. This study addresses this gap by offering a contextual and practice-based analysis of IRE digitalization.

Purpose. This study aims to analyze digitalization strategies in improving learning quality and student achievement at MI Al-Islamiah, including implementation processes, supporting and inhibiting factors, and their educational impact.

Method. This study employed a qualitative case study design to obtain in-depth and contextual insights. Participants—including the principal, deputy head of curriculum, IRE teachers, operators, and parents—were purposively selected for their direct involvement in the implementation of digital learning to ensure data relevance and credibility. Data were collected through interviews, observations, and documentation, and analyzed using the Miles and Huberman model. Data validity was strengthened through triangulation, member checking, and audit trails.

Results. The findings reveal that digitalization is systematically implemented through institutional policies, teacher capacity building, and integrated digital systems. The use of interactive media, RDM-based assessment, and digital administration increases student participation, motivation, and learning interaction, while enhancing transparency and organization of assessment. Evidence shows more active engagement and structured learning processes, although improvements in academic achievement remain gradual due to infrastructure and competency constraints.

Conclusion. Digitalization serves as a strategic catalyst for improving learning quality, thereby mediating student achievement. This study contributes theoretically by proposing a contextual model of IRE digitalization at the elementary madrasah level and practically by guiding sustainable implementation through institutional support, continuous teacher training, and adaptive strategies in Islamic education.

KEYWORDS

Cuse Study, Digitalization, Islamic Religious Education (IRE), Learning Quality, Madrasah Ibtidaiyah, Student Achievement

Citation: Fajri, Z., Sholehah, D. K., & Rezani, F. N. M. (2026). Faith in the Digital Age: Narrative Accounts of Madrasah Teachers Navigating Islamic Education in the 4.0 Industrial Revolution. *International Journal of Educational Narrative*, 4(3), 1153–1168.
<https://doi.org/10.70177/ijen.v4i3.3693>

Correspondence:

Zaenol Fajri,
alfajri002@unuja.ac.id

Received: January 17, 2026

Accepted: May 16, 2026

Published: June 30, 2026

INTRODUCTION

In the face of increasingly complicated events, Islamic Religious Education (IRE) strategically shapes



students' morality, spirituality, and character (Amrulloh et al., 2025). Demands for learning quality are rising in the age of globalisation and the fourth industrial revolution. These demands include features of learning materials' efficacy, inventiveness, and relevance (Haidir et al., 2021; Nurhasanah, 2024). The IRE learning process can no longer be conducted traditionally; instead, digital technology must be used as a learning medium (Kholida et al., 2025; Mukarromah et al., 2025). With widespread, interactive, and adaptable access to knowledge, digitalisation presents a substantial chance to raise the calibre of education (Nur Azizah et al., 2025; Syarnubi et al., 2023). As a result, PAI is anticipated to enhance student performance in both academic and extracurricular areas by using a learning strategy that keeps up with technology advancements (Abdillah et al., 2025; Al Hadi et al., 2025).

The implementation of digitalization strategies in Islamic Religious Education (IRE) has been widely promoted as a means to improve learning quality and student achievement in the era of the Industrial Revolution 4.0 (Fahm & Olawale, 2025; Humaida et al., 2026). Previous studies suggest that digital technology can enhance student engagement, interaction, and access to learning resources (Aziz & Amir, 2025; Siswadi et al., 2026). However, these findings tend to be normative and often assume ideal conditions, such as adequate infrastructure and high levels of teacher digital competence. In reality, many madrasahs, particularly at the elementary level, still face structural and pedagogical limitations that hinder the effective integration of digital tools (Kurniawan & Annisah, 2025; Romlah et al., 2025). Some educators struggle to use digital media effectively, thereby perpetuating conventional, teacher-centered learning practices (Suci Hartati, 2025). In addition, limited infrastructure, including unstable internet connections and insufficient technological facilities, further constrains the implementation of digital-based learning (Dian et al., 2025; Harimawan et al., 2024). As a result, the potential of digitalization to improve student engagement and achievement has not been fully realized in many madrasah contexts.

Despite the growing attention to digitalization in education, there remains a lack of empirical studies that critically examine how digitalization strategies are systematically designed, implemented, and experienced in elementary madrasahs (Alif Utama et al., 2025; Muzawir Munawarsyah, 2023). Most existing research focuses on general frameworks, policy-level discussions, or higher education settings, leaving a gap for context-specific, practice-oriented investigations (Hasanah, 2021; Pamuji, 2026). This limitation highlights the need for a deeper analysis of how digitalization operates within the unique characteristics of madrasah education, including its institutional culture, teacher readiness, and student needs. Therefore, this study focuses on the implementation of digitalization strategies in PAI learning at MI Al-Islamiyah as a contextual case. By examining the processes, supporting and inhibiting factors, and their impact on learning quality and student achievement, this research offers a more grounded and empirical understanding of digital transformation in Islamic education. The novelty of this study lies in its integrative approach that connects strategy, implementation, and educational outcomes within a real madrasah setting. Ultimately, this research aims to contribute to the development of adaptive and sustainable digitalization strategies that meet the needs of elementary madrasahs (Darojat et al., 2025; Mundiatal Mila & Muhammad Zuhdi, 2025).

Because they directly affect the standard of instruction in Islamic schools (madrasah), issues about digitalisation tactics in Islamic Religious Education (IRE) learning are crucial to study (Nursalim, 2023; Sain, 2025). Practically speaking, this study can help educators maximise the use of digital technology to raise student accomplishment and learning quality (Syaikhu, 2025). Educational institutions can use the findings of this study as a foundation for developing policies about the growth of digital-based learning (Fajri et al., 2021; Irlina et al., 2024). Theoretically,

research on Islamic Religious Education (IRE) digitalisation strategies at basic Islamic schools (madrasah ibtidaiyah) is still lacking. As a result, it is anticipated that this study will provide a scientific contribution to the advancement of digitalisation theory and practice in Islamic education during the Fourth Industrial Revolution.

In order to raise student achievement and learning quality at MI Al-Islamiyah during the Fourth Industrial Revolution, this study focuses on digitalisation tactics for Islamic Religious Education (ISE). The research's primary focus is on the types of digital techniques used by educators, how these strategies are implemented in educational activities, and the enabling and impeding factors that are faced (Muthmainnah et al., 2025). Additionally, this study looks at how using digital technology might enhance learning quality and student learning results. This study uses a qualitative methodology to collect detailed data regarding digitalisation processes in the industry. It is anticipated that the findings would offer strategic suggestions for the advancement of digital-based Islamic Religious Education (IRE) instruction in madrasahs.

