



CURRICULUM RECONSTRUCTION FOR AI-BASED ISLAMIC RELIGIOUS EDUCATION IN THE SOCIETY 5.0 ERA AT MADRASAH

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Abstract: This study aims to address the urgency of reconstructing the Islamic Religious Education (IRE) curriculum based on Artificial Intelligence (AI) and aims to develop a comprehensive framework that aligns with the digital needs of students in the era of Society 5.0. This study uses a qualitative approach with a case study type involving 19 informants consisting of IRE teachers, students, Deputy Heads of Curriculum, and Madrasah Principals. Data were collected through semi-structured interviews, classroom observations, and document analysis, then analyzed using the Braun and Clarke thematic analysis framework with validation through triangulation and member checking. The results of the study indicate that the previous IRE curriculum, which focused on memorization and teacher-centered teaching, created a significant gap between students' cognitive knowledge and their ability to apply Islamic values in a digital context. The proposed AI-based curriculum reconstruction includes three interrelated components: Basic Analysis (evaluating the previous curriculum gaps and AI resource needs), Pedagogical Transformation (redesigning methods through a blended learning model), and Systemic Integration (AI-based implementation strategies and evaluation systems). Ongoing challenges include teachers' limited AI competency, inadequate infrastructure, and ethical concerns regarding the preservation of Islamic values. This model offers a scalable blueprint for madrasas navigating digital transformation while preserving the spiritual essence of Islamic education in the era of Society 5.0.

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INTRODUCTION

Islamic Religious Education (IRE) plays a fundamental role in shaping students' character, morality, and spiritual understanding within the Indonesian education system (Ginanjar et al., 2025). As a compulsory subject in madrasahs, *IRE* aims not only to transmit religious knowledge but also to internalize Islamic values in students' daily lives (Fathurrohman et al., 2023). The curriculum of *IRE*, therefore, must be continuously developed to remain relevant to the evolving needs of society. In the current digital transformation era, the integration of technology into the *IRE* curriculum has become increasingly urgent to ensure that religious education keeps pace with global advancements (Anisa & Khasanah, 2026). However, the conventional nature of *IRE* instruction, which often relies on rote memorization and teacher-centered lectures, poses significant challenges in engaging digitally native students.

At Madrasah Aliyah Negeri (MAN) 2 Bandung Regency, a significant pedagogical gap has emerged between students' digital learning habits and the conventional methods employed in Islamic Religious Education (*IRE*) instruction. The root cause of this problem was the persistent reliance on textbook-based, teacher-centered lectures and rote memorization that has characterized *IRE* teaching for decades, while students' learning preferences have been fundamentally shaped by their immersion in digital media. This mismatch produces a direct effect: students become disengaged and perceive *IRE* as less relevant to their daily lives. As one student explained, "*In Science or Math, we often use apps, simulations, or interactive videos. But IRE is still lecturing all the time*". The broader impact was concerning that students can recite Quranic verses and hadith for examinations, but struggle to connect these teachings to contemporary digital contexts such as social media ethics, online transactions, and digital interactions. Furthermore, while other subjects like Mathematics and Science have begun adopting AI-based personalized learning tools, *IRE* remains largely untouched by technological innovation, creating an intra-curricular disparity that reinforces students' perception of religious education as outdated. Infrastructure limitations, including inadequate internet access and a lack of digital devices, further exacerbate this challenge, preventing meaningful technology integration even when teachers are willing to innovate.

In response to these multifaceted challenges, reconstructing the *IRE* curriculum through Artificial Intelligence (AI) integration offers a strategic solution that addresses both pedagogical and infrastructural gaps. AI technologies can personalize learning experiences by adapting content to individual student needs, providing interactive platforms that align with students' digital learning preferences, and offering access to credible, validated Islamic resources that guide students toward authentic sources amidst the flood of online information. For *IRE* specifically, AI can digitalize classical Islamic texts, assist in contextual Quranic interpretation (*tafsir*), and facilitate discussions through AI-powered Islamic chatbots that provide instant, reliable responses to students' religious questions. Most critically, AI-based evaluation systems can transform assessment from measuring memorization recall to evaluating deep

understanding and value internalization through adaptive testing, learning analytics, and natural language processing of reflective writing. This proposed reconstruction, however, requires more than technology adoption. It demands systematic attention to teacher training, infrastructure development, and ethical guidelines that ensure AI integration preserves the spiritual essence of Islamic education while enhancing its relevance in the digital age.

