

Reconstructing a Tahfizh Al-Qur'an Learning Model Based on Artificial Intelligence and Local Wisdom: Preserving the Sacredness of the Qur'an in the Society 5.0 Era

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ABSTRACT

The Society 5.0 era marks a new chapter in human civilization, positioning Artificial Intelligence (AI)-based technology as a central instrument in social life, including within Islamic education. In this context, tahfizh Al-Qur'an learning a noble tradition of preserving divine revelation, faces a dual challenge: it must adapt to technological acceleration to remain relevant while simultaneously maintaining its irreplaceable dimensions of sanctity and authenticity. This article aims to reconstruct a tahfizh Al-Qur'an learning model that integrates AI capabilities with local wisdom values as an ethical and cultural counterbalance. The method employed is a systematic literature review with an analysis-synthesis approach to examine scholarly works on AI, Islamic education, tahfizh learning, and local wisdom. The findings indicate that model reconstruction can be achieved through three pillars: (1) integration of AI technology based on Automatic Speech Recognition (ASR) and Natural Language Processing (NLP) for automated tajwid error detection; (2) reinforcement of spiritual and pedagogical dimensions through traditionally digitized methods such as talaqqi, musyafahah, and sima'; and (3) internalization of local wisdom as a value filter against potential technological alienation. The proposed model termed the TAHFIZH-AI-LOCAL Model is holistic, humanistic, and civilized. This study contributes a new conceptual framework at the intersection of Islamic educational technology, artificial intelligence, and ethnopedagogy.

Keyword : Tahfizh Al-Qur'an; Artificial Intelligence; Local Wisdom; Society 5.0; Learning Model Reconstruction

1. Introduction

The exponential advancement of Artificial Intelligence (AI) technology in the Society 5.0 era has extended far beyond the domains of economics and industry, penetrating nearly every aspect of human life, including education, culture, and religion. The concept of Society 5.0, introduced by the Japanese government in 2019, emphasizes the harmonious integration of advanced technologies, particularly Artificial Intelligence (AI) and the Internet of Things (IoT), into a human-centered society to address social challenges while enhancing quality of life (Tavares et al., 2022). This paradigm differs fundamentally from Industry 4.0, which is primarily characterized by mechanistic approaches and production efficiency, as Society 5.0 places human beings—rather than machines—at the center of transformation.

Amid this powerful wave of digital transformation, the tradition of *tahfīzh* Al-Qur'an learning stands at a critical crossroads. On the one hand, it represents a centuries-old legacy of Islamic civilization that has been preserved for more than fourteen centuries through oral transmission systems such as *talaqqi* and *musyafahah*, supported by uninterrupted chains of transmission (*sanad*). On the other hand, contemporary Muslim generations, who have grown up as digital natives, encounter learning environments that have undergone profound transformations. A study by Latipah (2022), published in the *International Journal of Instruction*, revealed that the motivation, self-regulation, and spiritual experiences of Qur'an memorizers (*huffaz*) in Indonesia are significantly influenced by the technological environments surrounding them. This finding suggests that technology is no longer merely a passive backdrop but an active variable shaping the learning experiences of *tahfīzh* students.

The urgency of reconstructing *tahfīzh* learning models is reinforced by several converging empirical findings. First, research conducted by Haryono et al. (2023) found that more than 200 digital Qur'an applications are currently available in global application markets. However, most of these applications primarily focus on recitation and translation features rather than comprehensive AI-based *tahfīzh* functionalities. Second, a study by Harere & Jallad (2023) demonstrated that a deep learning model based on Long Short-Term Memory (LSTM) architecture and Mel-Frequency Cepstral Coefficient (MFCC) features can detect pronunciation errors in *Ahkam al-Tajwid* with considerable accuracy, opening new possibilities for automated tajwid learning. Third, research by Al-Issa et al. (2023), published in the *International Journal of Speech Technology*, successfully developed a neural speech recognition system for Qur'anic recitation that is accessible to users across different age groups and genders, highlighting the democratizing potential of AI-enhanced Qur'anic learning.