According to earlier studies, digitalisation in Islamic education is essential to raising learning standards. In order to improve teacher competency and learning quality in madrasahs, Samsuddin et al. highlighted the combination of digital pedagogy and Total Quality Management (TQM) (Samsuddin et al., 2026). Ciptadi looked at the benefits and difficulties of digitalisation in Islamic educational institutions, highlighting the necessity of keeping up with technological advancements (Ciptadi & Khozin, 2025). The tactics used by madrasah principals to manage digital transformation in order to improve technology-based learning were emphasised by Maskin et al. (Maskin Maskin et al., 2025). Additionally, Almardiah and Muis investigated the efficacy of digital media in Islamic Religious Education (IRE) learning in the Society 5.0 age (Hafizah Almardiah & Abd. Muis, 2025), while Rifdillah showed the prospects and difficulties of implementing IRE in the Industry 4.0 era (Rifdillah, 2025).

There is still a significant deficit in context-specific and practice-oriented studies, especially at the elementary madrasah level (madrasah ibtidaiyah), despite the expanding corpus of research on educational digitalization. The majority of earlier studies don't offer comprehensive insights into the planning, execution, and negotiation of digitalization techniques in regular teaching practices. Furthermore, there is a tendency to make broad assertions about gains in learning outcomes without adequate empirical support, particularly in research that does not directly evaluate academic accomplishment (Abdillah et al., 2025; Shah, 2025). This drawback underscores the need for a critical study of digitalization as a process-oriented, context-dependent phenomenon.

To close this gap, the current study employs a qualitative methodology to investigate how digitalization techniques are being applied in Islamic Religious Education at MI Al-Islamiyah. This study focuses on understanding how digital tools are used in teaching and learning processes, how educators adapt to technological changes, and what factors promote and hinder adoption, rather than on quantifying student achievement. This study offers a more realistic and nuanced analysis of digitalization practices in an actual madrasah context by gathering the viewpoints and experiences of teachers and stakeholders through interviews and observations.

This study is innovative because it examines the relationship between digitalization methods, implementation procedures, and observed changes in learning practices in an elementary madrasah setting, using an integrative, context-sensitive methodology. This study emphasizes the intricacies, difficulties, and adjustments associated with digital transformation at the classroom level, in contrast to earlier research that frequently focused on normative or idealized models. Crucially, because this study uses only qualitative data, it does not purport to provide actual proof of increases

in students' academic performance. Rather, it aims to understand how digitalization might enhance learning processes, particularly through interaction, engagement, and teaching methods.

It is crucial to place the analysis within well-established theoretical frameworks of educational digitalization to reinforce the conceptual basis of this study. The Technological Pedagogical Content Knowledge (TPACK) framework, which emphasizes the integration of technology, pedagogy, and subject-matter knowledge as crucial to successful digital learning, serves as the basis for this study. Additionally, the Technology Acceptance Model (TAM) is used to investigate how teachers accept and use digital resources, particularly in terms of perceived utility and ease of use, which affect their adoption behaviour in classroom activities. The broader framework of digital transformation in Islamic education, which emphasizes the need to coordinate technological innovation with Islamic values, institutional culture, and pedagogical objectives in madrasah environments, also informs this study. By combining these theoretical viewpoints, this study examines digitalization as both a pedagogical and sociocultural phenomenon and a technical process, offering a more thorough and reliable analytical lens for understanding the application of digital tactics in Islamic Religious Education at the elementary level.

Thus, the primary goal of this study is to investigate how MI Al-Islamiyah implements digitalization strategies in Islamic Religious Education, including the types of digital tools employed, how they are incorporated into classroom procedures, and the contextual factors that influence their effectiveness. By doing this, this study aims to make a theoretical and practical contribution to the development of sustainable and adaptable digitalization models in Islamic education, especially at the primary madrasah level.

RESEARCH METHODOLOGY

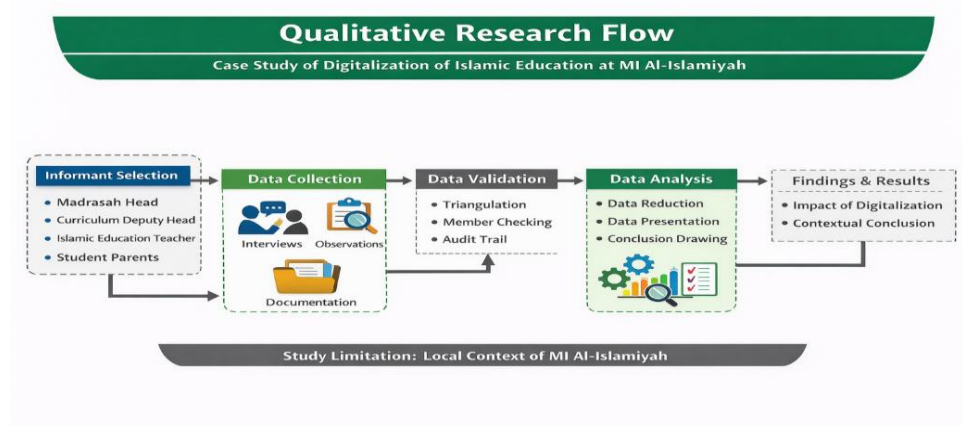


Figure 1. Qualitative Research Flow

The digitalisation of Islamic Religious Education (IRE) at MI Al-Islamiyah is thoroughly examined in this study, which employs a qualitative methodology and a case study design (Donkoh, 2023; Weyant & Creswell, 2022). The choice of a case study is not just methodological; it is also closely related to the study's goal: to comprehend the intricacy of interactions, processes, and contextual factors affecting the application of digital learning in an actual madrasah. This design enables the researcher to obtain deep, comprehensive insights into how different stakeholders create, negotiate, and experience digitalisation initiatives in their natural settings. Additionally, because the phenomenon being studied is context-bound and cannot be isolated from its institutional, cultural, and pedagogical setting, the case study technique is especially pertinent. MI Al-Islamiyah, the research site, is a private Islamic elementary school (madrasah ibtdaiyah) located in a semi-rural area, serving 164 students across six grade levels with 13 teachers and supporting

staff. The madrasah operates within a modest socio-economic context, where most students come from middle- to lower-income families, and access to digital infrastructure remains limited. These institutional characteristics shape the conditions under which digitalisation initiatives are implemented, including constraints on technological infrastructure, internet access, and teacher readiness. The principal of the madrasah, the vice principal for curriculum, IRE teachers, madrasah operators, and parent representatives, all of whom have important responsibilities in the digital learning ecosystem, were among the research participants.