Previous studies have explored the intersection of AI and Islamic education from various perspectives. Bauer et al. (2025) and Muali & Albustomi (2025) examined the role of mobile applications in elementary-level *IRE* learning, finding that technology-enhanced instruction significantly improved student engagement. Similarly, Wu (2024) and Huynh-The et al. (2023) investigated the use of digital technology in Islamic education and highlighted its potential to increase learning effectiveness. Chan et al. (2025) and Hussam & Liyawu (2025) discussed the risks and ethical challenges of AI in education, emphasizing the need for responsible implementation. Bukhari & Rehman Akhtar (2025) and Lee et al. (2023) explored the opportunities and challenges of integrating AI into *IRE* at the university level, identifying teacher readiness and infrastructure as key barriers. Panjaitan et al. (2025) and Mannuru et al. (2023) provided an overview of AI applications in *IRE* learning, including benefits and challenges. However, these studies tended to focus on specific AI applications (e.g., quizzes, chatbots) or broader digitalization efforts, without offering a comprehensive framework for reconstructing the entire *IRE* curriculum. Furthermore, Zul et al. (2026), Elmahjub (2023), and Labadze et al. (2023) note that most existing research is situated in general educational contexts or higher education, leaving a gap in understanding how AI can be systematically integrated into the *IRE* curriculum at the madrasah level, particularly in addressing the unique ethical and pedagogical demands of Islamic education.

The novelty of this study lies in its holistic approach to reconstructing the *IRE* curriculum by integrating AI across all four core components: learning objectives, teaching materials, instructional methods, and assessment systems. Unlike previous research that focused on isolated technological interventions, this study proposes a comprehensive framework that addresses the interconnected challenges of teacher readiness, infrastructure limitations, and ethical considerations unique to Islamic education. By incorporating Islamic ethical principles into AI integration, the proposed framework ensures that technological advancement does not compromise the spiritual essence of *IRE*. This study, therefore, addresses a critical gap in the literature by providing a scalable and ethically grounded model for AI-based curriculum reconstruction in madrasahs, contributing to the ongoing discourse on Islamic education in the Society 5.0 era.

Accordingly, this study aimed to achieve three primary objectives: (1) to analyze the urgency of reconstructing an AI-based *IRE* curriculum at Madrasah Aliyah Negeri; (2) to identify the challenges in implementing AI across learning objectives, teaching materials, methods, and assessments in *IRE*; and (3) to design a comprehensive reconstruction framework for an AI-based *IRE*

curriculum that aligns with the educational needs of MAN students in the Society 5.0 era. The research focused specifically on MAN 2 Bandung Regency as a case study, providing empirical insights that can inform curriculum reform in similar madrasah contexts across Indonesia. By addressing both the opportunities and challenges of AI integration, this study sought to contribute to the advancement of Islamic education in the digital age, ensuring that *IRE* remained relevant, engaging, and spiritually grounded for future generations.

RESEARCH METHOD

This study employed a qualitative case study approach to gain an in-depth and contextual understanding of the urgency, challenges, and design of an Artificial Intelligence (AI)-based Islamic Religious Education (*IRE*) curriculum reconstruction at Madrasah Aliyah Negeri (MAN). The case study design was chosen because it allows researchers to explore complex phenomena within their real-life contexts (Naeem et al., 2023; Pilcher & Cortazzi, 2024), making it particularly suitable for investigating the multifaceted dynamics of curriculum reform in a specific educational setting. The research was conducted at Madrasah Aliyah Negeri (MAN) 2 Bandung Regency, West Java, Indonesia. This location was purposively selected based on several considerations: (1) the school has shown initial initiatives in integrating digital technology into learning; (2) it faced typical challenges common to madrasahs in Indonesia regarding technology adoption; and (3) accessibility for in-depth data collection. The informants in this study were selected using purposive sampling techniques to ensure that the data obtained were relevant and rich in information. The informants consisted of:

Table 1. The Informants of Research

No	Informant Category	Number of Informants	Criteria/Reason for Selection
1	IRE Teachers	5 teachers	Active IRE teachers with at least 5 years of teaching experience at MAN 2 Bandung, representing different grade levels (X, XI, XII)
2	Students	12 students	Students from grades X, XI, and XII (4 from each grade) who actively use digital devices in learning and have experienced IRE instruction
3	Curriculum Vice Principal	1 person	Initially not included, but added during the study based on reviewer feedback. Responsible for curriculum policy and planning at the school
4	Head of Madrasah	1 person	Initially not included, but added during the study based on reviewer feedback. As the primary policy maker, their perspective on AI integration in the curriculum is crucial.