Nevertheless, technological optimism must be balanced with critical awareness. The integration of AI into a sacred tradition such as *tahfīzh* Al-Qur'an presents several significant risks. Alrumiah & Al-Shargabi (2023), as cited in studies on deep learning and Qur'anic education, emphasized that AI-driven speech recognition systems require careful consideration regarding interpretative accuracy and religious sensitivity. Furthermore, the perspective of *Maqasid al-Shariah* underscores that technological development must remain aligned with Islamic ethical principles that safeguard the fundamental objectives of Islamic law, including *hifzh al-din* (the preservation of religion) and *hifzh al-'aql* (the preservation of intellect) (Mohadi & Tarshany, 2023). Consequently, the adoption of AI in *tahfīzh* learning should not be approached uncritically or without an adequate ethical framework.

In this regard, local wisdom emerges as both a conceptually and practically relevant component. Local wisdom should not be viewed merely as a cultural heritage to be preserved; rather, it constitutes a system of values, knowledge, and practices that has historically maintained a balance between continuity and change. Research by Saragih et al. (2025), published in *Fitrah: Journal of Islamic Education*, demonstrated that Islamic educational strategies integrating local wisdom foster students' spiritual character more holistically than approaches that rely exclusively on either textual instruction or technological interventions. Within the context of *tahfīzh* education, local wisdom is manifested through various practices, including *halaqah*-based learning, *sima'* traditions conducted by teachers possessing authenticated *sanad*, supplicatory rituals before and after memorization activities, and the understanding that memorizing the Qur'an is fundamentally an act of worship imbued with irreplaceable spiritual dimensions.

Despite the growing body of research on AI-assisted Qur'anic learning, significant limitations remain. Existing studies have primarily focused on the technological dimensions of Qur'anic education, such as speech recognition systems, automated tajwid assessment, and digital learning applications (Al-Issa et al., 2023; Harere & Jallad, 2023; Haryono et al., 2023). Meanwhile, other studies have emphasized the importance of local wisdom and spiritual values in strengthening Islamic educational practices (Saragih et al., 2025). Although these studies have made valuable contributions, they tend to examine technological innovation and cultural-spiritual dimensions as separate domains.

Consequently, there remains a lack of an integrated framework that systematically combines Artificial Intelligence, local wisdom, and the preservation of the sacredness of the Qur'an within a unified *tahfizh* learning model. This gap is particularly significant in the Society 5.0 era, where technological innovation must be balanced with ethical, spiritual, and cultural considerations. Therefore, the novelty of this study lies in the development of a conceptual reconstruction of *tahfizh* Al-Qur'an learning that integrates AI capabilities, traditional pedagogical practices, and local wisdom values into a holistic framework. Unlike previous studies that focus primarily on technological effectiveness or cultural preservation independently, this study proposes a synergistic model that positions technology as a learning facilitator while maintaining the sacred, ethical, and spiritual foundations of Qur'anic memorization.

Based on the foregoing discussion and the identified research gap, this article addresses the following research question: How can a *tahfizh* Al-Qur'an learning model be epistemologically and pedagogically reconstructed to integrate Artificial Intelligence and local wisdom as a synergistic framework while preserving the sacredness of the Qur'an in the Society 5.0 era? Specifically, this study aims to: (1) analyze the potentials and limitations of AI in *tahfizh* learning; (2) identify elements of local wisdom that are compatible with technological integration; and (3) formulate a holistic, adaptive, and ethically grounded conceptual model for contemporary *tahfizh* education. This study is expected to contribute significantly to the advancement of both theoretical and practical frameworks for Islamic education in the digital age.

2. Research Methods

This study employed a Systematic Literature Review (SLR) following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The SLR approach was selected because the reconstruction of a conceptual *tahfizh* learning model requires a comprehensive synthesis of empirical and theoretical evidence from diverse scholarly sources. The ethnopedagogical perspective adopted in this study was informed by previous systematic review studies conducted by Sakti et al. (2024) and Ramadani & Fitrisia (2023).

a. Search Strategy

The literature search was conducted between January and March 2025 using three major sources: Scopus, Web of Science (WoS), and nationally accredited Indonesian journals indexed in Sinta 1–3. To ensure comprehensive coverage, combinations of keywords were employed using Boolean operators (AND, OR), including: “Artificial Intelligence”, “AI-assisted learning”, “Qur'anic education”, “Qur'an memorization”, “*tahfizh*”, “*tajwid* learning”, “local wisdom”, “ethnopedagogy”, “Islamic education”, and “Society 5.0”. The search process yielded 127 records from all databases before the screening stage.

b. Inclusion and Exclusion Criteria

The selected literature met the following inclusion criteria: (1) published between 2020 and 2025; (2) indexed in Scopus, Web of Science, or Sinta-accredited journals (ranks 1–3); (3) written in English or Indonesian; and (4) relevant to at least one of the following themes: AI and technology in Qur'anic education, local wisdom in Islamic education, Society 5.0 and education, or *tahfizh* learning practices. Exclusion criteria included non-peer-reviewed publications, opinion papers without empirical or theoretical support, duplicate records, conference abstracts without full papers, and studies lacking methodological transparency.