Purposive sampling was used to select participants based on specific criteria to ensure the validity and applicability of the results. These requirements included: (1) direct participation in the design, execution, or support of digital-based IRE learning; (2) a minimum amount of time spent participating in or experiencing digital learning practices at the madrasah; and (3) the capacity to offer comprehensive and thoughtful information about the research focus. This meticulous screening procedure ensures that the gathered information reflects a range of relevant viewpoints on the digitalization process. Additionally, several data validation techniques, such as source and method triangulation, member checking, and audit trail maintenance, were used to enhance the study's credibility. By obtaining informed consent from each participant, ensuring confidentiality and anonymity, and upholding participants' rights throughout the research process, ethical considerations were carefully addressed. By using these methods, the study aims to generate reliable, transparent, and ethically sound results.

In-depth interviews, direct observation, and documentation were used to gather data for this study (Lopez et al., 2021). The fieldwork took place between October 10 and December 10, 2025, spanning two months. To document recurrent teaching patterns and student engagement with digital media, the researcher conducted eight classroom observations of digital-based IRE learning throughout this time, each lasting roughly two to three hours. Five key informants, including curriculum coordinators, the madrasah principal, and IRE teachers, participated in many phases of in-depth interviews. To gather thorough insights into policies, tactics, and experiences related to IRE digitalization, each interview lasted between 30 and 60 minutes and was conducted both formally and informally.

The assessment system's installation, the use of digital learning resources, and the conduct of digital-based learning activities were the main areas of observation. The curriculum, madrasah policies, digital assessment results, online report cards, and student success records were among the papers from which supporting data were gathered. This study employed member checking by verifying interview results with participants, maintained a thorough audit trail of all research procedures, and used triangulation of data sources and data-gathering techniques to ensure the validity and reliability of the findings.

The interactive paradigm proposed by Miles and Huberman, which views data reduction, data display, and conclusion formulation as interconnected, iterative processes, is followed in this work's data analysis. Eight informants in all, one madrasah principal, one vice principal for curriculum affairs, one teacher of Islamic Religious Education (IRE), one school operator, and four parents, participated in the study. To enable data triangulation and depth of understanding, these informants were chosen for their direct involvement and for their significance in the implementation of digitalisation in the madrasah environment. To ensure the validity of the results, data collection continued until sufficient information was gathered and thematic saturation was achieved. But rather than being used only procedurally, this paradigm was used analytically to extract meaning from the data. During the data reduction phase, raw data from observations, interviews, and documentation were carefully documented and categorised in accordance with emerging trends

regarding digitalisation processes, modes of implementation, and their effects on learning quality and student accomplishment. The coding process combined inductive themes emerging from field data with deductive categories derived from the research objectives to ensure a balance between theoretical direction and empirical sensitivity. Thematic matrices and narrative descriptions were then used to organise and convey the data, facilitating deeper study and highlighting relationships between categories. By using this analytical method, the researcher was able to gain a deeper interpretive knowledge of the digitalisation phenomenon in the madrasah environment, going beyond a cursory description.

This study used a variety of triangulation techniques to improve the validity and reliability of the results, including theoretical triangulation (relating findings to existing frameworks and previous studies), method triangulation (integrating interviews, observations, and documentation), and source triangulation (comparing perspectives from principals, teachers, operators, and parents). Through constant comparison, validation, and improvement of the patterns found in the data, conclusions were progressively reached. However, this study recognizes several limitations that could affect how its results are interpreted. The findings are context-specific because the study was conducted in a single madrasah; therefore, caution is advised when extrapolating them to other contexts. Furthermore, the possibility of researcher bias cannot be completely excluded, as is typical in qualitative research, especially in data interpretation and meaning-making. Reflexivity and methodical recording were upheld throughout the investigation to lessen this. However, these drawbacks also point to areas where future studies could evaluate and broaden the findings' applicability across various madrasah contexts.

RESULT AND DISCUSSION

This study used a case study design and a qualitative methodology at MI Al-Islamiyah. Eight informants participated in the study: a madrasah operator, two parent representatives, three Islamic Religious Education (IRE) instructors, a deputy head of curriculum, and a madrasah administrator. To represent important players in the digitalization process, informants were purposefully chosen. Thematic analysis was used to examine the information gathered from in-depth interviews, observations, and documentation. The legitimacy and transparency of the qualitative findings are strengthened by the inclusion of the number and roles of informants.

Research on the digitalization strategy for Islamic religious education at MI Al-Islamiyah shows a significant impact. Based on interviews and observations with the principal, teachers, and parent representatives, it was found that digitalization serves not only as a technical innovation but also as a strategic instrument for improving the quality of learning and student achievement in the era of the 4.0 Industrial Revolution. The integration of digital learning media, a digital technology-based assessment system, and digital academic administration significantly strengthens the effectiveness of the Islamic Religious Education (IRE) learning process and increases student engagement. Digitalization enables teachers to play a more optimal role as learning facilitators, while students gain more contextual and meaningful learning experiences. Transparency in assessments and parental involvement through the digital system creates a collaborative and accountable learning ecosystem. Although the implementation of digitalization still faces challenges such as limited infrastructure and human resource readiness, these findings demonstrate that PAI digitalization has strategic potential as a sustainable approach to transforming Islamic education in madrasahs. Results and Discussion.

Islamic Religious Education (IRE) Digitalization Strategy in Madrasahs

The findings demonstrate that MI Al-Islamiyah's digitization of Islamic Religious Education (IRE) is a methodically designed institutional strategy rather than just a technology adoption. Three main themes emerged from thematic analysis using Miles and Huberman's interactive model: (1) institutional policy and leadership support; (2) human resource capacity building; and (3) cooperative stakeholder involvement. These elements frequently emerged from observations, documentation, and interview data, suggesting a methodical, deliberate process of digital transformation.