Their perspectives enriched the findings by providing insights into policy-level challenges, strategic planning for technology integration, and institutional support required for successful curriculum reconstruction. To obtain comprehensive and valid data, this study employed three primary data collection techniques, such as semi-structured interviews (in-depth interviews), classroom observations, and document analysis. The data obtained from interviews, observations, and document analysis were analyzed using thematic

analysis following the framework proposed by Braun and Clarke (in Heriyanto & Nurislaminingsih, 2025; Ragin, 2024), which consisted of six phases. Such as familiarization data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. To ensure the trustworthiness and credibility of the findings, this study employed four data validation techniques based on Lincoln and Guba's (in Bingham, 2023; Ragin, 2024) criteria for qualitative research such as triangulation source were verified through observations and document analysis., member checking to confirm accuracy and provide opportunities for correction or addition, prolonged engagement for building trust and gaining deep understanding of the context..

RESULT AND DISCUSSION

Result

This study proposed a comprehensive framework for AI-based Islamic Religious Education (IRE) curriculum reconstruction at MAN 2 Bandung Regency, developed from empirical data collected through interviews, observations, and document analysis. These three components operated in a continuous feedback loop, with findings from each informing and refining the others to create a responsive, context-sensitive curriculum reconstruction.

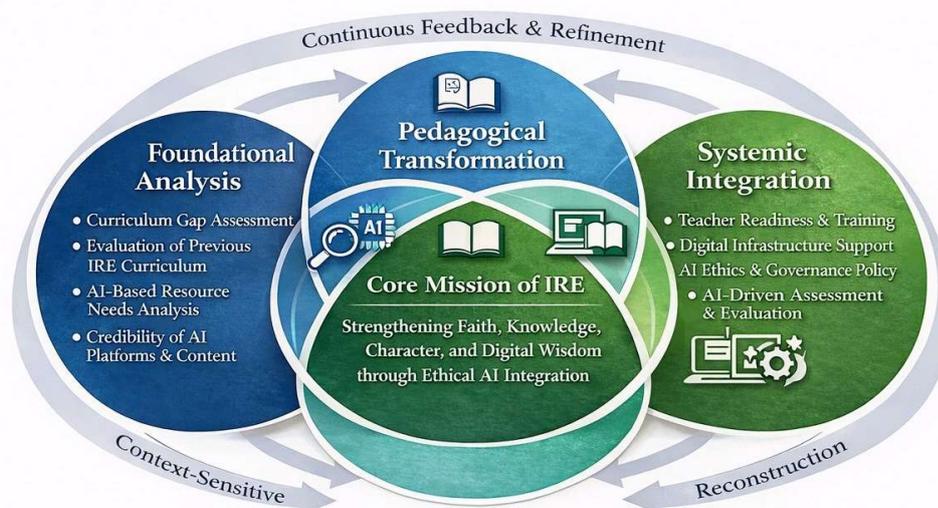


Figure 1. Comprehensive Framework for AI-Based IRE Curriculum Reconstruction at MAN 2 Bandung Regency

Figure 1 illustrates the three interconnected components of the proposed framework. As illustrated, the framework consisted of three interconnected core components: (1) Foundational Analysis, which encompasses evaluation of the previous curriculum and assessment of AI-based resource needs; (2) Pedagogical Transformation, addressing learning methods and blended learning models; and (3) Systemic Integration, covering implementation strategies and AI-driven evaluation systems. Foundational Analysis (left) established the baseline by evaluating previous curriculum limitations and identifying AI resource needs. Pedagogical Transformation (center) redesigns teaching methods and learning

models to integrate AI while preserving the teacher-student spiritual connection. Systemic Integration (right) addresses implementation challenges and transforms assessment systems to measure deep understanding and character development. The circular arrows indicate continuous feedback and refinement among components.