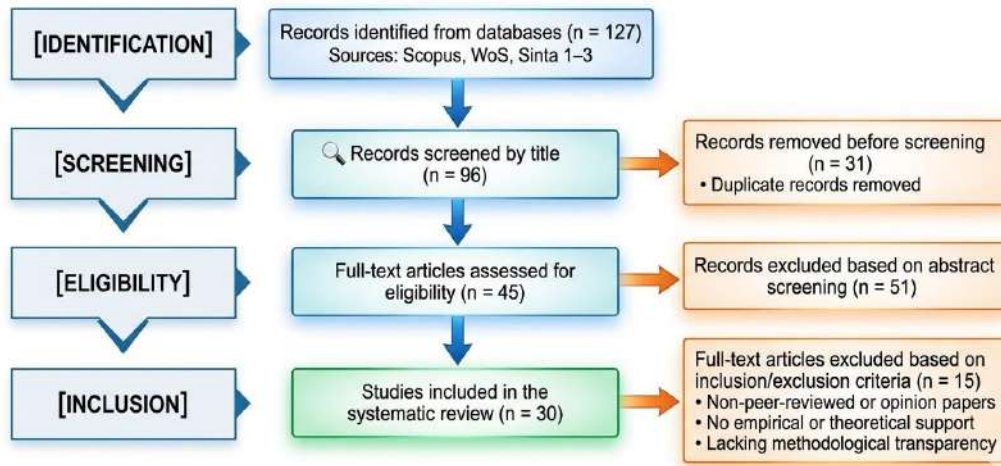
c. Study Selection Procedure

The study selection process followed the four stages of the PRISMA framework: identification, screening, eligibility, and inclusion. During the identification stage, 127 records were retrieved from the selected databases. After duplicate removal and title screening, 96 records remained. Subsequently, abstract screening reduced the number to 45 eligible articles. Full-text assessment was

then conducted, resulting in the final inclusion of 30 articles that met all predefined criteria and were considered relevant to the objectives of the study.

Figure

1.



PRISMA Flow Diagram of Literature Selection

Figure 1 illustrates the PRISMA-based screening process used to identify and select the studies included in this review. From the initial 127 records retrieved, 30 studies met all inclusion criteria and were subsequently analyzed.

d. Data Analysis Procedure

The analysis was conducted through three sequential stages. The first stage involved content analysis to identify and extract key concepts, findings, and recurring themes from each selected study. The second stage employed thematic synthesis, in which the extracted findings were grouped into interrelated thematic categories concerning AI integration, local wisdom, pedagogical traditions, and Society 5.0. The third stage consisted of conceptual modeling, through which a new theoretical framework was constructed based on the synthesis of findings generated in the previous stages.

To enhance the credibility of the proposed model, a process of theoretical validation was conducted through iterative comparison with established frameworks in Islamic education, AI-enhanced learning, *Maqasid al-Shariah*, and ethnopedagogy. This validation process ensured that the resulting conceptual model remained pedagogically relevant, technologically adaptive, ethically grounded, and aligned with the spiritual objectives of *tahfizh* education.

Table 1. Distribution of Literature Sources by Thematic Category

No.	Thematic Category	Number of Articles	Primary Databases
1	AI and Technology in Qur'anic Learning	11	Scopus, arXiv, IJID
2	Local Wisdom in Islamic Education	9	Sinta 1–3, Scopus
3	Society 5.0 and Education	5	Scopus, WoS
4	Tahfizh Methods and Pesantren Traditions	5	Sinta 2–3, International Journals
Total		30	

Table 1 shows a relatively balanced distribution of literature across the selected thematic categories. Studies on AI and educational technology constituted the largest proportion (37%), reflecting their central role in the proposed model. Research on local wisdom accounted for 30% of the selected literature and provided the ethical and cultural foundations of the framework. Studies addressing Society 5.0 and education represented 17%, serving as the broader contextual basis, while research on traditional *tahfizh* methods and pesantren traditions comprised 17%, ensuring the preservation of established pedagogical practices. This distribution facilitated a balanced synthesis between technological innovation, cultural-ethical values, contemporary educational challenges, and traditional Islamic learning approaches.