By incorporating digital components into class design, evaluation, and academic administration, the deputy head of curriculum supports this approach. In response, educators use digital resources like Wordwall, instructional videos, and online tests to improve their teaching methods. In the meantime, parents help by monitoring and assisting students' development through greater access to academic information, and the madrasah operator supports the implementation through digital system management.

Table 1. Interview Results on Islamic Religious Education (IRE) Digitalization Strategies at MI Al-Islamiyah

Informant	The digitalization strategy's main objective	Important Findings
Madrasah Principal	Policy and Human Resource Development	By enhancing staff and teacher competencies, Islamic Religious Education (IRE) digitalization is formed as a madrasah program. The madrasah hosted a Dissemination Workshop on the Love-Based Curriculum Deep Learning, which included instruction on how to use ChatGPT to assist educators in creating learning resources for Islamic Religious Education (IRE).
Deputy Head of Curriculum.	Digital integration in the curriculum	The goal of the digitalization approach is to include technology into Islamic Religious Education (IRE) learning planning, assessment, and administration in order to meet the demands of 21st-century learning and the curriculum.
Islamic Religious Education Teacher	Digital pedagogical practices	Teachers have started using digital technology to create assessments, instructional materials, and learning resources for Islamic Religious Education (IRE). Teachers can create lessons more creatively and efficiently with the use of digital training.
Madrasah Operators	Digital systems	As part of an integrated digitization plan, madrasahs are setting up digital support systems, such as learning administration and academic data management.
Parents	Perception and support	Because Islamic Religious Education (IRE) digitalization makes academic knowledge easier to get and improves parental involvement in their children's education, parents are in favor of its implementation.



Figure 2. Distribution of the Love-Based Curriculum Deep Learning Workshop: Integrating ChatGPT for IRE Resource Development

The first theme emphasizes the crucial role of institutional policies and leadership support in the early stages of digitization. The madrasah's principle plays a strategic role in shaping policies that promote the use of digital technology in teaching methods. The following sentence reflects this:

"Digitalisasi di madrasah ini memang dimulai dari kebijakan pimpinan. Kami ingin teknologi menjadi bagian dari sistem pembelajaran, bukan hanya alat tambahan."

(Principal of the Madrasah)

The deputy head of curriculum also stressed:

"Semua perencanaan pembelajaran sekarang diarahkan agar memanfaatkan teknologi, baik dalam penyampaian materi maupun penilaian."

These results show that digitalization is ingrained at the policy level and is consistent with the Technological Pedagogical Content Knowledge (TPACK) framework, in which the integration of technology, pedagogy, and content knowledge is supported by institutional vision.

Building human resource capacity, especially in enhancing teachers' digital competencies, is the second theme. Artificial intelligence techniques, such as ChatGPT, are used in formal training sessions organized by the madrasah, such as the Love-Based Curriculum Deep Learning Workshop. One educator clarified:

"Pelatihan seperti ini sangat membantu kami. Kami jadi bisa membuat bahan ajar lebih menarik dan tidak monoton, apalagi dengan bantuan AI." (IRE Teacher)

This result is consistent with the Technology Embrace Model (TAM), which posits that perceived utility and usability influence instructors' embrace of technology. The training programs show that the madrasah places a high priority on human preparedness, implying that digital transformation is tackled methodically and gradually rather than driven solely by technological availability.

Collaborative stakeholder involvement is emphasized in the third topic. Teachers, parents, and administrative staff all actively participate in the implementation of digitalization. According to a parent representative:

"Sekarang kami lebih mudah memantau perkembangan anak karena informasi nilai bisa diakses secara digital."

In the meantime, the madrasah operator observed:

"Kami memastikan sistem berjalan dengan baik supaya guru dan orang tua bisa mengakses data tanpa kendala."

These results show that digitization promotes a more open and cooperative educational ecosystem, enabling families and schools to communicate more effectively.

These themes are further supported by the interview results given in Table 1, which demonstrate how each stakeholder contributes to the digitization plan in unique but related ways. Teachers use digital pedagogical practices; operators oversee technical systems; the madrasah principal focuses on policy and human resource development; the deputy head of curriculum incorporates digitalization into instructional planning; and parents offer support through monitoring and engagement.

Instead of being an actual measurement, Figure 2, which shows how the Love-Based Curriculum Deep Learning Workshop was distributed, should be understood as a visual depiction of capacity-building activities. It draws attention to the institutional effort to improve instructors' proficiency with digital tools, including artificial intelligence such as ChatGPT, for creating IRE learning resources.

From an analytical standpoint, these results imply that MI Al-Islamiyah's digitization plan represents a collaborative, systemic transformation. In contrast to earlier research that frequently highlights technology adoption as the main sign of digitalization, this study demonstrates that stakeholder collaboration, institutional preparedness, and leadership commitment are more important. This conclusion builds on earlier research Samsuddin et al, by highlighting the need for organizational alignment and human capacity development in addition to technological infrastructure for successful digitalization in Islamic education(Samsuddin et al., 2026).

It is crucial to remember that these conclusions are based on qualitative data from participants' perceptions and observed behaviors. Therefore, rather than serving as proof of quantifiable gains in learning outcomes or student achievement, the data should be regarded as contextual and process-oriented insights. Instead of serving as a predictor of statistically validated academic achievement, digitalization in this context serves as an enabling technique that facilitates the transformation of teaching and learning processes.

Operationally, MI Al-Islamiyah uses a methodical and incremental approach to digitalization. Creating policies to guide the digital transition is the first step, followed by methodical training programs to improve instructors' skills. The madrasah operator then creates and oversees digital systems to assist with administrative and educational tasks. To ensure parental awareness and participation in the digitization process, the madrasah regularly runs outreach programs. Human resource development is given precedence over rapid technology advancement in this phased strategy, which emphasizes institutional readiness. A plan like this ensures digitization is carried out sustainably while accounting for contextual factors such as infrastructural constraints and disparities in stakeholder digital literacy.

Using Digital-Based Learning Materials, Administration, and Assessment for Islamic Religious Education

A contextual and practice-oriented realization of educational digitalization within the madrasah setting is reflected in the use of digital-based learning resources, academic administration, and evaluation in Islamic Religious Education (IRE). Three main themes were methodically discovered based on qualitative analysis using the Miles and Huberman Interactive Model: (1) interactive digital learning material; (2) digital academic administration via the Madrasah Digital Report System (RDM); and (3) digital-based assessment methods. These themes show how digitization is integrated into administrative and assessment procedures as well as into educational activities.