Foundational Analysis: Identifying Curriculum Gaps and AI Resource Needs

The foundational analysis component emerged from examining the previous IRE curriculum's limitations and assessing the need for AI-based learning resources at MAN 2 Bandung. Analysis of curriculum documents (KMA 183 and 184 of 2019) and lesson plans revealed that the previous curriculum emphasized cognitive achievement through textbook-based instruction, rote memorization of Quranic verses and hadith, and teacher-centered lectures. Classroom observations across 10 IRE sessions confirmed that students remained passive during instruction, able to recite memorized material but struggling to explain its meaning or application in contemporary contexts. In one observed grade XI lesson on honesty (QS. Al-Maidah: 8), students could recite the verse fluently but could not provide examples of applying it in digital transactions or social media interactions.

Interviews with teachers corroborated these observations. A senior IRE teacher explained that the primary goal had been examination passage rather than genuine understanding or value internalization: *"Students must memorize Quranic verses and hadith, then are tested through written exams. The main goal is for them to pass the exam, not to truly understand and practice Islamic teachings in daily life"*. This focused on memorization over meaning creation, as multiple teachers acknowledged, left students ill-equipped to navigate the ethical challenges of their digital lives. Simultaneously, analysis revealed significant gaps in AI-based learning resources. Students reported actively seeking Islamic information online but lacking skills to validate sources. One grade XI student shared: *"I often search religious material on YouTube or Google. But sometimes I'm confused about which is correct. When I asked my teacher, he said it wasn't in line with correct understanding"*. Teachers acknowledged this challenge, with one noting: *"Students are smarter than their teachers in terms of technology. They can find any material online. But they can't yet filter which sources are valid according to Islamic scholarship"*. Table 1 summarizes the resource needs identified through this analysis.

Table 2. AI-Based Learning Resource Needs Analysis

Resource Need	Current Condition	Desired AI-Based Solution
Validated Islamic Content	Students rely on unverified YouTube, Google, and social media	AI-powered platforms with source validation (Quran.com , Siroh AI)
Digital Tafsir Tools	Limited to printed tafsir books; difficult to search	AI-based search for Quranic verses by keywords, themes, and life situations
Interactive Islamic Apps	No structured digital resources for IRE	Gamified AI applications with quizzes, simulations
Teacher Support	Teachers lack resources to	AI-assisted content validation tools

Tools	verify online content	for teachers
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Table 2 presents the gap between current resource conditions and desired AI-based solutions. The analysis revealed that while students were digitally active, they lacked access to validated Islamic content and tools for contextual exploration. Teachers similarly need AI-powered resources to guide students toward authentic sources.

Pedagogical Transformation: Redesigning Methods and Learning Models

The second component emerged from analyzing current teaching methods and developing appropriate learning models for AI integration. Classroom observations consistently revealed lecture-based instruction with minimal student engagement. A typical IRE session involved teachers explaining topics from textbooks, students listening and taking notes, followed by superficial question-and-answer sessions. In one observed lesson on "Islamic Ethics in Social Media," only three of 32 students responded to teacher questions, and they read directly from textbooks rather than offering personal insights or examples from their digital experiences.

Students unanimously expressed dissatisfaction with these methods and a desire for more interactive approaches. A grade X student explained: *"In Science or Math, we often use apps, simulations, or interactive videos. But IRE is still lecturing all the time. Actually, if religious material was packaged in videos or fun games, it would definitely be more interesting"*. This sentiment was echoed across grade levels, with students specifically mentioning interest in learning Islamic history through animations, exploring Quranic stories through simulations, and discussing contemporary ethical issues through interactive platforms. However, teachers expressed legitimate concerns about preserving the spiritual essence of IRE. A senior teacher reflected: *"I'm worried that if students rely too much on AI, they will lose their connection with the teacher. In IRE, direct interaction with the teacher is important for character formation. AI cannot replace the teacher's role as a role model"*. The Head of Madrasah articulated the need for balance: *"We must find the right model. We shouldn't rush to adopt technology but lose the essence of Islamic education. I envision a blended learning model where technology becomes a tool, not a replacement for teachers"*.

These findings informed the development of a blended AI-integrated learning model, presented in Table 3, which strategically combines face-to-face instruction with AI-enhanced digital learning while preserving teachers' central role in spiritual and moral guidance.