3. Results and Discussions

3.1. Results

From the systematic literature selection and extraction process involving 30 selected articles, three main categories of findings were identified to address the research questions. These findings are presented in a structured manner below.

3.1.1. AI Technical Capabilities for Tajwid Error Detection and Qur'anic Recitation Recognition

An analysis of eleven articles focusing on AI and technology in Qur'anic learning indicates that AI capabilities have developed substantially. Harere & Jallad (2023) developed a *tajwid* error detection model using a Long Short-Term Memory (LSTM) architecture with Mel-Frequency Cepstral Coefficient (MFCC) features, capable of recognizing eight types of *Ahkam Al-Tajweed* from audio signals. The model was tested on the public QDAT dataset containing more than 1,500 recordings of correct and incorrect recitations and consistently outperformed classical algorithms—KNN, SVM, and Random Forest—due to its ability to process time-series data, which constitute an intrinsic characteristic of speech signals.

At the level of overall Qur'anic recitation recognition, Harere & Jallad (2023), in a separate study, proposed an end-to-end model based on a CNN-Bidirectional GRU encoder with CTC as the objective function and a beam search decoder. Meanwhile, Al-Issa et al. (2023), in the *International Journal of Speech Technology*, successfully developed a Neural Speech Recognition (NSR) system using a BLSTMP architecture with a CTC/attention loss function, trained on the QRFAM dataset, which includes learners from various age groups, genders, accents, and proficiency levels. In parallel, Ghorri et al. (2023), in the same journal, developed an isolated Qur'anic word recognition system using Mel-Frequency Cepstral Coefficients (MFCC) and a four-layer Deep Neural Network (DNN). The system targeted 362 unique words derived from 19 selected surahs and was trained using 14 hours of audio data. The study demonstrated the feasibility of DNN-based Automatic Speech Recognition (ASR) systems for recognizing Qur'anic vocabulary.

The study by Alsahafi & Asad (2024) complements this picture by identifying eight *tajwid* rules that are most frequently mispronounced by beginner learners: *Idgham*, *Ikhfa*, *Iqlab*, *Idzhar*, *Ghunnah*, *Qalqalah*, *Mad*, and *Waqaf*—a hierarchy of priorities that is crucial for the development of AI-based diagnostic systems. At the macro-review level, Alrumiah & Al-Shargabi (2023), in the *Arabian Journal for Science and Engineering*, conducted a comprehensive mapping of research trends and open issues in AI-based Qur'anic recitation recognition and verification systems. Their review identified two major challenges: (1) the absence of systems capable of holistically ensuring the correctness of recitation sequences, and (2) the difficulty of detecting errors associated with diacritical markings. These limitations reinforce the argument that AI systems still require human teachers to serve as the final validators in the assessment of Qur'anic recitation.

Haryono et al. (2023) further reported that among more than 200 digital Qur'an applications available globally, AI-based *tahfizh* features remain very limited. Akbari et al. (2025) classified three application typologies—Voice Technology-Based Models, Gamification-Based Models, and

Module-Based Models—and found that Voice Technology-Based Models were the least effective in the absence of a comprehensive pedagogical design.

At the semantic level, Rabiei Zadeh (2023) identified that machine learning-based Natural Language Processing (NLP) is capable of performing thematic classification of Qur'anic verses, while Gaanoun & Alsuhaibani (2025), in *Humanities and Social Sciences Communications*, demonstrated that Transformer Language Models (TLMs) can analyze sentiment nuances in Qur'anic translations with a satisfactory level of inter-annotator agreement ($\kappa = 0.62$).

3.1.2. Local Wisdom Values Compatible with Technology Integration

An analysis of nine articles focusing on local wisdom identified four categories of values that consistently emerge as pedagogical foundations within *tahfizh* traditions and are relevant for integration with technology.

First, the value of teacher–student relationality. Saragih et al. (2025) found that the *Dalihan Na Tolu* values in North Sumatran communities, which position teacher–student relationships within a framework of respect and communal responsibility, create a learning atmosphere conducive to the internalization of Qur'anic values. This finding is reinforced by Latipah (2022), who showed that the relational dimension between *hafizh* learners, teachers, and the community is a significant factor in learner motivation and self-regulation.

Second, the value of rituality and spiritual awareness. Iwani et al. (2024) demonstrated that digital morality in Islamic education requires the integration of Qur'anic values not only into learning content but also into learning procedures and environments, including prayer rituals, respect and etiquette toward teachers (*adab*), and regularly renewed intentions (*niyyah*). This dimension is absent from the design of existing digital applications.

Third, the value of communality and social accountability. Zainudin et al. (2025) found that character education models based on *Aswaja An-Nahdliyah* values and local wisdom are effective because they position learning as a communal rather than purely individual practice. Inayati et al. (2024) further argued that the integration of local wisdom values into Islamic Religious Education (IRE) functions as a system of cultural immunity against technological dehumanization.

Fourth, the value of *sanad* continuity and transmission authenticity. Nasrulloh et al. (2022) emphasized that effective *tahfizh* program management cannot be separated from the *sanad* system as a framework of epistemological accountability. This finding positions human teachers possessing *sanad* as an irreducible component of any instructional model.

Studies by Taufikin (2025) in *Misykat* and Suhendi (2024) in the *International Journal of Science and Society* similarly concluded that transformative Islamic education in the Society 5.0 era should position local wisdom as a constructive dialogue with modernity, producing a creative synthesis rather than mutual negation.

At the level of implementing *tahfizh* methods in educational practice, several empirical studies provide contextual and relevant evidence. Markhabi et al. (2024), in *Didaktika: Jurnal Kependidikan*, evaluated the effectiveness of the *tahfizh* Al-Qur'an program at SMP Tahfizh Azhar Centre and found that program success depended largely on the combination of structured instructional methods, teacher competence, and the support of a conducive pesantren environment. Salehah & Wahyuni (2023), in *Murhum: Jurnal Pendidikan Anak Usia Dini*, specifically examined the implementation of *tahfizh* through the **talaqqi** method and demonstrated that this approach is effective not only for primary school-aged children but also for early childhood learners, indicating the broad age range over which the pedagogical value of *talaqqi* can be applied. Furthermore, Izzah et al. (2024), in *Scaffolding: Jurnal Pendidikan Islam dan Multikulturalisme*, employed the Context, Input, Process,

and Product (CIPP) evaluation model to assess a 30-juz tahfizh program at the Islamic Centre of North Sumatra. Their findings revealed that the program functioned effectively when its context, inputs, processes, and outcomes were managed in an integrated manner. This finding reinforces the importance of comprehensive tahfizh program management within the framework of the reconstructed model proposed in this study.

3.1.3. Structural Framework of the TAHFIZH-AI-LOCAL Model

The thematic synthesis of the entire body of literature resulted in five structural components of the TAHFIZH-AI-LOCAL model. These five components form a continuous iterative learning cycle, in which the evaluation outcomes of Component 5 become inputs for updating the diagnostic profile in Component 1, as summarized in Table 2.

Table 2. Structural Components of the TAHFIZH-AI-LOCAL Model

Component	Primary Function	AI Technology	Local Wisdom Element
1. AI-Diagnostic Layer	Assessment of students' initial competencies and individual profiles	ASR, LSTM, MFCC, CNN-BiGRU	Teachers possessing <i>sanad</i> as final validators of diagnostic results
2. Adaptive Learning Platform	Personalization of learning materials and adaptive exercises based on learner profiles	NLP, Recommender System, AI-based gamification	Gamification framed within Islamic values: <i>pahala</i> and <i>adab</i>
3. Digital-Humanist Talaqqi	Expansion of teacher–student <i>talaqqi</i> sessions through digital platforms	AI-assisted video systems, real-time error flagging	Opening and closing prayer rituals and traditional <i>adab</i>
4. Local Wisdom Repository	Strengthening students' cultural context and spiritual inspiration	Digital archives, interactive multimedia	Documentation of <i>pesantren</i> traditions and biographies of local <i>huffaz</i>
5. Multi-Dimensional Evaluation	Holistic assessment: <i>tajwid</i> accuracy and spiritual dimensions	Data analytics, learning dashboards	Communal <i>halaqah</i> evaluation and human teacher assessment

These components do not operate in a linear, one-way sequence; rather, they form an iterative cycle. The results of the multi-dimensional evaluation in Component 5 serve as inputs for updating the diagnostic profile in Component 1, allowing the model to continuously adapt to each student's development. The Local Wisdom Repository in Component 4 functions across components, providing a value-based context for all processes occurring within the other four components.

3.2. Discussions

The findings presented in the Results section provide a basis for a deeper analysis of the theoretical, pedagogical, and ethical implications of the proposed model reconstruction. This discussion is organized into four interrelated sub-themes.

3.2.1. AI as *Wasilah*, Not *Ghayah*: Positioning Technology within the Hierarchy of Islamic Values

The finding that the LSTM–MFCC model is capable of automatically detecting eight categories of *Ahkam Al-Tajweed* is promising, but it requires critical interpretation. From an Islamic perspective, technology is a *wasilah* (means), whose ethical value is determined by the purpose of its use (*maqasid*), rather than by its capabilities alone. Habib (2025), in *KARSA: Jurnal Sosial dan Budaya Keislaman*, emphasizes that every technological innovation should be assessed not only in terms of efficiency but also in terms of justice and the preservation of *maqasid al-shariah*. For the TAHFIZH-AI-LOCAL model, this implies that the AI-Diagnostic Layer should not serve as the sole determinant

of a student's recitation quality; rather, it functions as a supporting tool that expands the capacity of teachers rather than replacing them.

The paradox identified by Akbari et al. (2025) that Voice Technology-Based Models were found to be the least effective, further strengthens this argument empirically. Advanced speech technology, without a human-centered pedagogical design, does not automatically result in meaningful learning. This confirms that the required reconstruction is not merely technical (i.e., adding AI features), but epistemological: it involves rethinking the relationship between technology, human beings, and sacred texts. Abdullah (2024), in the *Journal of Islamic and Muslim Studies*, raises the question of whether AI could threaten the *i'jaz* (inimitability) of the Qur'an, thereby introducing an important philosophical dimension. Such awareness should encourage caution (*ihtiyath*) in system design—not rejection of technology, but sensitivity to boundaries that should not be crossed.

The TAHFIZH-AI-LOCAL model responds to this issue by positioning Component 3 (Digital-Humanist Talaqqi) as the core of the model: humans remain at the center, while technology plays a supporting role. A sanad-certified teacher assisted by AI can guide a larger number of students without compromising quality, thereby addressing the shortage of qualified tahfizh teachers identified in the literature.

3.2.2. Local Wisdom as a Living Ethical Architecture

The four categories of local wisdom identified in this study—relationality, rituality, communality, and sanad—are not merely a list of features to be added to a digital platform. Together, they constitute what may be described as a “living ethical architecture”: a framework of values that is not embedded in program code but operates within the consciousness of users and the community that forms the learning ecosystem.

Saragih et al. (2025) provide empirical evidence that the value of *Dalihan Na Tolu* is not merely a cultural symbol; rather, it functions as a social technology that regulates pedagogical relationships in ways that have historically proven effective. Within the TAHFIZH-AI-LOCAL model, this social technology is integrated with digital technology through Component 4 (Local Wisdom Repository), which serves as a space of collective cultural memory. Students using the platform do not merely interact with algorithms; they enter into and inherit a tradition with historical depth.

Inayati et al. (2024) found that local wisdom functions as a system of cultural immunity against the dehumanization of technology. In the context of tahfizh learning, when students receive AI-generated feedback regarding tajwid errors, local wisdom ensures that such feedback is understood within the proper context—as encouragement for learning (*tabligh*), rather than as a mechanical assessment that reduces a spiritual journey to phonetic accuracy alone. The findings of Zainudin et al. (2025) reinforce this argument by demonstrating that values that have endured the test of time possess far greater ethical resilience than constantly changing technological regulations.

3.2.3. The TAHFIZH-AI-LOCAL Model in the Context of Society 5.0: Between Idealism and Reality

The vision of Society 5.0, as formulated by Tavares et al. (2022), is that of a society that utilizes advanced technologies to address social challenges while maintaining human dignity as its highest priority. The TAHFIZH-AI-LOCAL model represents a concrete manifestation of this vision within the context of Islamic education. It employs ASR, deep learning, and NLP technologies to address limited access to qualified tahfizh teachers—a real social challenge faced by Muslim minority communities and remote regions—while simultaneously preserving humanistic and sacred dimensions through the incorporation of local wisdom.

Suhendi, (2024) reminds us that the implementation of Islamic educational curricula in the Society 5.0 era can only succeed if challenges related to infrastructural inequality and digital competency are addressed systematically. This serves as an important warning: the TAHFIZH-AI-LOCAL model will have limited significance if it is accessible only to urban pesantren, while rural pesantren—which

often serve as strongholds of the tahfizh tradition—remain marginalized by the digital divide. Therefore, the model is designed according to the principle of gradual scalability. Components 1 and 2 can operate with minimal connectivity through compressed edge-AI systems; Component 3 can utilize available video-conferencing platforms; while Components 4 and 5 can be developed in offline formats.

Research on the digital transformation of pesantren published in the *Indonesian Journal of Islamic Studies* (2023) found that resistance among some *kiai* toward technological innovation often reflects legitimate concerns regarding threats to the authenticity of tradition. The TAHFIZH-AI-LOCAL model responds not through technological arguments, but through traditional ones: it seeks to strengthen—rather than replace—the traditions of *talaqqi* and *sanad* that constitute the core of authentic Qur'anic transmission. This represents a key distinction between the proposed model and existing digital tahfizh applications.

3.2.4. Theoretical Implications: Toward Digital Ethnopedagogy in Islamic Education

From a theoretical perspective, the TAHFIZH-AI-LOCAL model contributes to the development of “digital ethnopedagogy”—a new theoretical framework that integrates ethnopedagogical approaches (learning based on local wisdom) with digital technology as a transformative medium. Sakti et al. (2024), in *Heliyon: A Cell Press Journal*, and Ramadani & Fitriasia, (2023) demonstrate that the revitalization of local wisdom in character education requires an approach that is not merely preservative but also transformative and adaptive to new contexts.

In the context of tahfizh education, digital ethnopedagogy entails: (1) utilizing technology to document, strengthen, and expand the reach of local pedagogical traditions rather than replacing them; (2) designing technological interfaces that reflect the cultural aesthetics and values of the user community so that technology feels culturally familiar rather than alien; and (3) involving local communities—including *ulama*, *kiai*, tahfizh teachers, and parents—as co-designers of the model rather than merely end users. Mubaidilla & Hafiza (2025) demonstrate that the most effective innovations in Qur'anic learning media are those that bridge the transition from text to technology organically—as a natural continuation of existing traditions rather than a discontinuous shift that creates alienation.

Collectively, the findings discussed above confirm that the reconstruction of the tahfizh learning model in the Society 5.0 era is a civilizational project rather than merely a pedagogical innovation. It concerns the formation of a Muslim generation capable of navigating a complex technological ecology without losing the spiritual roots that constitute its fundamental source of strength.

4. Conclusion

This study reconstructed a Qur'anic memorization learning model that integrates Artificial Intelligence and local wisdom through the TAHFIZH-AI-LOCAL framework. The findings indicate that AI technologies, including deep learning-based speech recognition and tajwid detection systems, offer substantial potential to support Qur'anic learning through automated diagnosis and personalized feedback. At the same time, local wisdom values—particularly teacher–student relationality, spiritual rituality, communality, and the continuity of *sanad*—remain essential pedagogical and ethical foundations that cannot be replaced by digital technologies. The thematic synthesis resulted in a five-component model that integrates technological innovation with the preservation of the sacred and human dimensions of Qur'anic education.

The study further suggests that AI should function as a supporting instrument within the hierarchy of Islamic values rather than as an autonomous educational authority. The proposed model demonstrates the possibility of combining technological efficiency with cultural authenticity, making it relevant to the educational challenges of the Society 5.0 era. The model may serve as a conceptual framework for developing technology-enhanced tahfizh learning systems that remain grounded in Islamic

educational traditions and local cultural values. Future research should focus on empirical testing of the model in Islamic boarding schools with different infrastructural conditions, the development of standardized Qur'anic recitation datasets for local AI applications, and the exploration of community perceptions regarding AI integration within Qur'anic learning traditions.

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