To supplement the teaching of Aqidah, Akhlak, and Aswaja, teachers use interactive digital learning resources such as Wordwall, instructional videos, and online tests. These resources are

thought to improve conceptual understanding and increase student involvement. Teachers' statements like these corroborate this:

"Penggunaan Wordwall dan video membuat siswa lebih aktif dan antusias, terutama pada materi Akidah karena mereka bisa langsung berinteraksi dengan materi."

"Kalau hanya ceramah, siswa cenderung pasif, tetapi dengan media digital mereka lebih mudah memahami konsep dan lebih terlibat dalam pembelajaran."

These results suggest that digital media serve as instructional tools that promote active engagement, but their influence remains determined by observable behaviors rather than quantifiable outcomes.

The Kementerian Agama Republik Indonesia created RDM, an official platform for tracking and reporting student accomplishments in madrasahs, to facilitate digital academic administration. This is the second topic. In addition to improving openness by giving parents access to academic reports, the system makes it easier for teachers to document, arrange, and share student learning progress. According to the data from the interviews:

"RDM memudahkan kami dalam menginput dan mengelola nilai karena semuanya sudah terintegrasi dalam sistem."

"Orang tua sekarang bisa langsung melihat perkembangan anaknya, jadi komunikasi antara sekolah dan rumah lebih terbuka."

These answers imply that digitalization includes institutional management and accountability procedures in addition to classroom education.

The third subject centers on digital-based assessment methods, in which educators use online resources for both formative and summative assessments. Although its deployment is not without difficulties, digital evaluation enables more rapid feedback and simplified grading procedures. The following statements make this clear:

"Penilaian digital membantu kami memberikan umpan balik lebih cepat dibandingkan cara manual."

"Tidak semua siswa memiliki akses internet yang stabil, sehingga kami masih mengombinasikan penilaian digital dan manual."

These results show that although digital evaluation offers practical benefits, contextual factors such as infrastructure and students' access to technology affect its efficacy.

Technological Pedagogical Content Knowledge (TPACK), which emphasizes integrating technology, pedagogy, and content knowledge in teaching, can be used to analyze these findings. Teachers' capacity to match technology resources with subject matter and instructional methodologies is demonstrated by their usage of digital technologies. The Technology Acceptance Model can also be used to understand the adoption of digital systems, as instructors' desire to incorporate technology into their work is influenced by perceived utility and ease of use. The favorable opinions of RDM as an effective administrative tool are especially clear examples of this.

These results align with research showing that digitization in education can boost student engagement and improve administrative effectiveness. However, this study lacks empirical evidence, such as test scores or comparable performance data, unlike quantitative studies that demonstrate quantifiable changes in academic success. As a result, its value is seen in providing a qualitative and contextual understanding of how digitalization is used in regular madrasah educational procedures.

It is crucial to stress that the study's conclusions are based solely on qualitative data from interviews and observations. Because they reflect observed changes in engagement and learning processes rather than statistically confirmed benefits, assertions about improvements in learning

outcomes should be regarded cautiously. As long as teacher proficiency, technology infrastructure, and institutional preparedness are well matched, digitalization is better viewed in this context as an enabling factor that enhances administrative transparency, process efficiency, and instructional efficacy.

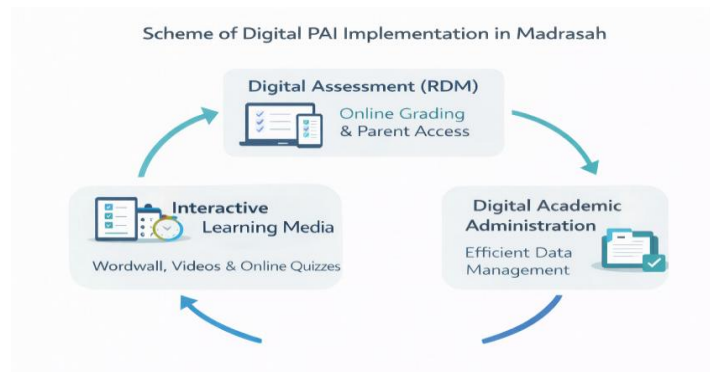


Figure 3: Digital-Based Islamic Religious Education (IRE) Assessment, Administration, and Learning Media Implementation Schematic

A conceptual design of the madrasah system's integration of digital learning materials, academic administration, and evaluation is shown in Figure 3. The cyclical link between these elements is depicted in the picture, showing how they work together to create a cohesive ecosystem for digital learning. It should not be seen as proof of quantifiable gains in student performance, but rather as a qualitative and conceptual depiction based on observable behaviors.

Three key elements of digital implementation in madrasahs are depicted schematically in Figure 3: (1) interactive learning media; (2) digital academic administration; and (3) RDM-based evaluation. These components show how administrative and educational procedures incorporate digital tools (Ciptadi & Khozin, 2025). It should be seen as a conceptual representation of observed practices rather than as proof of quantifiable advances in learning quality or student accomplishment, even though the diagram depicts a connected and sustained digital learning system. This illustration shows how the combination of these three elements creates a linked and long-lasting digital learning system that raises the calibre, efficacy, and transparency of Islamic Religious Education (IRE) instruction.

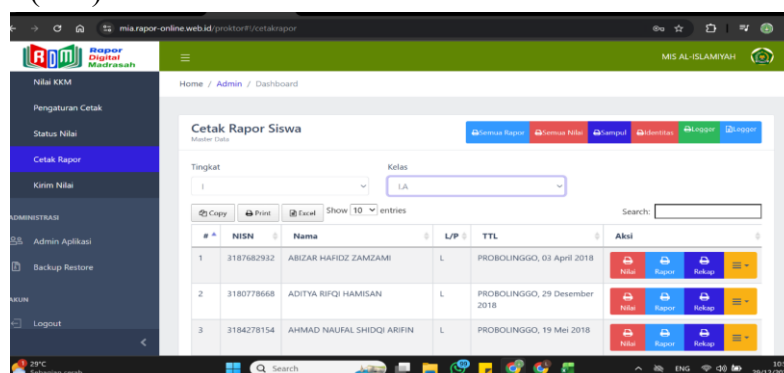


Figure 4. Digital Report on Madrasah

In a similar vein, Figure 4 emphasizes the function of RDM as a key instrument for reporting student learning outcomes and facilitating parent-school communication. While interactive learning materials seem to encourage student participation in class activities, observational evidence suggests that digital-based administration leads to more systematic data management. However, because the study lacks objective, quantifiable assessments of students' academic success, the results remain descriptive and perception-based.