Table 3. Proposed Blended AI-Integrated Learning Model for IRE

Learning Phase	Teacher Role	AI Role	Student Activity
Pre-Class	Assign materials; set objectives	Curate personalized resources	Access AI-recommended resources
In-Class (Face-to-Face)	Lead discussions; provide spiritual guidance; contextualize	Support with interactive presentations; polls/quizzes	Engage in discussions; ask questions; participate in group

	teachings		activities
Post-Class Exploration	Provide guidance for further study	Offer AI chatbots for independent exploration; recommend additional resources	Explore topics independently; ask AI for clarifications
Assessment	Design criteria: provide qualitative feedback	Generate adaptive tests; analyze responses; provide instant feedback	Complete AI-based assessments; receive personalized feedback
Reflection	Guide reflective discussions	Aggregate learning data; identify patterns	Reflect on learning; identify areas for improvement

Table 3 presents the blended learning model developed from stakeholder input. The model maintains teachers as central figures in spiritual formation while leveraging AI for personalization, resource provision, and adaptive assessment. Each phase specifies complementary roles ensuring technology enhances rather than diminishes the teacher-student relationship essential to Islamic education.

Systemic Integration: Implementation Strategies and AI-Driven Evaluation

The third component addressed the practical challenges of implementing AI-based IRE and transforming assessment systems to measure meaningful learning outcomes. Interviews with school leadership and teachers revealed persistent implementation barriers. The Vice Principal for Curriculum explained: *"We have started trying some AI-based learning applications, especially for general subjects like Mathematics and English. For IRE, we are still in the exploration stage. Some IRE teachers have started using videos from YouTube and occasionally use search features in digital Quran applications. However, implementation remains inconsistent and dependent on individual teacher initiative. A young teacher who actively uses technology shared: "Personally, I am interested in technology. So I experiment on my own, learning from YouTube how to use AI for learning. But my fellow teachers may not be as enthusiastic as I am. They need formal training"*.

Document analysis of school strategic plans and infrastructure assessments confirmed these challenges. Key barriers identified include: (1) teachers' limited AI competence due to the absence of systematic training programs; (2) inadequate technological infrastructure, including unreliable internet access and insufficient digital devices; (3) lack of curriculum guidelines specifying AI integration across IRE topics; and (4) absence of ethical frameworks ensuring AI use aligns with Islamic values. Regarding evaluation, the Head of Madrasah acknowledged fundamental limitations of current assessment practices: *"We realize that written exams are not enough to measure the success of IRE. The goal of IRE is not just for students to memorize verses, but for them to practice Islamic values in life. But so far we have struggled to objectively measure the aspect of value internalization"*. Students similarly critiqued current methods: *"I can memorize verses about the prohibition of corruption, but during exams I just write again what I memorized. The teacher never asks about real-life applications"*.

Based on these findings, Table 4 presents the proposed AI-based evaluation system designed to transform assessment from measuring memorization to evaluating deep understanding and character development.

Table 3. Proposed AI-Based Evaluation System for IRE

Evaluation Aspect	Traditional Method	AI-Enhanced Method	Expected Benefit
Formative Assessment	Oral quizzes; teacher observation	AI-powered quizzes with instant feedback	Personalized learning paths; immediate identification of misconceptions
Summative Assessment	Written exams (multiple choice, essay)	AI-generated tests with varying difficulty	More accurate measurement of actual comprehension
Reflective Assignments	Teacher-graded essays (subjective)	AI-assisted analysis of reflective writing using NLP	Objective assessment of depth of understanding
Portfolio Assessment	Paper-based portfolios (limited)	Digital portfolios managed and analyzed by AI	Comprehensive documentation of student growth over time
Character Development	No systematic measurement	AI analysis of student interactions and project work for evidence of value application	Holistic assessment aligned with IRE's spiritual goals

Table 4 outlined the transformation from traditional memorization-based assessment to AI-enhanced evaluation. The proposed system leverages adaptive testing, natural language processing, learning analytics, and digital portfolio management to measure not merely what students know, but how they think, feel, and act in accordance with Islamic values outcomes central to IRE's mission but historically difficult to assess objectively.

