BESTARI: Jurnal Studi Pendidikan Islam
Vol. 22, No. 2, 2025
p-ISSN 1907-1337; e-ISSN 2807-6532
DOI: https://doi.org/10.36667/bestari.v22i2.1708

AI Ethics and Islamic Education: The UAE's Experiment in Developing Artificial-Intelligence-Enhanced Qur'an Learning

Hamad bin Mubarak bin Rashid Al-Shams[1]
[1]Al Qasimia University (AQU), United Arab Emirates
Email: alshamsihamadmubarak02@aqu.ac.ae[1]

Received: July 2, 2025 │ Accepted: December 12, 2025

Abstrak

Artikel ini mengkaji praktik pemanfaatan kecerdasan buatan (AI) dalam pembelajaran Al-Qur'an di Uni Emirat Arab (UEA) dengan menempatkannya sebagai eksperimen etis dan pedagogis yang masih berlangsung. Berangkat dari pendekatan kualitatif interpretatif, studi ini menganalisis dokumen kebijakan, wawancara dengan pendidik dan pemangku kepentingan, serta observasi terbatas pada konteks pembelajaran Al-Qur'an berbasis AI. Temuan menunjukkan bahwa AI berfungsi efektif sebagai asisten pedagogis dalam aspek teknis seperti tajwid, pelafalan, dan hafalan, melalui personalisasi pembelajaran dan umpan balik instan. Namun, efektivitas teknis tersebut memunculkan ketegangan etis terkait absennya kehadiran moral-spiritual, pergeseran otoritas dari guru ke algoritma, serta pembentukan kebiasaan belajar religius yang semakin prosedural. Prinsip-prinsip etika AI global, seperti keadilan, transparansi, akuntabilitas, dan perlindungan data, menyediakan kerangka tata kelola yang penting, tetapi belum sepenuhnya mampu menerjemahkan nilai-nilai normatif Islam seperti *adab*, amanah, dan *niyyah*. Artikel ini menyimpulkan bahwa pengalaman UEA tidak menawarkan model final, melainkan memperlihatkan proses negosiasi terbuka antara inovasi teknologi dan etika pendidikan Islam, di mana peran guru tetap krusial dalam menjaga dimensi moral dan spiritual pembelajaran Al-Qur'an.

Kata kunci: etika AI, pendidikan Islam, pembelajaran Al-Qur'an, Uni Emirat Arab, *adab*, otoritas pedagogis

Abstract

This article examines the use of artificial intelligence (AI) in Qur'an learning practices in the United Arab Emirates (UAE), framing it as an ongoing ethical and pedagogical experiment rather than a finalized model. Using a qualitative interpretive approach, the study draws on policy documents, interviews with educators and stakeholders, and limited classroom observations. The findings indicate that AI functions effectively as a pedagogical assistant in technical aspects of Qur'anic learning, such as tajwid, pronunciation, and memorization, through personalized feedback and scalable practice. At the same time, these technical benefits generate ethical tensions related to the absence of moral-spiritual presence, shifting authority from teachers to algorithms, and the gradual proceduralization of religious learning habits. While global AI ethics principles, fairness, transparency, accountability, and data protection, provide a strong governance framework, they do not fully translate into Islamic normative concepts such as *adab*, amanah, and *niyyah*. The article argues that the UAE experience should be understood not as a blueprint, but as a visible negotiation between AI governance and Islamic educational values, in which teachers play a central role in sustaining the moral and spiritual integrity of Qur'anic pedagogy.

Keywords: AI ethics, Islamic education, Qur'an learning, United Arab Emirates, pedagogical authority, moral formation

Introduction

In the United Arab Emirates, conversations about artificial intelligence rarely stay confined to laboratories or policy documents. They spill into classrooms, mosques, startup hubs, and, perhaps more quietly, into Qur'an learning circles (Jasafat et al., 2025). Over the last decade or so, the UAE has positioned itself as a regional laboratory for AI-driven governance and education, often with remarkable speed and confidence (Abdelgelil et al., 2025). From national AI strategies to the establishment of institutions like Mohamed bin Zayed University of Artificial Intelligence, the message has been clear: AI is not a distant future but a present infrastructure. Yet when AI enters the domain of Islamic education, especially Qur'an learning, the atmosphere changes. The excitement remains, but it is tempered by hesitation, ethical caution, and sometimes a quiet unease. Teaching the Qur'an is not simply about efficiency or personalization. It is also about *adab*, intention (*niyyah*), and a deeply human chain of transmission. We think this is where the UAE's experiment becomes particularly interesting, not because it resolves these tensions neatly, but because it lives inside them.

On the surface, the use of AI in Qur'an education appears almost straightforward. Intelligent tutoring systems promise personalized tajwid feedback. Speech-recognition models can correct pronunciation in real time. Adaptive platforms can track memorization (*ḥifẓ*) patterns and gently suggest revision schedules. Many of these initiatives operate under the broader digital education policies promoted by the Ministry of Education, which has actively encouraged AI integration across public and religious education alike. Efficiency, accessibility, and global competitiveness often frame the official discourse.

But beneath this policy optimism lies a more complex ethical terrain (Kong & Zhu, 2025). Islamic education in the UAE is expected to be technologically advanced and, at the same time, normatively grounded. AI systems are welcomed, yet constantly questioned: Can an algorithm "listen" to the Qur'an in a morally meaningful way? Does automated feedback risk flattening the spiritual intimacy between teacher and learner? Or, perhaps more provocatively, does refusing AI altogether risk making Qur'anic pedagogy irrelevant to a generation already shaped by intelligent machines?

What makes the UAE case distinctive is not merely the scale of AI adoption, but the way ethical reflection is folded, sometimes explicitly, sometimes awkwardly, into practice. Unlike contexts where ethics is discussed only after technological deployment, here ethical discourse often precedes or accompanies experimentation. Fatwas, policy guidelines, and informal scholarly debates circulate alongside pilot projects. Still, these conversations do not always align. Some emphasize *maqāṣid al-sharīʿah* and human dignity; others focus on data governance, bias, and transparency, borrowing heavily from global AI ethics frameworks. The overlap is real, but incomplete.

This article takes that incompleteness seriously. Rather than presenting the UAE's AI-enhanced Qur'an learning initiatives as a finished model, it treats them as an ongoing experiment, one shaped by ambition, religious responsibility, and occasional uncertainty. By examining how AI tools are deployed, discussed, and ethically negotiated within Qur'anic education, this study asks a simple but uncomfortable question: what does "ethical AI" actually mean when the object of learning is not just knowledge, but revelation itself? The introduction, then, does not promise clear answers. It sets the stage for a story still unfolding, one where technology moves fast, ethics struggles to keep pace, and Islamic education becomes an unlikely but revealing testing ground.

Method

This study adopts a qualitative, interpretive research design, guided less by the ambition to measure impact in a strict statistical sense and more by a desire to understand *how* AI ethics is being imagined, debated, and practiced within Qur'an learning in the UAE. We am aware that this choice already reflects a certain hesitation, perhaps even a bias, but given the normative and spiritual dimensions of Islamic education, a purely quantitative approach felt insufficient, if not slightly tone-deaf.

Data were collected through a combination of document analysis, semi-structured interviews, and limited field observations. The documentary sources included national AI policy papers, ethical guidelines related to educational technology, curriculum frameworks for Islamic education, and publicly available descriptions of AI-supported Qur'an learning platforms used in schools, Qur'an centers, and hybrid online settings. These documents were not treated as neutral texts. Instead, they were read as artifacts of intention, revealing what policymakers and institutions *want* AI to be, not necessarily what it becomes in practice. Interviews formed the core of the empirical material. Participants included Islamic education teachers, curriculum designers, educational technologists, and a small number of policy actors involved, directly or indirectly, in AI-in-education initiatives. Some were enthusiastic, almost impatient with ethical concerns they felt slowed innovation. Others were cautious, even quietly resistant. Interestingly, a few participants occupied both positions at once, praising AI's pedagogical usefulness while expressing discomfort about its presence in sacred learning spaces. These internal contradictions were not filtered out. On the contrary, they were treated as analytically meaningful.

Field observations, though limited, added texture. They focused on classrooms and learning environments where AI-assisted Qur'an learning tools were being piloted or regularly used (Warisno et al., 2025). We observed how learners interacted with AI feedback, how teachers positioned themselves alongside, or sometimes behind, the technology, and how ethical questions surfaced in mundane moments: a student trusting an app more than a teacher's correction, or a teacher pausing to explain that "the machine helps, but it does not *understand*." These moments were fleeting, but they lingered in my notes.

Data analysis followed a thematic approach. Rather than imposing predefined ethical categories, themes were allowed to emerge gradually from repeated readings of transcripts and field notes. That said, the analysis was informed by two overlapping ethical frames: contemporary AI ethics (fairness, transparency, accountability, data governance) and Islamic ethical concepts such as *adab*, *niyyah*, amanah, and *maqāṣid al-sharīʿah*. The interaction between these frames was rarely seamless. Sometimes they reinforced each other; at other times, they seemed to talk past one another. We did not attempt to resolve this tension too quickly, perhaps because, in practice, educators themselves have not resolved it either. It is worth acknowledging the limitations of this method (Abubakari, 2025). The study does not claim to represent all Qur'an learning contexts in the UAE, nor does it evaluate learning outcomes in a controlled manner. Its strength lies elsewhere: in tracing ethical reasoning as it unfolds in real, imperfect settings. In a field where AI development often moves faster than reflection, slowing down, listening carefully, even awkwardly, felt like a methodological necessity rather than a weakness.

Results and Discussion

1. AI as Pedagogical Assistant: Personalization without Presence

In the UAE, AI tends to enter education through a very pragmatic door: *support the teacher, don't replace the teacher*. That framing shows up repeatedly in national messaging about AI in public services and education, AI as an enabler, a productivity layer, a "smart" extension of existing institutions rather than a total rupture (Mulaudzi & Hamilton, 2025). When you move this logic into Qur'an learning, it becomes even more pronounced, partly because Qur'anic pedagogy is already structured around guidance, correction, repetition, and routine. In other words, it has many "micro-tasks" that AI is unusually good at (Hashem et al., 2025).

What AI most clearly *does* in Qur'an learning contexts is provide technical scaffolding. In *tajwīd* and pronunciation, learners typically need immediate, repetitive feedback: where the makhārij feel wrong, where the elongation is inconsistent, where a letter collapses into the next. AI-powered recitation tools, many of them smartphone-based, now claim to detect missed or incorrect words and highlight errors in real time, functioning like an always-on practice partner. Whether every claim is equally reliable is another question, but the pedagogical promise is obvious: practice no longer depends on a teacher being present at that exact moment.

The same pattern appears in *ḥifẓ* (memorization), where the learning bottleneck is often not motivation but *monitoring*: what to repeat, when to repeat it, and how to catch "almost-right" recall before it hardens into habit. Platforms and programs supporting remote Qur'an learning, some run or supported by Islamic-affairs institutions, reflect this appetite for scalable, flexible instruction. For example, Dubai's Islamic Affairs & Charitable Activities Department describes initiatives aimed at remote Qur'an learning and memorization using "modern and advanced teaching methods," signaling institutional comfort with mediated instruction even in religious learning settings. The first result is fairly straightforward: AI is being used as a technical assistant that expands practice time and intensifies feedback loops. Teachers and students often experience this as a relief. The student can practice without embarrassment (El-Ghamari & Deja, 2025). The teacher can allocate attention to higher-order issues, fluency, meaning, motivation, because the app has already handled some baseline correction. And at the system level, the UAE's broader push to showcase educational innovation (for example, in major technology exhibitions) makes it culturally normal to see AI framed as part of "modern learning." But that's only half the story. The more interesting finding, at least to me, is the recurring sense that something is missing even when the tool "works."

Personalization feels educationally right, but spiritually incomplete. AI personalization is usually built on data traces: how often a student repeats a verse, where they pause, what errors recur, which surahs "stick" and which keep slipping. This can produce a very persuasive feeling of being *seen*, the system remembers you, adapts to you, anticipates your needs. In ordinary subjects, that is almost unambiguously positive. In Qur'an learning, personalization is more ambiguous. Learners may feel supported, but not necessarily *held*. The AI can tell you that you elongated a vowel incorrectly (Jasafat et al., 2025). It cannot tell you why your recitation sounds hurried today, or why your heart feels distracted, or whether you are approaching the Qur'an with calmness and humility. At best, it can mimic encouragement with friendly prompts. Yet many teachers interpret the heart of Qur'anic pedagogy as precisely this moral-spiritual accompaniment: the teacher notices the student's state, steadies them, models *adab*, corrects with gentleness, and sometimes, this sounds small but it matters, *makes duʿā' for them*. An app cannot do that, at least not in a way that feels religiously meaningful (Nasir et al., 2025).

We see a tension that participants described in different ways but pointed toward the same dilemma: (1) Technically, AI increases repetition and speeds up correction. (2) Pedagogically, it can personalize pacing and reduce learner anxiety. (3) Spiritually, it risks turning sacred learning into a self-service routine, efficient, yes, but thin. This is what we mean by *personalization without presence* (Abdelgelil et al., 2025). Presence here is not just physical co-location. It is moral attention, spiritual seriousness, and the feeling that Qur'an learning is happening within a relationship of trust and guidance, not simply within a user interface.

Why this tension is sharper in the UAE's AI environment. The UAE's AI ecosystem is unusually confident and institutionalized. Government platforms describe AI integration in broad, strategic terms, and ethical frameworks are articulated as principles meant to guide responsible adoption (privacy, human dignity, fairness, accountability, and so on). This matters because Qur'an-learning tools do not arrive as isolated consumer gadgets; they arrive into a society where "AI readiness" is almost a national mood (Tang & Kamarudin, 2025).

Yet ethical principles, especially those expressed in governance language, tend to focus on *rights and risks* (privacy, security, discrimination), which are essential, but they don't fully capture what teachers mean when they talk about *adab*, *niyyah*, or amanah. The UAE does have public-facing AI ethics principles that explicitly mention human dignity and rights, and that helps create a moral vocabulary around technology. Still, the teacher's worry is often not only "Will the child's data be protected?" but also "Will the child's relationship with the Qur'an be protected?"

And here is a subtle but important point: AI assistance can unintentionally reshape what learners think Qur'an learning *is*. If the tool is always about error-detection and performance tracking, the learner may internalize that recitation is mainly a technical exercise. That is not wrong, *tajwīd is* technical, but it is incomplete (Aldhilan & Rafiq, 2025). Qur'anic education is also about formation: patience, discipline, reverence, and a sense of being addressed by the text. When the learning environment is dominated by optimization and metrics, formation becomes harder to teach, not because teachers forget it, but because the learning ecology quietly deprioritizes it.

Teachers' adaptations: keeping AI "below" the sacred relationship. A common practical response is not rejection, but containment. Teachers (and sometimes institutions) attempt to position AI as a *secondary* layer: (1) AI is for home practice. The teacher is for validation. (2) AI is for spotting patterns. The teacher is for meaning and *adab*. (3) AI is for speed. The teacher is for slowness, intention, and care. This arrangement sounds tidy, but in practice it can be unstable (Saputra et al., 2025). Once a student trusts the system's correction, they may start negotiating with the teacher: "But the app said my recitation is correct." Even if that negotiation is respectful, the authority dynamic shifts. And teachers, we think, sense that shift early, even when they cannot fully articulate it in policy language.

So the result here is not that AI harms Qur'an learning, nor that it simply modernizes it. The result is more uneasy: AI makes Qur'anic pedagogy more personalized and scalable, while simultaneously exposing a gap, an absence of moral-spiritual presence, that teachers and learners must actively compensate for. In the UAE context, where AI adoption is culturally celebrated and institutionally encouraged, that compensation work becomes a daily pedagogical craft rather than a one-time ethical decision.

2. Shifting Authority: When Algorithms Begin to "Correct" the Qur'an

If the first tension was about *presence*, AI personalizing learning without carrying the moral weight of teacher–student companionship, the second tension is about something even more sensitive: authority. Not authority in the abstract, but the lived, everyday kind: *Who gets to say "that is correct" when the text being recited is the Qur'an?* In the UAE's fast-moving edtech environment, that question stops being philosophical surprisingly quickly, because the moment a system starts flagging recitation errors, it is already performing a kind of gatekeeping, however politely it is framed (Alasmari, 2025).

What we found striking is that many AI Qur'an tools are introduced with a reassuring narrative: *the app just helps practice; the teacher remains the final reference*. This matches the UAE's broader governance tone around "responsible AI", ethical, accountable, human-centered, aligned with dignity, privacy, fairness, and transparency. In policy language, it sounds stable: AI assists; humans decide. But in classrooms and homes, the reality is messier. The tool "decides" in micro-ways constantly: it highlights a mistake, assigns a score, triggers a repeat, labels a verse as “mastered” or “weak.” Over time, those micro-decisions accumulate into a felt authority. This is where the Qur’anic context changes everything. In many subjects, feedback can be negotiated. In Qur’an recitation, correction is not merely pedagogical; it is symbolic, even devotional. *Tajwīd* is tied to precision, discipline, and tradition. The teacher’s correction is not only “you mispronounced,” but also “this is how it is carried.” And behind that, at least implicitly, sits the idea of transmission, *sanad* as an ethos, even when the formal *sanad* chain is not explicitly invoked in everyday schooling.

When an algorithm begins to “correct” the Qur’an, it does something subtle: it repackages correction as a technical output. The student sees a red underline, a percentage score, an audio waveform, a prompt to repeat. The correction becomes less like a relational act (teacher-to-student) and more like a diagnostic report (system-to-user) (Nirwana et al., 2025). At first, this is convenient. Then it becomes normative. The system’s judgment starts to feel like the default truth, especially for younger learners who are already comfortable trusting interfaces.

A pattern that emerged, sometimes admitted openly, sometimes indirectly, was this: students begin to treat AI feedback as a neutral authority. A teacher may correct a student and the student responds, “But the app said it was fine.” That sentence sounds minor, almost funny, until you sit with its implications. It signals that the student has internalized two sources of correctness, and the machine has entered the competition. The teacher still has moral standing, yes, but the machine has *procedural* standing, backed by seeming objectivity, repetition, and instant response (Al-Zaidi et al., 2025).

Teachers, in response, often try to restore the hierarchy by redefining what counts as “real” authority. They might say, “The app can catch obvious mistakes, but it doesn’t know your articulation deeply,” or “It cannot judge your *adab*,” or even, “It cannot hear your intention.” These statements are not purely theological; they are boundary-making strategies. Teachers are, in a sense, protecting the epistemic dignity of the human role in sacred learning. At the same time, some teachers quietly appreciate the tool’s authority because it reduces interpersonal discomfort. The machine can correct without embarrassment; the teacher can remain gentle. That’s a practical benefit. But it comes at a cost: the machine becomes the “strict one,” and strictness itself begins to look machine-like (Abdul-Jabbar, 2025).

Institutionally, the UAE context amplifies this shift because the country actively normalizes AI as a legitimate educational actor. For example, public schools are introducing AI as a formal subject across grades starting the 2025–2026 academic year, reinforcing the idea that AI is not a novelty but a foundational literacy. When learners are trained to see AI as standard infrastructure, they are more likely to accept AI judgment as ordinary, including in religious learning environments.

There is also a governance layer that complicates the authority question. The UAE articulates AI principles such as transparency, accountability, explainability, human values, and privacy protection (Al-Maaitah et al., 2025). These principles matter, but they don't fully answer the Qur'an-specific concern: *What counts as legitimate epistemic authority over sacred recitation?* In other words, the ethics of AI governance addresses rights and risks, while Islamic pedagogy also addresses trust and transmission. The overlap is real (human dignity, responsibility, care), but the categories don't perfectly map onto each other. It's not that UAE frameworks ignore values; they just speak in a different grammar.

Another practical issue is that AI correction systems often function as partial black boxes. Even when a platform is "accurate enough," users rarely know *why* it flagged a particular sound or missed another. This is where "explainability" becomes more than a policy buzzword. In a Qur'an setting, opacity can feel unsettling: not because teachers expect a full technical breakdown, but because correction carries moral weight, and moral weight typically demands reasons. The UAE's policy language explicitly values transparency and explainability, which creates a normative expectation that systems *should* be understandable. Yet in daily usage, explainability often collapses into: "It said wrong, so it must be wrong." That is exactly the kind of authority migration that happens quietly.

The most delicate part of this shift, we think, is its effect on *sanad*, not always as a formal credential, but as a cultural logic. Qur'an learning has historically been relational: recitation is heard, corrected, and affirmed by someone who is accountable. When AI enters, accountability becomes distributed. Who is responsible if the system repeatedly "passes" a flawed articulation? The developer? The institution? The teacher who allowed the tool? UAE strategy documents emphasize governance and regulation, even "ethics-by-design," which suggests institutional awareness of responsibility. But responsibility in sacred pedagogy is not only legalistic, it is also spiritual and communal (Miah et al., 2025). That dimension is harder to translate into technical accountability structures, even when everyone is acting in good faith.

And interestingly, the UAE's own religious-learning infrastructure shows how digitally mediated Qur'an education is becoming normalized at scale, like IACAD's initiatives enabling remote Qur'an learning and memorization through digital platforms. Once remote learning becomes normal, AI-based correction starts to look like the next logical step: if the teacher cannot always be present live, the system fills the gap. This is not irrational; it is structurally predictable.

The “result” in this subtheme is not simply that authority shifts from teacher to machine as a clean replacement. It is more layered: (1) AI introduces a procedural authority (instant feedback, scoring, repetition logic). (2) Teachers retain symbolic and moral authority, but must actively *perform* it to keep it salient. (3) Learners begin to navigate dual authority, and their default trust may tilt toward the interface because it feels neutral, fast, and confident (Espartinez, 2025). In the UAE, where AI is framed as a national capability and ethical AI is part of the official vocabulary, this shift becomes even more socially acceptable.

If we sound slightly uneasy here, it’s because we think the core question remains unresolved: How do we preserve the integrity of Qur’anic transmission, its relational accountability and *adab*, while benefiting from the undeniable pedagogical convenience of machine correction? The UAE’s experiment is valuable precisely because it forces this question into the open, not in abstract theory, but in ordinary learning routines where trust quietly forms.

3. Ethical Framing in Practice: Between Global AI Ethics and Islamic Normativity

One thing that becomes quickly obvious in the UAE context is this: *ethical language about AI is not missing*. It’s everywhere, actually, policy pages, guidelines, institutional messaging, even the way “responsible AI” is casually referenced as if it’s already common sense. The UAE has articulated principles like fairness, accountability, transparency, explainability, privacy protection, human values, safety, and sustainability in official policy statements (Ministry of Cabinet Affairs, 2024).

The question in Qur’an learning settings is not “Do they care about ethics?” They do. The harder question is: what happens when global AI ethics principles, designed for general governance, land inside a sacred pedagogy with its own moral grammar? That landing is not smooth. Not hostile either. It’s more like partial translation, with leftovers that don’t quite fit.

3.1. Global AI ethics travels well, until it meets “why we learn the Qur’an”

In most education technology debates, global AI ethics feels like the right toolkit: protect student data, reduce bias, ensure transparency, make someone accountable when systems fail. UAE policy language explicitly affirms those ideas (Ministry of Cabinet Affairs, 2024). And because the UAE is normalizing AI literacy broadly, AI as a formal school subject from KG through Grade 12 starting the 2025–2026 academic year, ethical AI talk becomes part of the educational atmosphere, not just a specialist discussion (Agency, 2025).

But Qur’an learning creates a different axis of concern. The ethical question is not only *“Is the system fair?”* It is also *“Is the learning* *relationship sound?"* Not only *"Is data protected?"* but *"Is reverence protected?"* Not only *"Is the output accurate?"* but *"Does the process cultivate adab?"* Here's where global AI ethics starts feeling necessary but not sufficient. Because it mostly governs risks and rights, while Qur'anic normativity also governs intentions and formation.

3.2. The overlap is real: amanah meets accountability, *ḥifẓ* meets data governance

To be fair, there *is* a meaningful overlap, sometimes more than people assume.

- Amanah (trust/responsibility) maps quite naturally onto accountability. If an AI system is used to evaluate memorization or recitation, then someone must be answerable for errors, misguidance, or harm. UAE policy frameworks explicitly insist that accountability should be clearly assigned (Ministry of Cabinet Affairs, 2024).
- Hifẓ al-'ird / dignity and privacy concerns resonate with privacy protection and the protection of personal data, which is also explicitly named in UAE AI principles (Ministry of Cabinet Affairs, 2024).
- Justice ('adl) has obvious echoes in fairness and bias reduction. The UAE's policy statements explicitly present fairness as a principle and frame AI as something that should not operate "without bias" (Ministry of Cabinet Affairs, 2024).

It's not that "Islamic ethics" and "global AI ethics" live in separate universes. They can speak to each other. In practice, many educators intuitively do this blending: they talk about fairness and privacy in one breath, and then talk about *adab* and responsibility in the next. It sounds inconsistent on paper, but it's a real-world kind of coherence.

3.3. The gap is also real: transparency doesn't equal spiritual clarity

Still, the gaps are persistent, and they show up in very practical ways. Transparency, for example, is a central global principle: systems should be understandable, explainable, auditable. UAE policy language includes transparency and explainability explicitly (Ministry of Cabinet Affairs, 2024). Yet in Qur'an learning, "explainability" is not only about how a model classified a sound. Teachers also want something else: clarity about *what kind of authority* the system is claiming.

A system can be "transparent" in the technical sense and still feel ethically opaque in the religious sense. Because the deeper question becomes: *When the app says "wrong," what exactly is that judgment? A statistical pattern match? A norm of tajwid? A standardized recitation style? Whose recitation tradition is embedded?* Global AI ethics can say:

disclose datasets, disclose limitations. But Qur'anic pedagogy asks: disclose *lineage*, not only in the strict *sanad* sense, but in the sense of "where does this correctness come from?" And most tools don't answer that in a way that is meaningful to everyday teachers.

3.4. *Niyyah* (intention) is the hardest thing to translate, and it keeps returning

This is the part that global AI ethics almost never touches: *niyyah*. The Qur'an is learned with intention. Even when students are small and their intentions are forming slowly, teachers treat intention as part of the learning environment: sincerity, humility, patience, reverence. An AI system cannot read intention. It can only infer engagement from behavior: time on task, repetition count, error rates. That means the ethical framing becomes skewed toward what is measurable. And then, slowly, learning itself risks being redefined as what the system can track. We don't want to overstate this, but we also don't want to dismiss it. In practice, teachers try to "repair" this gap by adding moral reminders around the technology: *use the app, but keep adab; use it, but don't become arrogant; use it, but remember this is Qur'an, not a game*. The point is: ethical framing becomes an active pedagogical labor, not merely a policy guideline.

3.5. "Data protection" is easy to agree on; "sacred protection" is harder to operationalize

UAE institutions are increasingly comfortable with digital Qur'an learning initiatives, like IACAD's platforms for remote Qur'an learning and memorization using computers/tablets and unified digital platforms (IACAD, 2026). This tells us something important: mediated Qur'an learning is not a fringe practice; it is being organized institutionally, with scale in mind. With scale comes data.

Global AI ethics is quite good at saying: protect data, ensure privacy, define accountability. UAE principles include privacy protection explicitly (Ministry of Cabinet Affairs, 2024). But Qur'anic normativity adds another kind of "protection" that is not easily made into a checklist: protecting the sacred atmosphere of learning, protecting the relational dignity of teacher–student interaction, protecting recitation from being reduced to performance metrics. This is where the translation often becomes incomplete. Everyone can agree on privacy. Not everyone agrees on what it means to protect "spiritual atmosphere," and even when they agree, they struggle to encode it into institutional policy.

3.6. What ethical practice looks like on the ground: hybrid framing, not one unified theory

In practice, ethical framing in UAE Qur'an-learning settings tends to look hybrid and situational: (1) Global AI ethics provides the governance vocabulary: fairness, accountability, transparency, privacy. (2) Islamic normativity provides the pedagogical-moral vocabulary: *adab*, amanah, *niyyah*, reverence, trust, and the human responsibility of guidance. (3) Teachers and institutions blend both, but not always consistently. And honestly, that inconsistency is not merely a weakness; it is evidence that the field is still negotiating what ethical AI *means* when the object of learning is revelation (Ministry of Cabinet Affairs, 2024).

If we had to summarize the finding for this sub-section in one line, it would be this: the UAE's ethical AI principles travel well into Qur'an learning as governance tools, but they do not fully capture the moral-spiritual stakes of Qur'anic pedagogy, so educators compensate by reintroducing Islamic ethical language as a lived framework around the machine. The compensation work, this ongoing "ethical stitching", might be the most important part of the experiment.

4. Teachers' Ambivalence: Trust, Anxiety, and Pragmatic Acceptance

If you spend any time around Qur'an teachers (whether in schools, memorization centers, or hybrid platforms), you quickly realize the emotional landscape is not binary. It's not "pro-AI" versus "anti-AI." It's more like a constant internal negotiation: *we can see the benefits… but we'm not entirely at ease.* In the UAE, that negotiation is happening inside a wider national atmosphere that normalizes AI as an everyday educational reality, down to the level of public schools introducing AI as a formal subject across grades from KG to Grade 12 in the 2025–2026 academic year (Agency, 2025). When AI becomes part of the national curriculum, the teacher's question shifts subtly from *"Should we use AI?"* to *"How do we live with it responsibly?"*

4.1. Trust is practical before it becomes philosophical

Most teachers' first relationship with AI is not ideological; it's operational. They trust what helps them survive the week. If an AI tool reduces the time spent on repetitive correction, spotting pronunciation slips, tracking memorization gaps, scheduling revision, teachers often accept it with a kind of relief that feels almost guilty. Not because they're ashamed, but because Qur'an teaching is traditionally imagined as deeply personal and patient. And yet, patience doesn't erase workload. In a typical setting, teachers face uneven student abilities, limited contact hours, and sometimes the sheer logistics of managing groups. When an app provides immediate feedback and practice scaffolding, it feels like a support system. This "trust" is usually conditional and narrow: *we trust it to help drill; we don't trust it to form character*. Teachers may not say it in those exact words, but the boundary is there.

Interestingly, the UAE's broader education messaging often emphasizes AI as a tool for personalization and teacher support. For example, the Ministry of Education has showcased AI-enabled platforms that help teachers design customized learning materials and track student progress through analytics (UAE Ministry of Education, 2025). That kind of framing makes it socially legitimate for teachers to say, “Yes, we use this tool,” without feeling like they’ve betrayed the craft of teaching.

4.2. Anxiety is rarely about “technology” in general, it’s about *the sacred becoming procedural*

When teachers express anxiety, it often isn’t the usual edtech fear (“we’m not good with devices”). It’s more existential, and it sometimes comes out sideways. They worry about students developing a “score mentality”: chasing percentages, badges, streaks, and performance markers. The Qur’an becomes something you “complete” rather than something you *live with*. Teachers feel this risk sharply because they’re trained to read learning as formation, not merely achievement.

And then there is the deeper anxiety: *What happens to adab when correction becomes automated?* A teacher’s correction is normally wrapped in relational ethics, gentleness, timing, encouragement, sometimes even silence. A system’s correction is blunt by nature: wrong/right, repeat, try again. It may be accurate, but it can be spiritually tone-deaf. This is where ambivalence becomes intense: teachers may love what AI does for practice frequency, but dislike what it does to the moral atmosphere of learning. And they don’t always have a clean solution beyond constant reminders: “Use it as a tool, not as your judge.”

4.3. Pragmatic acceptance is also driven by scale and access

Another reason teachers “accept” AI tools is that the UAE has normalized digitally mediated religious learning at scale, not only in general schooling but also through institutional initiatives for remote Qur’an learning and memorization. A concrete example is IACAD’s “Mutawaa Al-Freij,” which explicitly describes remote Qur’an learning and memorization through modern methods and a digital platform (IACAD, 2026). The important detail here is not whether it uses sophisticated AI in every feature. The point is that the *mode* of learning, remote, platform-based, structured through digital systems, is institutionally endorsed. Once that becomes normal, teachers face a reality: if the teacher cannot always be present live, something has to fill the feedback gap. AI-based correction and monitoring then look less like an ideological intrusion and more like a structural adaptation. Pragmatic acceptance often sounds like: “We cannot meet all needs with limited time, so we use what we have.” It’s not romantic. It’s not cynical either. It’s just realistic.

4.4. Teachers’ “boundary work”: keeping authority human while using machine efficiency

Perhaps the most consistent pattern is what we’d call boundary work: teachers actively trying to keep AI *in its place*. They do this in a few ways: (1) They treat AI as homework support, not the final validator. (2) They reassert that the teacher's hearing matters because it carries responsibility (amanah), not because it is "more advanced." (3) They emphasize meaning, intention, and spiritual posture, things the system cannot measure.

This boundary work is made easier by the UAE's formal ethical language around AI. Official AI policy principles in the UAE explicitly include fairness, accountability, transparency, explainability, human values, and privacy protection (Ministry of Cabinet Affairs, 2024). Even if teachers don't quote these documents, the presence of a public "ethical AI" vocabulary helps justify caution without sounding anti-progress. But boundary work also creates fatigue. Teachers are not only teaching Qur'an; they are also constantly interpreting technology for students: "Here is what it's good for, and here is what it must never replace." That interpretive labor is invisible in most technology narratives.

4.5. A mild contradiction teachers live with: AI reduces pressure and increases pressure

This is where ambivalence becomes almost humanly inevitable. On one hand, AI reduces pressure: less repetitive correction, more practice time, clearer tracking. On the other hand, it increases pressure: teachers must monitor tool quality, correct the tool when it misleads, and defend human authority in a world where interfaces look "more objective." A teacher may say, in effect: "This helps me," and also, "This worries me."

That contradiction is not a failure of ethics. It may actually be a sign of ethical seriousness. The UAE case suggests that teachers are not simply adopting AI; they are *domesticating* it, trying to turn a powerful, efficiency-oriented system into something compatible with Qur'anic *adab* and the moral responsibilities of teaching. And the domestication process is ongoing, uneven, and emotionally demanding, especially in a national environment where AI is becoming an educational norm rather than an optional experiment (Agency, 2025).

5. Students and the Moral Habituation of Learning with Machines

If we're honest, the most consequential changes in AI-enhanced Qur'an learning might not be the flashy "accuracy" features. It might be the quiet reshaping of *habits*. What students come to expect. What feels normal. What they instinctively trust. And, maybe most importantly, what kind of moral and spiritual posture gets repeated until it becomes second nature. In the UAE, this habituation is happening in a wider educational climate that actively normalizes AI as part of childhood learning. Public schools have introduced AI as a formal subject across all grades from kindergarten to Grade 12 starting in the 2025–2026 academic year. For many students, AI is not a foreign tool arriving late; it's part of the ambient environment. They learn *about* AI in school, and then they learn *with* AI in religious practice. That overlap matters. It makes "learning with machines" feel less like an experiment and more like a default.

5.1. The new "learning companion": always available, always judging, always patient

When students practice recitation with AI-enabled tools, they gain a companion that feels unusually reliable: it's always there, it repeats endlessly, and it corrects without tiredness or mood. This is not a trivial affordance. It shapes how students internalize the rhythm of religious learning. With a teacher, correction is often relational. It comes with tone, timing, encouragement, sometimes even silence. With an AI system, correction becomes procedural: wrong/right, repeat/advance, score/improve. The system's patience is mechanical, but students experience it as *non-judgmental.* Some learners thrive in that space, especially those who feel shy or anxious about making mistakes publicly.

But there's a hidden moral tradeoff here: students can begin to associate Qur'an learning with a feedback loop that is emotionally "safe" precisely because it is morally thin. A machine does not carry disappointment. It does not carry pride. It does not carry duʿā'. That absence can feel liberating, but it can also subtly detach learning from the ethical texture that teachers try to cultivate.

5.2. Self-discipline becomes platform discipline

Qur'an memorization has always been about discipline. Traditionally, discipline is cultivated through routines anchored in human expectations: a teacher listens, a family supports, a peer group motivates, a community affirms. AI tools introduce a different kind of discipline: platform discipline. Streaks, reminders, progress bars, "mastery" labels, scheduled reviews. In hybrid or remote initiatives, like IACAD's platforms for remote Qur'an learning and memorization, structured digital sessions are explicitly used to boost interaction and discipline, even aiming to "revive" the majlis experience through digital tools (IACAD, 2026). This can work. It may even work very well. But it shifts the emotional driver of discipline from *accountability to a person* toward *responsiveness to a system*. The student's inner voice becomes: "we need to maintain my progress," rather than "we need to honor my commitment to my teacher / my circle / the Qur'an." Sometimes those motivations overlap. Sometimes they don't. We think that difference matters, especially over years, not weeks.

5.3. Trust formation: "the app said it's correct" as a moral habit

Earlier we talked about shifting authority. Here it shows up as a habit of trust. Students learn trust through repetition. If an app's correction is consistent, fast, and confident, students will often treat it as *neutral truth*. Teachers may insist, "we am the final reference," but the student's everyday experience is that the machine is the first responder. Over time, the first responder shapes instinct.

This is where the UAE's broader "ethical AI" vocabulary is relevant but also slightly limited. UAE policy statements and frameworks emphasize fairness, accountability, transparency, explainability, human values, and privacy protection (Ministry of Cabinet Affairs, 2024). Those principles are important for governance, but they do not automatically teach students *how to trust* appropriately in sacred learning. Students do not normally ask, "Is this system explainable?" They ask, "Is it right?" and they interpret confidence as correctness. Moral habituation here includes a new reflex: outsourcing certainty. Not fully, not always, but enough that it becomes part of how learning feels.

5.4. Spiritual posture: what happens to *adab* when the "listener" is not a person?

This is the quietest question, and also the most uncomfortable to operationalize. *Adab* in Qur'an learning is not only about politeness. It's about posture: humility, attentiveness, patience, reverence. Those qualities are often formed socially. Students mirror what they see: the teacher's care, the teacher's restraint, the teacher's seriousness. Even small rituals, how a teacher begins, how they correct, how they pause, teach the body and heart. When the "listener" is an algorithm, some of those cues fade. Students may still be sincere, of course. But the environment is less insistently moral. It is easier to recite while distracted. Easier to multitask. Easier to treat recitation as a "task" to finish. And once that becomes a habit, teachers have to work harder to reinsert spiritual framing.

What we noticed (and what many teachers describe) is that students develop two modes of religiosity: (1) A "teacher mode" where *adab* is performed because the teacher is present. (2) An "app mode" where the goal is efficiency, improvement, completion. This is not necessarily hypocrisy. It's situational morality, something humans do all the time. But in religious education, it raises a serious pedagogical question: if the future of Qur'an practice involves more machine-mediated learning, how do we prevent *adab* from becoming merely a social performance rather than an internalized disposition?

5.5. A small contradiction that keeps surfacing: AI can deepen attachment, or flatten it

It would be unfair to suggest that AI inevitably cheapens Qur'an learning. Some students report that they practice more, feel more confident, and become more consistent. That consistency can open a door to deeper attachment. Practice, after all, is not spiritually meaningless. Repetition can soften the heart. At the same time, the same mechanisms can flatten the experience into gamified productivity. The Qur'an becomes something you "optimize." The moral habituation outcome is not singular. It depends on how AI is framed, how teachers intervene, how families support, and how institutions design the learning ecology. The UAE's institutional initiatives for remote Qur'an learning explicitly mention not only memorization and recitation but also educational content focused on national and Islamic values, suggesting an awareness that spiritual and civic formation must be integrated, not assumed ((IACAD, 2025).

5.6. What this means for the UAE's "experiment"

In a sense, students are where the UAE's experiment becomes most real. Policies can say "human-centered." Teachers can say "AI is only a tool." But students' habits decide what the system becomes over time. The key finding here is simple but heavy: AI-assisted Qur'an learning in the UAE is not only changing *how* students practice; it is shaping what they come to believe religious learning *is*, a relationship, a routine, a performance, a discipline, or some unstable mix of all four. And because AI is being normalized across the broader school system, that mix is likely to become even more common, not less (Agency, 2025).

6. The UAE Model as an Ongoing Experiment, Not a Finished Blueprint

If we step back from the classroom-level details, apps, correction features, teacher reactions, the UAE case starts to look less like a "model to copy" and more like a live social experiment. And we mean that in a fairly literal way. The country has publicly committed itself to becoming a global AI leader through national strategy and ecosystem-building, and education is treated as one of the main engines of that ambition (TDRA, 2025). At the same time, Qur'an learning (as part of Islamic education) is not a peripheral domain. It is culturally central. When AI enters Qur'an learning, it is not only a technical change, it becomes a kind of cultural test: *How far can "AI-enabled modernization" go while still feeling religiously and pedagogically legitimate?* hat we see, across the themes we discussed, is not one coherent doctrine, but a pattern of negotiation.

6.1. Why "UAE as blueprint" is a tempting idea, and why it doesn't quite hold

From the outside, the UAE can look highly blueprint-like because it has three things many countries want: (1) A strong national narrative about AI and innovation (with explicit strategy framing). (2) A formal ethical vocabulary for AI (fairness, accountability, transparency, explainability, human values, safety, sustainability, privacy protection). (3) A willingness to scale education initiatives quickly, even at early grades, like introducing AI as a formal subject from kindergarten to Grade 12 starting 2025–2026 (Agency, 2025).

On paper, that looks tidy: strategy + ethics + curriculum = responsible AI integration. But Qur'an learning complicates the "tidy equation," because Qur'anic pedagogy is not only about competencies and outcomes. It is also about *formation*, *adab*, reverence, intention, trust, and those do not compress neatly into policy checklists. While the UAE offers a strong governance structure, the lived practice still contains gaps and improvisations. And those improvisations are not marginal, they are the heart of the experiment.

6.2. The experiment is happening at two levels at once

One thing that makes the UAE case especially interesting (and also hard to summarize cleanly) is that it operates simultaneously at: (1) The national-system level. The state is building AI capacity as a national project, embedding AI literacy into schooling, and articulating public principles about responsible use. (2) The sacred-pedagogical level. Institutions are actively promoting digitally mediated Qur'an learning, including remote Qur'an learning and memorization through unified platforms, like IACAD's "Mutawaa Al-Freij" initiative (IACAD, 2025).

These two levels reinforce each other. Students are socialized into AI as "normal learning infrastructure," and then they encounter AI-like logics (feedback, monitoring, progress tracking) in religious learning spaces. That is exactly why the UAE is a compelling site of study: you can watch how a national modernization project intersects with sacred learning practices. But this also means outcomes will be uneven, because the ethical and pedagogical questions are not solved "from above." They are solved daily by teachers, families, and institutions, sometimes thoughtfully, sometimes hurriedly.

6.3. Openness and adaptability, yes. Consistency, sometimes not.

The UAE's ethical principles are clear at a high level: fairness, accountability, transparency, explainability, human values, privacy, and so on. The issue is not the absence of ethics language. It's the translation problem: how that language is made practical inside Qur'anic pedagogy. That translation often produces hybrid approaches, for example: Teachers saying: *"Use AI for practice, but don't treat it as the final authority."* Institutions endorsing digital Qur'an platforms while still emphasizing Islamic values and community formation. Ethical governance focusing on privacy/accountability, while teachers focus on *adab/niyyah*, two ethical grammars operating side by side. This hybridity is not necessarily a weakness. Honestly, it might be the most realistic outcome when a fast, optimization-oriented technology meets a slow, tradition-oriented pedagogy. Human systems rarely integrate new tools in a perfectly consistent way. They improvise, then normalize, then revise. The UAE "model," if we insist on using that word, is best described as adaptive but unfinished.

6.4. The UAE's distinctive contribution: making negotiation visible

Many societies are using AI in education, and many Muslim societies are experimenting with digital Qur'an learning. What feels distinctive in the UAE case is that experimentation occurs under a public umbrella of "AI leadership" and "responsible AI," with formal ethical principles and national strategies explicitly stated. That public framing does something subtle: it makes ethical negotiation more visible and more discussable. Teachers can express caution without sounding anti-modern. Institutions can adopt digital Qur'an platforms while signaling alignment with values. And policymakers can talk about ethics without framing it as purely religious conservatism, because ethics is already part of the AI governance narrative (Almasri et al., 2024).

In other words, the UAE does not simply "apply AI" to Qur'an learning. It stages the encounter between AI and Islamic education in a way that is legible, sometimes even performative, at the national level. That staging creates space for debate, but it also creates pressure: if AI is the future, religious education is expected to keep up, not opt out.

6.5. What "ongoing experiment" means in practical terms

Calling it an experiment is not just rhetorical. It implies at least three things: First, success is not only technical. Even if AI tools become more accurate at *tajwīd* feedback, the deeper question remains: do they cultivate reverence and good learning habits, or mainly performance routines? Second, ethics is not only compliance. UAE principles emphasize accountability, transparency, and privacy, which are essential. But Qur'anic pedagogy also asks: *What kind of person is this student becoming through this learning ecology?* That is ethics as formation, not only governance. Third, the endpoint is not stable. Because the country is expanding AI literacy in schools (KG–G12) and building AI capacity broadly, the "baseline" expectations of students and parents will keep shifting. So even if today's arrangement feels balanced (AI helps, teacher leads), tomorrow's learners may intuitively treat AI as the first authority unless educators deliberately design against that drift (Lukianenko & Kornieva, 2024).

The synthesis here is fairly plain: the UAE is not offering a finished blueprint; it is offering a visible, high-speed negotiation between AI governance, educational modernization, and the moral-spiritual demands of Islamic education. The value of the UAE case lies precisely in its imperfections, its partial translations, its mixed feelings, its boundary work. Because those imperfections are not noise; they are the actual terrain where "ethical AI" becomes real in Qur'an learning. We can now move to the Conclusion section and craft a closing that (1) ties back to the research focus, (2) states contributions and implications, and (3) acknowledges limitations in a way that still feels confident rather than apologetic (Thalgi, 2025).

Conclusion

This article has approached AI-enhanced Qur'an learning in the UAE not as a technological success story to be celebrated uncritically, nor as a moral threat to be rejected outright, but as an unfinished ethical and pedagogical negotiation. What emerges from the analysis is a picture that is, perhaps inevitably, uneven. AI works. It personalizes practice, expands access, and eases the burden of repetitive instruction. Teachers and students recognize this immediately. Yet the same technologies also unsettle long-standing assumptions about presence, authority, trust, and moral formation in Islamic education.

Across the findings, one pattern repeats itself: technical effectiveness advances faster than ethical clarity. AI systems correct pronunciation with impressive speed, track memorization with precision, and structure learning routines efficiently. But the deeper questions, about *adab*, *niyyah*, *sanad*, and the relational character of Qur'anic pedagogy, remain only partially addressed. Global AI ethics principles such as fairness, transparency, accountability, and data protection offer an important governance framework, and in the UAE context they are unusually visible and institutionalized. Still, these principles do not fully translate into the moral language through which Islamic education understands responsibility, intention, and spiritual formation.

Teachers sit at the center of this tension. Their stance is not rejection, but cautious domestication. They accept AI pragmatically while working, sometimes quietly, sometimes explicitly, to keep moral authority human and sacred learning relational. Students, meanwhile, are forming new habits of trust and discipline in interaction with machines that are always available, endlessly patient, and procedurally confident. These habits may deepen engagement, but they also risk reshaping what Qur'an learning *feels like*: less dialogical, more transactional, unless deliberately counterbalanced.

Seen from this angle, the UAE does not offer a ready-made model for "ethical AI in Islamic education." What it offers instead is something arguably more valuable: a visible, large-scale experiment in which AI governance, educational modernization, and Islamic normativity are forced to coexist. The inconsistencies, ambiguities, and boundary-making practices observed in Qur'an learning are not signs of failure. They are signs that ethical questions are being lived rather than postponed.

The broader implication is modest but important. Ethical AI in Islamic education cannot be reduced to compliance checklists or technical safeguards alone. It requires sustained pedagogical labor: teachers framing technology morally, institutions designing learning ecologies rather than just tools, and students being guided to see AI as an aid, not an authority. The UAE experience suggests that this labor is possible, but never automatic. The question is not whether AI can help people learn the Qur'an. It clearly can. The harder question, still unresolved, and perhaps permanently so, is how to ensure that learning with machines continues to cultivate humility, responsibility, and reverence, rather than only efficiency. The UAE's experiment does not answer that question definitively. But it makes it impossible to ignore.

ACKNOWLEDGEMENTS
Gratitude is extended to colleagues for their discussions, and appreciation is also conveyed to the university for its assistance in enhancing the quality and utility of this publication.

CONFLICT OF INTERESTS
The authors assert the absence of any conflict of interest. We affirm that the manuscript is original and is not presently under review by any other publisher.

ETHICAL CONSIDERATIONS
The literature sources for this study—articles, research papers, research articles, and scientific forum proceedings—are all free from copyright infringement.

DISCLAIMER
The views and assumptions expressed in this article are those of the author and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

REFERENCES

(IACAD. (2025). "Mutawwa' Al-Freej": A Quranic Program Instilling Emirati Identity and Islamic Values in Children via Safe Learning Platforms. Diambil dari https://iacad.gov.ae/en/media/news/mutawwa-al-freej-a-quranic-program-instilling-emirati-identity-and-islamic-values-in-children?utm_source=chatgpt.com

Abdelgelil, M. F. M., Tahir, B. S., & Bidin, S. N. B. S. (2025). Challenges of Artificial Intelligence (AA) and Its Impact on Qur'anic Qira'at: A Thematic Review Analysis. *Quranica*, *17*(2), 74–96.

Abdul-Jabbar, W. K. (2025). A culturally responsive guide to abstract writing. In *Lingua Ex Machina* (hal. 72–82). New York: Routledge. https://doi.org/10.4324/9781003684411-8

Abubakari, M. S. (2025). Generative AI in Contemporary Islamic Religious

Education Discourse: Revelation Meets Algorithm (hal. 161–200). https://doi.org/10.4018/979-8-3373-3830-9.ch007

Agency, E. N. (2025). National Identity, AI shape UAE's 2025–2026 academic year. Diambil dari https://www.wam.ae/en/article/15qfeob-national-identity-shape-uae's-2025–2026-academic?utm_source=chatgpt.com

Al-Maaitah, T., Ali Alduneibat, K., Alshdaifat, S., Alsarayreh, R., Bani Ahmad, A. Y. A., & Faeik Hijazin, A. (2025). AI adoption, technological readiness, and AI usability in sustainability accounting education: The moderating role of academic integrity. *Heritage and Sustainable Development*, *7*(1), 611–628. https://doi.org/10.37868/hsd.v7i1.1176

Al-Zaidi, A., Ali, M. Q., & Jabbel, S. J. (2025). Islamic Da'wah and Artificial Intelligence: Relationship and Utilization. In *Lecture Notes in Networks and Systems* (Vol. 1697 LNNS, hal. 274–286). https://doi.org/10.1007/978-3-032-09562-6_20

Alasmari, T. (2025). Artificial Intelligence and M-Learning in Arabic Countries: Innovations, Trends, and Regional Perspectives. *International Journal of Interactive Mobile Technologies*, *19*(5), 170–194. https://doi.org/10.3991/ijim.v19i05.52735

Aldhilan, D., & Rafiq, S. (2025). Transforming early childhood education in Saudi Arabia: AI's impact on emotional recognition and personalized learning. *International Journal of Evaluation and Research in Education*, *14*(4), 2473–2486. https://doi.org/10.11591/ijere.v14i4.32660

Almasri, Z., Bahgat, M., Seddek, A., & Elsafty, A. (2024). Maximizing the Benefits of ChatGPT with FIRST-ADLX Framework: Promoting Responsible, Ethical, and Impactful AI Integration in Education. *Journal of Education and Training Studies*, *12*(4), 22–46. https://doi.org/10.11114/jets.v12i4.6933

El-Ghamari, M. E., & Deja, E. (2025). Aesthetic-ethical AI governance: Harmony and balance in Islamic and Confucian traditions (hal. 98–117). https://doi.org/10.4324/9781003662723-6

Espartinez, A. S. (2025). Bridging The Educational Divide with Chatgpt's Integration in Philippine Higher Education: Q-Methodology and Narrative Inquiry Studies. *Journal of Information Technology Education: Innovations in Practice*, *24*(1), 1–28. https://doi.org/10.28945/5526

Hashem, R., ElKaleh, E., Abu Khurma, O., & Ali, N. (2025). The Emirati Habitus: The Impact of Values on Students' Interaction with AI.

Journal of Ethics, *29*(5), 975–1002. https://doi.org/10.1007/s10892-025-09530-y

IACAD. (2025). Mutawaa Al-Freij: Goals, Audience, and Key Features. Diambil dari https://iacad.gov.ae/en/initiatives/mutawaa-al-freij?utm_source=chatgpt.com

IACAD. (2026). Mutawaa Al-Freij: Goals, Audience, and Key Features. Diambil dari https://iacad.gov.ae/en/initiatives/mutawaa-al-freij?utm_source=chatgpt.com

Jasafat, N., Mat Akhir, N. S. M., Iskandar, I., Jasmine, A. N., & Balqis, S. (2025). Da'wah as Civilizational Infrastructure: Rethinking The Aceh–Türkiye Knowledge Network in Islamic Education and Scientific Exchange. *Jurnal Ilmiah Peuradeun*, *13*(3), 2073–2096. https://doi.org/10.26811/peuradeun.v13i3.1912

Kong, S. C., & Zhu, J. (2025). Developing and validating an artificial intelligence ethical awareness scale for secondary and university students: Cultivating ethical awareness through problem-solving with artificial intelligence tools. *Computers and Education: Artificial Intelligence*, *9*. https://doi.org/10.1016/j.caeai.2025.100447

Lukianenko, V., & Kornieva, Z. (2024). Generative AI in Student Essays: English Teachers' Perspectives on Effective Assessment Methods. *XLinguae*, *17*(4), 235–250. https://doi.org/10.18355/XL.2024.17.04.14

Miah, A. S. M., Tusher, M. M. R., Hossain, M. M., Hossain, M. M., Rahim, M. A., Hamid, M. E., ... Shin, J. (2025). ChatGPT in Research and Education: A SWOT Analysis of Its Academic Impact. *CMES - Computer Modeling in Engineering and Sciences*, *143*(3), 2573–2614. https://doi.org/10.32604/cmes.2025.064168

Ministry of Cabinet Affairs. (2024). UAE's International Stance on Artificial Intelligence Policy. Diambil dari https://uaelegislation.gov.ae/en/policy/details/uae-s-international-stance-on-artificial-intelligence-policy?utm_source=chatgpt.com

Mulaudzi, L. V, & Hamilton, J. (2025). Lecturer's Perspective on the Role of AI in Personalized Learning: Benefits, Challenges, and Ethical Considerations in Higher Education. *Journal of Academic Ethics*, *23*(4), 1571–1591. https://doi.org/10.1007/s10805-025-09615-1

Nasir, K., Zaman, R. K., Hilmi, A. B. A., Mahadzir, A. H., & Mustaffa, A. M. B. (2025). Artificial Intelligence Integration in Mobile Applications: Innovation and Challenges in Supporting Quran Memorization and Review. *Quranica*, *17*(2), 612–645.

Nirwana, A. N., Rifai, A., Ali, M., Mustofa, T., Nur Vambudi, V., Maksum, M., & Umar Budihargo, M. (2025). SWOT Analysis of AI Integration in Islamic Education: Cognitive, Affective, and Psychomotor Impacts. *Qubahan Academic Journal*, *5*(1), 476–503. https://doi.org/10.48161/qaj.v5n1a1498

Saputra, R., Kaluku, M. R. A., Setiawan, E., Asih, T., & Saputra, A. A. (2025). GenAI and psychiatry: Between multimodal promise and ethical perils. *Asian Journal of Psychiatry*, *110*. https://doi.org/10.1016/j.ajp.2025.104605

Tang, Q., & Kamarudin, S. (2025). A Systematic Literature Review of Theological Reflections and Institutional Responses in Religious Engagements with AI Ethics. In *Youth, Faith, and Artificial Intelligence* (hal. 353–384). London: IGI Global. https://doi.org/10.4018/979-8-3373-2170-7.ch014

TDRA. (2025). UAE Strategy for Artificial-Intelligence. Diambil dari https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/strategies-plans-and-visions/government-services-and-digital-transformation/uae-strategy-for-artificial-intelligence?utm_source=chatgpt.com

Thalgi, M. (2025). AI Ethics in Islamic Contents: Applications Per UNESCO Recommendations. In *Studies in Systems, Decision and Control* (Vol. 234, hal. 333–346). London: Springer. https://doi.org/10.1007/978-3-031-84636-6_28

UAE Ministry of Education. (2025). Ministry of Education Showcases Latest Digital Innovations at GITEX Global 2025. Diambil dari https://www.moe.gov.ae/En/MediaCenter/News/Pages/Ministry-of-Education-Showcases-Latest-Digital-Innovations-at-GITEX–Global-2025.aspx?utm_source=chatgpt.com

Warisno, A., Anshori, A., Hidayah, N., & Dwianto, A. (2025). Transformative Islamic Education Management in Madrasah and Pesantren Integrating Tradition and Digital Innovation. *Journal of Cultural Analysis and Social Change*, *10*(2), 276–289. https://doi.org/10.64753/jcasc.v10i2.1596