All things considered, the digitization of Islamic Religious Education (IRE) in this setting is carried out in a useful, flexible, and context-aware way. Teachers position technology as a tool to enhance education rather than an end in itself by choosing and using digital technologies based on students' characteristics and usability concerns. This method enables gradual, sustained implementation by accounting for differences in user preparedness and infrastructure constraints. Although digitalization is thought to improve productivity, openness, and student involvement, this study does not provide empirical data on how it affects students' academic performance. Therefore, rather than being objectively measured impacts, any statements about increases in learning outcomes or student performance should be viewed as subjective views generated from qualitative data.

The Positive Impact of Digitalization in Islamic Religious Education on Student Achievement and Learning Quality Highlights its Significance in Modernizing Educational Practices

An initial knowledge of the madrasah digitalization strategy's influence on Islamic Religious Education (IRE) at MI Al-Islamiyah is provided by its execution, particularly through the use of digital learning media and assessment tools. It must be made clear that test scores, grade comparisons, and pre-post performance data are examples of quantitative measures of academic achievement that are neither generated nor analyzed in this study. As a result, this part focuses solely on observed changes in learning processes and learning quality, based on qualitative evidence, rather than making any quantifiable claims about improvements in student achievement. Three main themes emerged from the data reduction, data display, and conclusion drawing processes that followed the Miles and Huberman framework: (1) greater student engagement; (2) more interactive learning environments; and (3) enhanced accessibility and effectiveness of learning evaluation. These themes are not statistically verified results, but rather patterns that emerge from observations, interviews, and recordings.

First, throughout digital-based learning activities, student involvement steadily increased. When digital resources like Wordwall, instructional videos, and online tests were used, students seemed more focused and engaged. Interview data support this pattern. "Students are more enthusiastic when learning uses digital media; they participate more actively compared to conventional methods," said one educator. "When I use interactive quizzes, almost all students want to try and answer, even those who are usually passive," stated another informant. These results may not guarantee better academic performance, but they do show a change in classroom dynamics toward more active participation. Second, the study found that learning environments are becoming more interactive. Teacher-centered instruction became less prevalent as two-way communication enabled by digital tools increased. According to one participant, "Students respond directly to the material shown on the screen, making learning more lively." The dynamic nature of classroom interactions, especially during debates and digital exercises, was further supported by observational data. Once more, rather than quantifiable learning outcomes, these findings represent modifications in instructional procedures.

Third, the incorporation of digital technology increased the accessibility and effectiveness of evaluation procedures. The Rapor Digital Madrasah (RDM), an official digital reporting system created by the Indonesian Ministry of Religious Affairs for the management and reporting of student academic records in madrasahs, is one of the main instruments utilized. Participants stated that administrative procedures were made simpler by RDM and related platforms. "With RDM, we can input and access student scores more easily, and the reporting process becomes faster and more

organized,” a teacher clarified. This improvement has less to do with actual increases in student achievement and more to do with system efficiency.

Overall, the results indicate that in IRE learning situations, digitalization serves as a pedagogical facilitator, improving engagement, interaction, and evaluation effectiveness. However, no conclusions can be drawn about its influence on student achievement due to the study’s qualitative methodology and the lack of objective academic performance data. Further research employing quantitative or mixed-methods approaches would be necessary to support any interpretation linking digitalization to better academic outcomes. Therefore, rather than focusing on quantifiable academic accomplishment, the study’s outcomes should be interpreted in terms of perceived learning quality and classroom process reform.

CONCLUSION

The results of this study show that the digitization of Islamic Religious Education (IRE) at MI Al-Islamiyah is more than a technological adaptation; it is a strategic effort to improve learning quality. A more dynamic, transparent, and student-centered learning environment is created by integrating digital learning materials, assessment tools, and academic administration. This change encourages teachers to take on the role of learning facilitators and increases student involvement. Although these results are not quantified in this study, learning quality is a crucial channel via which digitalization affects student engagement and possible learning outcomes. However, this study’s narrow focus on a single madrasah setting limits the applicability of its conclusions to other educational contexts with distinct sociocultural and infrastructure constraints. Therefore, before applying the results elsewhere, readers and practitioners should carefully assess the results and take contextual similarities into account. Because this study is qualitative, its conclusions are based on observed practices and attitudes rather than quantifiable academic success.

Given these constraints, it is advised that future research broaden its scope by using mixed-methods approaches to provide empirical evidence of the impact of digitalization on student achievement, longitudinal designs to investigate the long-term effects of digitalization, and multi-site studies to improve transferability. Such research would provide a more thorough knowledge of the digital transition in Islamic education and bolster the body of evidence. Practically speaking, this study indicates that effective digitalization in madrasahs requires strong institutional leadership, ongoing teacher capacity-building, stakeholder cooperation, and access to technology. Madrasah administrators should prioritize training programs and sustained policy support, while teachers are urged to gradually and contextually incorporate digital tools into their pedagogical practices. To ensure fair and efficient implementation, policymakers and educational authorities should focus on improving digital infrastructure and providing continuing professional development. By working together, we can establish digitalization as a flexible and long-lasting approach to raise the standard of Islamic Religious Education in primary madrasahs.

DECLARATION OF AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this manuscript, the author(s) used ChatGPT and Paraphrasing Tool to assist in improving grammar, language quality, and overall readability of the text. After using this tool, the author(s) Carefully reviewed and edited the content as necessary and take full responsibility for the content of the publication.

ACKNOWLEDGEMENT

The authors greatly appreciate the intellectual support provided by Universitas Nurul Jadid during this study. Teachers, staff, parents, and the director of MI Al-Islamiyah are all appreciated for their cooperation and important contributions. The authors also thank everyone who helped to complete this research, including academic supervisors and coworkers.

AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 4: Formal analysis; Methodology; Writing - original draft.