Discussion

The finding that the previous IRE curriculum emphasized memorization over meaningful understanding, creating a gap between students' cognitive knowledge and their ability to apply Islamic values in digital contexts, aligns with constructivist learning theory as articulated by Piaget (in Belkhir, 2024; and Egan et al., 2024). Constructivism posits that learners actively construct knowledge through interaction with their environment rather than passively receiving information. The traditional teacher-centered, memorization-based approach observed at MAN 2 Bandung represents precisely the kind of passive reception that constructivist theory identifies as insufficient for deep learning. Students could recite Quranic verses for examinations, but could not construct meaning from those verses for contemporary digital situations because they had never been engaged in the active process of connecting Islamic teachings to their lived experiences. This finding also corroborates Bodner's elaboration (in Chen et al., 2024, and Messeri & Crockett, 2024) that meaningful learning arises from active engagement, not rote repetition. Furthermore, the identification of students' reliance on unverified online sources and their inability to validate Islamic content reflects the information literacy challenges documented in digital education literature (Labadze et al., 2023; and Bashir & Lapshun, 2025), though

uniquely contextualized within religious education where source authenticity carries particular theological weight.

The persistence of this memorization-focused curriculum despite students' evident disengagement can be explained through path dependency in teacher practice and systemic inertia in educational institutions. Teachers at MAN 2 Bandung, particularly those with decades of experience, have developed professional identities and pedagogical habits centered on lecture-based instruction and textbook reliance. Professional competence develops through sustained practice, and disrupting established pedagogical patterns requires intentional intervention and support. The finding that younger teachers were more open to AI integration supports this interpretation, as they have had less time to develop rigid teaching habits. Additionally, the absence of systematic training in alternative pedagogies and the lack of incentives for innovation create institutional barriers that perpetuate conventional methods. The students' turn to unverified online sources represents a natural information-seeking behavior. When immediate religious questions arise, they access the most readily available sources (YouTube, Google) without possessing the critical evaluation skills that formal education has failed to provide. This creates a dangerous gap where students' digital fluency outpaces their religious literacy, precisely the problem the proposed AI-based curriculum seeks to address.

Pedagogical Transformation: Methods and Learning Models

The finding that students strongly prefer interactive, technology-enhanced learning methods while teachers express concerns about preserving spiritual connection through AI integration reflects a tension well-documented in educational technology literature. This study's identification of a blended learning model as the preferred solution aligns with Vygotsky's sociocultural theory (in Belkhir, 2024; Muhammad et al., 2023; Wei, 2023), which emphasized that cognitive development is mediated by social interactions and cultural tools. In this framework, AI-powered platforms serve as mediating tools that extend students' capacity for independent exploration while still operating within the zone of proximal development, where guidance from teachers enables learners to achieve understanding beyond their individual capabilities. The proposed model, positioning teachers as spiritual guides and AI as a complementary tool, resonates with Myara's application of Vygotskian concepts to technology-enhanced learning environments (Myara, 2024; Elmahjub, 2023). Furthermore, the emphasis on preserving teacher-student relationships in Islamic education extends previous findings by Nuraini et al. (2025) and Widad & Munif (2025), who documented improved engagement through technology but did not adequately address concerns about the spiritual dimensions of religious instruction that teachers in this study articulated.

The causal mechanisms underlying this tension between innovation and tradition are rooted in deeply held values regarding the nature of Islamic education. Teachers' concerns about AI replacing their role reflect what Elmahjub identifies as the unique ethical framework of Islamic education, where

character formation (*tarbiyah*) and spiritual guidance (*tazkiyah*) are inseparable from knowledge transmission (*ta'lim*). Unlike mathematics or science instruction, where technology can be integrated with relatively straightforward pedagogical adjustments, IRE touches on students' fundamental beliefs, moral development, and relationship with the divine. Teachers' protective stance, therefore, is not resistance to technology per se but a legitimate concern for preserving the sacred dimensions of their calling. The fact that the Head of Madrasah independently articulated the need for a blended model, without prompting from researchers, demonstrates that institutional leadership recognizes both the necessity of technological adaptation and the non-negotiable centrality of teacher-student spiritual connection. This finding extended Bashir and Lapshun's identification of teacher readiness as a barrier by revealing that readiness is not merely about technical competence but about confidence in maintaining educational essence while adopting new tools.

Systemic Integration: Implementation and Evaluation

The finding that implementation remains fragmented, dependent on individual teacher initiative, and hindered by infrastructure limitations, while evaluation systems continue to measure memorization rather than value internalization, reflects patterns documented across educational technology research in developing contexts. This study's identification of specific barriers (limited teacher training, inadequate infrastructure, and absent ethical guidelines) corroborates findings at the university level while extending them to the madrasah context (Bukhari & Rehman Akhtar, 2025). The absence of systematic training programs for IRE teachers in AI integration represents a critical gap that previous research has identified but not adequately addressed with context-specific solutions. Similarly, the finding that assessment practices remain misaligned with IRE's holistic educational goals resonates with Tyler's rational-linear model, which emphasized that curriculum effectiveness depends on alignment between objectives, learning experiences, and evaluation (Habibi et al., 2025; Hidayat, 2024). The current misalignment, where objectives encompass cognitive, affective, and behavioral dimensions but evaluation measures only cognitive recall, represented precisely the kind of curriculum weakness Tyler's model would predict.

The persistence of implementation fragmentation and evaluation misalignment can be explained through institutional resource constraints, policy gaps, and the unique challenges of measuring religious outcomes. Infrastructure limitations at MAN 2 Bandung reflect broader systemic inequalities in educational technology access across Indonesian madrasahs, where funding priorities, geographic disparities, and competing demands create uneven implementation. The absence of national guidelines for AI integration in Islamic education leaves schools to innovate independently, resulting in the fragmented, teacher-dependent pattern observed. Regarding evaluation, the historical difficulty of objectively measuring value internalization and character development has led institutions to default to what is easily measurable,

memorization, and recall rather than what is meaningful. The Head of Madrasah's candid admission that the school "struggles to objectively measure value internalization" acknowledges this fundamental challenge. The proposed AI-based evaluation system, incorporating adaptive testing, natural language processing, learning analytics, and digital portfolio assessment, offers a potential solution to this longstanding measurement problem by leveraging technology's capacity to analyze complex, qualitative evidence of student learning and development that manual assessment cannot capture at scale.

This study made several significant contributions to Islamic education scholarship and practice. Theoretically, it extended established curriculum frameworks (Tyler's rational-linear model, Taba's grassroots approach, reconstructionist philosophy) to the novel context of AI integration in religious education, demonstrating their continued relevance while adapting them to contemporary technological realities. The three-component framework developed through empirical research offered a theoretically grounded yet context-sensitive model for madrasahs navigating digital transformation. Practically, the study provides a validated diagnostic framework for assessing curriculum gaps, specific recommendations for AI tools relevant to Islamic education, a blended learning model balancing innovation with spiritual preservation, and an AI-based evaluation system capable of measuring deep understanding and character development.

CONCLUSION

This study demonstrated that reconstructing an AI-based Islamic Religious Education (IRE) curriculum at the madrasah level is not merely a technological imperative but a pedagogical and spiritual necessity in the Society 5.0 era. The three-component framework developed through empirical research at MAN 2 Bandung Regency, encompassing Foundational Analysis, Pedagogical Transformation, and Systemic Integration, offered a theoretically grounded and empirically validated model for navigating digital transformation while preserving the spiritual essence of Islamic education. The framework positions AI as a complementary tool that enhances rather than replaces teachers' irreplaceable role in guiding students' faith formation and character development. This model offered a scalable blueprint for madrasahs navigating digital transformation while preserving the spiritual essence of Islamic education in the Society 5.0 era. This research is not without limitations. As a single case study conducted at one madrasah in West Java, the findings require contextual adaptation before application to other settings. The rapidly evolving nature of AI technology means that specific tools and applications discussed may become outdated, necessitating continuous updating of the framework. Future research should conduct multi-site comparative studies across diverse madrasah contexts, longitudinal investigations tracking the long-term impact of AI integration on student character development, and collaborative design-based research involving teachers and students in co-creating AI tools specifically tailored to Islamic education. Additionally, further exploration is needed on the ethical

dimensions of AI in religious education, including the development of Islamic AI ethics frameworks that can guide responsible technology use in madrasahs while ensuring that technological innovation serves the timeless mission of nurturing students of faith, character, and wisdom in an increasingly digital world.

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