DECLARATION OF COMPETING INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

REFERENCES

- Abdillah, N., Hidayati, R., Kholis, N., & Najib, M. (2025). Digital Transformation in Islamic Religious Education Learning: A Study of Theory and Implementation in Schools. *International Journal of Educational and Psychological Sciences*, 3(4), 351–366. <https://doi.org/10.59890/ijeps.v3i4.76>
- Al Hadi, A. F. M. Q., Muh. Nur Rochim Maksum, Intan Dian Saputri, Syahrul Adam Salleh Ibrahim, & Ammar Wangyee. (2025). The Transformation of Islamic Educational Leadership in a Multicultural Society: A Theoretical Review Based on Critical Literature. *Multicultural Islamic Education Review*, 8(5), 149–160. <https://doi.org/10.23917/mier.v3i2.12098>
- Alif Utama, M. M., Lestari, D. A., Khodijah, D. N., Sirait, S., Karwadi, K., Sa'adi, S., Nursikin, M., & Mansur, M. (2025). Integrating Religious Moderation into Education: A Qualitative Analysis of the ASSTA Curriculum in Madrasahs. *AL-ISHLAH: Jurnal Pendidikan*, 17(3). <https://doi.org/10.35445/alishlah.v17i3.6648>
- Amrulloh, M., Rajaminsah, R., Yudiyanto, M., Riyanti, R., & Firdausi, M. I. (2025). A Systematic Literature Review on the Integration of Digital Technology in Islamic Religious Education at Secondary Schools. *International Education Trend Issues*, 3(2), 96–107. <https://doi.org/10.56442/ieti.v3i2.1331>
- Aziz, Muh. B., & Amir, A. N. (2025). Evaluating Value-Based Vocational Education Using Logic Model: A Qualitative Inquiry in Islamic Higher Education. *Tafkir: Interdisciplinary Journal of Islamic Education*, 6(3), 700–715. <https://doi.org/10.31538/tjie.v6i3.1969>
- Ciptadi, T. & Khozin. (2025). The Challenges and Opportunities of Digitalization in Islamic Religious Education Institutions. *IJGIE (International Journal of Graduate of Islamic Education)*, 6(1), 1–10. <https://doi.org/10.37567/ijgie.v6i1.3357>
- Darojat, J., Yusuf, I. A., Asyari, H., Ruswandi, U., & Arifin, B. S. (2025). Revitalization of Islamic Religious Education and Ethics in Primary and Secondary Schools in the Era of Industrial Revolution 4.0. *Eduprof: Islamic Education Journal*, 7(2), 488–503. <https://doi.org/10.47453/eduprof.v7i2.292>
- Dian, D., Fadilah, S., Halimah, N. A., & Sopiyyulloh, O. (2025). Integrating Philosophy of Science into Islamic Education: Enhancing Relevance and Effectiveness in the Fourth Industrial Revolution Era. *AL-ISHLAH: Jurnal Pendidikan*, 17(3). <https://doi.org/10.35445/alishlah.v17i3.7743>
- Donkoh, S. (2023). Application of Triangulation in Qualitative Research. *Journal of Applied Biotechnology & Bioengineering*, 10(1), 6–9. <https://doi.org/10.15406/jabb.2023.10.00319>

- Fahm, & Olawale, A. G. (2025). Navigating Digital Frontiers: Preliminary Ethical Reflections on Islamic Learning in Contemporary Nigerian Muslim Societies. *Journal of Physics: Conference Series*, 8(7). https://doi.org/10.15495/EPUB_UBT_00008576
- Fajri, Z., Baharun, H., Muali, C., Shofiatus, Farida, L., & Wahyuningtiyas, Y. (2021). Student's Learning Motivation and Interest; the Effectiveness of Online Learning during COVID-19 Pandemic. *Journal of Physics: Conference Series*, 1899(1). <https://doi.org/10.1088/1742-6596/1899/1/012178>
- Hafizah Almardiah, D., & Abd. Muis, A. (2025). The Effectiveness of Digital Media in Learning Islamic Religious Education (PAI) in the Era of Society 5.0: Study of the Integration of Technology and Religious Values. *Jurnal Eduslamic*, 3(1), 45–55. <https://doi.org/10.59548/jed.v3i1.463>
- Haidir, H., Arizki, M., & Fariz, M. (2021). An Innovation of Islamic Religious Education in The Era of The Industrial Revolution 4.0 in Elementary School. *Nazhruna: Jurnal Pendidikan Islam*, 4(3), 720–734. <https://doi.org/10.31538/nzh.v4i3.1688>
- Harimawan, H., Raharjo, A. B., & Harianto, E. (2024). Islamic religious education learning innovations in strengthening character education in the Industrial Revolution Era 4.0. *DWIJA CENDEKIA: Jurnal Riset Pedagogik*, 8(1), 131. <https://doi.org/10.20961/jdc.v8i1.85858>
- Hasanah, N. (2021). The Role of Madrasah Ibtidaiyah in Building Student Characters in The Era Of The 4.0 Industrial Revolution. *Nazhruna: Jurnal Pendidikan Islam*, 4(2), 310–319. <https://doi.org/10.31538/nzh.v4i2.1304>
- Humaida, H., Wati, I. K., Mukmin, M., & Kausar, S. (2026). Digitalizing Islamic Education: Developing a Methodological Model for Generation Z Learners. *Attaqwa: Jurnal Ilmu Pendidikan Islam*, 22(1), 75–95. <https://doi.org/10.54069/attaqwa.v22i1.1044>
- Irlina, A., Barni, M., Basir, Abd., & Khairuddin. (2024). Nurturing Resilient Generations: Character Education in Islamic Teachings within the Framework of Society 5.0. *Al-Iftah: Journal of Islamic Studies and Society*, 5(1), 57–71. <https://doi.org/10.35905/aliftah.v5i1.8330>
- Kholida, S., Niam, S., Qomar, M., & Adiyono, A. (2025). Multicultural Education from an Islamic Perspective: Building Intercultural Tolerance in Indonesian Primary Schools. *Al-Adzka: Jurnal Ilmiah Pendidikan Guru Madrasah Ibtidaiyah*, 15(2), 212–229. <https://doi.org/10.18592/aladzkapgmi.v15i2.18244>
- Kurniawan, W., & Annisah, S. (2025). Islamic Moral Education and Character Building in the Era of IoT. *Jurnal Al Burhan*, 5(2), 311–320. <https://doi.org/10.58988/jab.v5i2.529>
- Lopez, R. P., McCarthy, E. P., Mazor, K. M., Hendricksen, M., McLennon, S., Johnson, K. S., & Mitchell, S. L. (2021). ADVANCE: Methodology of a qualitative study. *Journal of the American Geriatrics Society*, 69(8), 2132–2142. <https://doi.org/10.1111/jgs.17217>
- Maskin Maskin, Buya Riadi, Saidina Saidina, Lenny Marlina, & Febriyanti Febriyanti. (2025). Digital Transformation in Islamic Education Management: Strategies of Madrasah Principals in Improving the Quality of Technology-Based Learning. *International Journal of Education and Literature*, 4(3), 319–328. <https://doi.org/10.55606/ijel.v4i3.302>
- Mukarromah, A., R, A. H. A., & Manshur, U. (2025). Digital Transformation in Islamic Religious Education: Trend or Necessity in the Post-Pandemic Era. *Indonesian Journal of Education and Social Studies*, 4(1), 85–99. <https://doi.org/10.33650/ijess.v4i1.7084>
- Mundiatul Mila & Muhammad Zuhdi. (2025). Curriculum Development and Educational Practices for Islamic Education: An Analysis of the Merdeka Curriculum at Integrated Islamic Junior High School in Indonesia. *Bulletin of Indonesian Islamic Studies*, 4(2), 718–737. <https://doi.org/10.51214/biis.v4i2.1652>
- Muthmainnah, S., Bachtiar, F., Yassin, A., & Sulistyowati, E. (2025). Islamic Education Development Prospects: Study of The Future and Its Challenges. *Jurnal Pendidikan Progresif*, 15(3), 1604–1619. <https://doi.org/10.23960/jpp.v15i3.pp1604-1619>
- Muzawir Munawarsyah. (2023). Islamic Education in the Modern Era: Analysis of Student Character and Their Role in Facing the Challenges of Industry 4.0. *HEUTAGOGIA: Journal of Islamic Education*, 3(2), 141–154. <https://doi.org/10.14421/hjie.2023.32-01>

- Nur Azizah, R., Nisa Ulyantika, S., Wijaya Putri, M., Kholid, I., & Yuniar. (2025). Improving the Quality of Islamic Education through the Implementation of Integrated Quality Management. *Journal of Educational Management Research*, 4(6), 2909–2923. <https://doi.org/10.61987/jemr.v4i6.1554>
- Nurhasanah, A. (2024). Religious Behavior Development in the 4.0 Era: The Islamic Education Challenges. *Bestari*, 21(1), 76. <https://doi.org/10.36667/bestari.v21i1.668>
- Nursalim, N. (2023). Management Perspective of Islamic Educational Institutions in Facing the Industrial Revolution 4.0. *Proceeding of The Postgraduate School Universitas Muhammadiyah Jakarta*, 1, 381–408. <https://doi.org/10.24853/pi.1.0.2023.381-408>
- Pamuji, S. (2026). Strengthening the Inclusive Role of Muslim Communities in the Digital Space: Preaching Strategies and Social Media Literacy in the 5.0 Era. *Indonesian Journal of Progressive Pedagogy*, 2(2), 102–114. <https://doi.org/10.61987/ijpp.v2i2.1788>
- Rifdillah, M. (2025). Implementation of Islamic Religious Education in the Industrial Era 4.0: Opportunities, Challenges, and Adaptation Strategies. *At-Tadzkir: Islamic Education Journal*, 4(2), 121–132. <https://doi.org/10.59373/attadzkir.v4i2.226>
- Romlah, N. A., Warisno, A., Muslim, A. B., & Harun, A. (2025). Navigating tradition and modernity in the strategic management and transformation of Madrasah Aliyah in multicultural Indonesia. *International Journal of Management in Education*, 19(3), 284–310. <https://doi.org/10.1504/IJMIE.2025.145945>
- Sain, H. B. Z. H. (2025). Enhancing Islamic Religious Education through IT-Based Learning: A Qualitative Study. *SSR Publisher*, 6(3). <https://doi.org/10.5281/ZENODO.14639802>
- Samsuddin, S., Abdurrahman, A., Jabar, A., Nurwahida, N., & Masuwd, M. (2026). Integrating Digital Pedagogy and TQM in Islamic Religious Education: A Mixed-Methods Study in Indonesian Madrasahs to Enhance Teacher Competence and Learning Quality. *IJCRE: International Journal of Culture, Religion, and Education*, 2(1), 1–12. <https://doi.org/10.52640/xnd0t525>
- Shah, S. F. (2025). Navigating Globalization and Disruption: A Review of Sustainable Management Strategies for Islamic Educational Institutions in Pakistan. *Samarinda International Journal of Islamic Studies*, 9(5). <https://doi.org/10.64093/sjis.v2i3.857>
- Siswadi, Asdlori, A., & Masruri, M. (2026). Faith-Based Transformational Leadership in the Digital Age: A Case Study of Social Media-Driven Educational Fundraising for Orphans in Indonesia. *Nazhruna: Jurnal Pendidikan Islam*, 9(1), 246–265. <https://doi.org/10.31538/nzh.v9i1.221>
- Suci Hartati. (2025). The Basic Role of Islamic Education Management in Human Resource Management in the Digital Era. *Journal of Research in Islamic Education*, 7(1), 59–72. <https://doi.org/10.25217/jrie.v7i1.3599>
- Syaikhu, A. (2025). Islamic Boarding School Management in the Digital Era: Integrating Tradition and Innovation in Islamic Education. *FALASIFA: Jurnal Studi Keislaman*, 16(02), 120–130. <https://doi.org/10.62097/falasifa.v16i02.2474>
- Syarnubi, S., Syarifuddin, A., & Sukirman, S. (2023). Curriculum Design for the Islamic Religious Education Study Program in the Era of the Industrial Revolution 4.0. *AL-ISHLAH: Jurnal Pendidikan*, 15(4). <https://doi.org/10.35445/alishlah.v15i4.3421>
- Weyant, E., & Creswell, J. W. (2022). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 5th Edition. *Journal of Electronic Resources in Medical Libraries*, 19(1–2), 54–55. <https://doi.org/10.1080/15424065.2022.2046231>

Copyright Holder :

© Zaenol Fajri et al. (2026).

First Publication Right :

© International Journal of Educational Narratives

This article is under: