

## Ethical Integration of Generative Artificial Intelligence in Islamic Education through Teachers' Pedagogical Practices and Academic Integrity

Muh Ibnu Sholeh

STAI Kh Muhammad Ali Shodiq Tulungagung, Indonesia.

[indocelllular@gmail.com](mailto:indocelllular@gmail.com)

\*Correspondence Email: [indocelllular@gmail.com](mailto:indocelllular@gmail.com)

**Abstract:** Generative artificial intelligence (GenAI) is increasingly transforming educational practices, yet its integration within Islamic education raises questions concerning pedagogical effectiveness, academic integrity, and moral responsibility. This study investigates how Islamic school teachers integrate GenAI into teaching and learning, examines academic integrity challenges emerging from AI-assisted learning, and analyzes how ethical values guide responsible AI use. Employing a qualitative multiple-case study design, the research involved teachers, school leaders, and students from Islamic educational institutions. Data were collected through semi-structured interviews, classroom observations, and document analysis and analyzed thematically through within-case and cross-case comparison, supported by triangulation and member checking. The findings indicate that teachers use GenAI for lesson planning, instructional material development, assessment design, and differentiated learning, positioning the technology as a pedagogical augmentation tool rather than a substitute for teachers. However, AI-generated assignments, plagiarism, student dependency, uncertainty about authorship, and difficulties in assessing authentic student competence present significant academic integrity challenges. Teachers respond through assessment redesign, AI-use guidelines, verification practices, and increased emphasis on students' intellectual contributions. Ethical values, particularly amanah, sidq, responsibility, and intellectual integrity, provide a foundation for responsible AI integration. Based on these findings, the study proposes an Ethical Generative AI Integration Model connecting AI literacy, pedagogical integration, academic integrity, Islamic ethical mediation, and responsible AI use, with teacher guidance and human oversight operating across the model.

**Keywords:** Generative Artificial Intelligence, Islamic Education, AI Literacy, Pedagogical Integration, Academic Integrity, Islamic Ethics

### INTRODUCTION

The rapid emergence of generative artificial intelligence (GenAI) in contemporary educational environments has increasingly reshaped how teachers design instruction, students access knowledge, and educational institutions understand the relationship between technology and learning. Generative AI applications, particularly large language models such as ChatGPT and similar systems, can generate textual explanations, questions, learning materials, feedback, summaries, and other educational resources through natural-language interaction. This development has moved artificial intelligence beyond its traditional role as an automated computational tool toward becoming an interactive component of teaching and learning. A

systematic mapping review of 407 publications demonstrated that research on GenAI in education has expanded rapidly, with major themes encompassing pedagogical enhancement, writing assistance, professional development, educational applications, ethical implications, adoption, and educational performance (Yusuf et al., 2024). Consequently, GenAI is increasingly becoming part of the contemporary educational ecosystem rather than remaining an external technological innovation.

The growing integration of GenAI into educational practices has consequently transformed conventional teacher–student relationships into more complex interactions involving teachers, students, and intelligent technological systems as emerging educational actors. Teachers can employ GenAI to support lesson planning, generate instructional materials, formulate assessment questions, develop classroom activities, provide feedback, and adapt learning resources to different student needs. From this perspective, AI can function as an instrument for pedagogical augmentation rather than merely replacing existing educational technologies. Kasneci et al. (2023) identified opportunities for large language models to support personalized learning, writing, feedback, accessibility, and educational interaction, while also emphasizing concerns regarding misinformation, bias, dependency, and the changing role of educators. Similarly, UNESCO (2023) argues that generative AI can support teaching, learning, curriculum development, and research when its implementation is guided by human-centered and ethical principles. Thus, the educational significance of GenAI depends not only on its technological capabilities but also on teachers' professional capacity to determine appropriate pedagogical purposes and boundaries for its use.

Within Islamic educational environments, the expansion of GenAI presents a particularly important intersection between technological innovation, pedagogical transformation, moral development, and the fundamental purposes of education grounded in Islamic values. Islamic education does not merely seek to transfer information or improve academic performance but also emphasizes the formation of character, ethical conduct, responsibility, and the integration of knowledge with moral development. GenAI may therefore provide meaningful support for teachers in preparing Islamic learning materials, generating discussion questions, developing differentiated learning activities, designing formative assessments, and presenting alternative explanations of complex concepts. Nevertheless, technological efficiency alone cannot become

the principal criterion for evaluating AI integration in Islamic education. The use of AI must also be considered in relation to values such as *amanah* (trustworthiness), *sidq* (truthfulness), *mas'uliyah* (responsibility), and intellectual integrity. These values are particularly relevant when AI-generated information and academic products become increasingly accessible to teachers and students.

The increasing capacity of generative AI to produce sophisticated academic responses has simultaneously created substantial concerns regarding academic integrity, particularly because conventional approaches to identifying plagiarism and evaluating students' authentic intellectual contributions are becoming increasingly difficult to apply. Students can use GenAI to generate essays, answer questions, summarize materials, formulate arguments, or complete assignments with limited direct intellectual engagement. Such practices can create a discrepancy between students' submitted work and their actual knowledge, skills, and reasoning abilities. Cotton et al. (2024) highlight that the emergence of ChatGPT creates significant concerns regarding academic honesty, plagiarism, assessment, and the difficulty of detecting inappropriate AI-assisted academic work. More recent systematic evidence similarly indicates that GenAI creates a dual effect: it can enhance educational engagement and efficiency while simultaneously increasing risks of academic dishonesty and challenging conventional approaches to academic integrity (Bittle & El-Gayar, 2025). The problem, therefore, is not simply whether students use AI, but whether AI use remains transparent, proportionate, educationally meaningful, and consistent with the principles of authentic learning.

The complexity of these academic integrity concerns demonstrates that responsible GenAI integration cannot be achieved merely through technological access, prohibition, or dependence on automated AI-detection mechanisms without addressing the pedagogical and ethical competencies of teachers and students. Teachers require sufficient AI literacy to understand how generative systems operate, evaluate the accuracy of generated content, recognize potential biases and misinformation, establish appropriate boundaries, and redesign learning activities and assessments when necessary. UNESCO's AI Competency Framework for Teachers identifies 15 competencies across five dimensions: human-centered mindset, ethics of AI, AI foundations and applications, AI pedagogy, and AI for professional learning (Miao & Cukurova, 2024). This

framework is particularly important because it positions teachers not simply as technical users but as professionals who must combine AI knowledge with ethical judgment and pedagogical competence. Consequently, teacher AI literacy should be understood as a multidimensional capacity involving technological understanding, pedagogical decision-making, critical evaluation, and ethical responsibility.

The need to integrate technological competence with ethical judgment becomes increasingly significant as teachers assume a central role in determining how generative AI should be incorporated into classroom activities without undermining students' intellectual autonomy, learning responsibility, and academic authenticity. Teachers are positioned between the technological possibilities offered by AI and the educational values that should govern its use. Their decisions determine whether AI becomes a tool that strengthens inquiry, creativity, critical thinking, and personalized learning or an instrument that encourages dependency, superficial learning, and academic misconduct. UNESCO (2024) emphasizes that AI competency should include ethical principles, safe and responsible use, AI-assisted pedagogy, and human agency. This perspective suggests that effective AI integration requires teachers to move beyond a simple adoption model toward an ethical mediation model in which technological affordances are continuously evaluated according to educational objectives and human values. Such a perspective is especially important in Islamic education, where the pedagogical process is inseparable from the formation of ethical dispositions and responsible behavior.

The ethical dimension of GenAI becomes particularly significant when academic integrity is examined through the principles of Islamic education, because responsible knowledge production requires honesty, accountability, trust, and respect for intellectual effort. The principle of *amanah* can provide a normative basis for understanding technology as a trust that should be used for beneficial and responsible purposes rather than for academic deception. Similarly, *sidq* emphasizes truthful representation of one's own intellectual contribution, making undisclosed AI-generated work problematic when it is presented as entirely the student's independent work. *Mas'uliyah* further emphasizes that users remain responsible for the consequences of AI-assisted outputs, including inaccurate information, inappropriate content, and misleading academic claims. These principles can complement contemporary concepts of responsible AI by providing an

educationally grounded moral framework for determining acceptable and unacceptable uses of generative technologies. Accordingly, Islamic ethical values can function not merely as philosophical background but as an analytical lens for understanding how teachers guide students in navigating the boundaries between legitimate AI assistance and academic misconduct.

Despite the growing body of scholarship examining generative AI in education, important empirical and conceptual gaps remain concerning the simultaneous relationship between pedagogical integration, academic integrity, and ethical values within actual educational practices. Existing research has predominantly examined the pedagogical opportunities and risks of GenAI, student and teacher perceptions, academic integrity, institutional adoption, or broader ethical implications as relatively separate areas of inquiry. The systematic mapping review conducted by Yusuf et al. (2024), for example, identified ethical implications and risks as one of the major research themes but also highlighted limited exploration of cultural dimensions in discussions of GenAI. Similarly, recent systematic research on GenAI and academic integrity has focused primarily on higher education and emphasizes the need for digital literacy, institutional policies, detection strategies, and ethical guidelines (Bittle & El-Gayar, 2025). These findings indicate that the literature has established the importance of both pedagogical and ethical dimensions, but there remains a need for context-sensitive empirical research examining how these dimensions interact within Islamic educational settings.

The gap becomes more pronounced when the focus shifts from general attitudes toward AI to the actual pedagogical practices through which teachers negotiate the opportunities and risks of GenAI in everyday classroom contexts. Much of the existing literature discusses what AI can potentially do for education or what risks it may create, whereas comparatively less attention has been devoted to understanding how teachers make situated decisions concerning when AI should be used, how its outputs should be verified, what forms of student AI use should be permitted, and how ethical values are translated into practical classroom guidance. Moreover, research that simultaneously examines teachers' pedagogical integration, academic integrity challenges, and Islamic ethical reasoning remains limited. This study therefore addresses a significant contextual and conceptual gap by examining these three dimensions together rather than treating them as independent problems.

The central novelty of this study lies in positioning Islamic ethical values as an analytical dimension of generative AI integration rather than treating ethics as a supplementary consideration after technological adoption and pedagogical implementation have already occurred. Based on empirical evidence from multiple Islamic educational cases, the study develops an Ethical Generative AI Integration Framework that conceptualizes responsible AI use through the interaction of four interconnected dimensions: AI literacy, pedagogical practice, academic integrity, and Islamic ethical mediation. The framework positions teachers not merely as users of generative AI but as pedagogical and ethical mediators who determine appropriate forms of AI use, establish boundaries for acceptable assistance, verify AI-generated content, and guide students toward academically authentic and morally responsible engagement with technology. In this framework, responsible AI integration is understood as a process in which technological capability is continuously mediated by pedagogical objectives and ethical responsibility.

Accordingly, this study aims to investigate the ethical integration of generative artificial intelligence within Islamic education by examining teachers' pedagogical practices, the academic integrity challenges emerging from AI-assisted learning, and the Islamic ethical principles that shape responsible technology use. Specifically, the study addresses three interconnected research questions: (1) How do Islamic school teachers integrate generative AI into teaching and learning practices? (2) What academic integrity challenges emerge from the use of generative AI in Islamic educational settings? and (3) How do teachers apply Islamic ethical values in guiding responsible generative AI use? By addressing these questions through a qualitative multiple-case study, this research seeks to connect technological adoption with pedagogical decision-making and Islamic moral responsibility while providing an empirically grounded Ethical Generative AI Integration Framework for responsible, pedagogically meaningful, and academically integrity-oriented AI use in Islamic education.

## METHOD

### Research Design

This study employed a qualitative multiple-case study design to investigate how Islamic school teachers integrate generative artificial intelligence (GenAI) into teaching and learning,

address academic integrity challenges, and apply Islamic ethical values in guiding responsible AI use. A qualitative approach was appropriate because the study focused on participants' experiences, interpretations, practices, and ethical reasoning within their natural educational contexts. Case study methodology is suitable for investigating contemporary phenomena within real-life contexts, particularly when the boundaries between the phenomenon and its context are not clearly defined (Yin, 2018). A multiple-case design was adopted to enable comparison across several Islamic educational institutions and identify both case-specific and cross-case patterns.

## Research Setting and Participants

The study was conducted in selected Islamic schools and madrasahs that had experience incorporating GenAI into teaching and learning activities. Institutions were selected purposively based on their relevance to the research objectives and their engagement with AI-assisted educational practices. The participants consisted primarily of teachers as the main source of information concerning pedagogical integration and ethical decision-making. School leaders and selected students were also involved to provide complementary perspectives regarding institutional policies, classroom practices, and academic integrity. Purposive sampling was used to select information-rich participants with direct experience of the phenomenon under investigation (Patton, 2015). Institutional and participant identities were anonymized through the use of case codes.

## Data Collection

Data were collected through semi-structured interviews, classroom observations, and document analysis. Interviews explored four areas: teachers' use of GenAI, pedagogical applications, academic integrity challenges, and Islamic ethical considerations. The semi-structured format allowed consistent exploration of the research questions while providing flexibility to investigate participants' experiences in greater depth (Kvale & Brinkmann, 2015). Classroom observations focused on the actual use of GenAI in lesson planning, instruction, learning activities, assessment, and teacher guidance concerning responsible AI use. Relevant documents, including lesson plans, teaching materials, student assignments, assessment rubrics, and institutional AI or academic integrity guidelines, were also examined. The combination of

these sources supported methodological triangulation and provided contextual evidence for interpreting participants' accounts (Yin, 2018).

## Data Analysis

Data were analyzed using thematic analysis based on Braun and Clarke's (2006) approach. The analysis involved familiarization with the data, initial coding, development of candidate themes, review of themes, definition of themes, and interpretation. Coding focused on three analytical domains corresponding to the research questions: GenAI pedagogical integration, academic integrity challenges, and Islamic ethical guidance. The analysis was conducted in two stages. First, within-case analysis was performed to develop a detailed understanding of each institution. Second, cross-case analysis compared the cases to identify recurring patterns, differences, and contextual variations (Yin, 2018). The resulting themes were integrated to construct the proposed Ethical Generative AI Integration Framework.

## Trustworthiness and Ethical Considerations

Trustworthiness was strengthened through source and methodological triangulation, member checking, and an audit trail. Information from teachers, school leaders, and students was compared with classroom observations and documentary evidence. Selected interpretations were returned to participants for clarification and confirmation. These procedures supported credibility, dependability, and confirmability in qualitative research (Creswell & Poth, 2018; Lincoln & Guba, 1985). Ethical approval and institutional permission were obtained before data collection. Participants provided informed consent and were informed of their voluntary participation and right to withdraw. All personal and institutional information was anonymized, while educational documents and student work were handled confidentially.

## RESULTS AND DISCUSSION

### Teachers' Integration of Generative AI in Teaching Practices

The findings indicate that generative artificial intelligence (GenAI) has increasingly become a supplementary pedagogical resource through which Islamic school teachers support lesson preparation, instructional material development, assessment design, and differentiated learning activities. Rather than delegating the entire teaching process to AI, teachers generally positioned

GenAI as an assistive technology that accelerated routine preparation while leaving pedagogical judgment, content verification, and classroom decision-making under human control. The forms of integration varied across cases according to teachers' familiarity with AI, perceived usefulness, institutional expectations, and the characteristics of the subjects being taught. This finding supports the argument that the educational impact of generative AI depends substantially on how teachers appropriate the technology within existing pedagogical practices rather than simply on the availability of AI tools (Ouyang et al., 2022).

One of the most frequently identified uses of GenAI was lesson planning, particularly during the early stages of preparing classroom instruction and learning activities. Teachers reported using AI to formulate learning objectives, generate lesson ideas, organize instructional sequences, develop introductory activities, and propose questions for classroom discussion. In several cases, AI was particularly useful because teachers could provide a topic, competency, or curriculum requirement and receive several possible instructional approaches within a relatively short period. However, teachers did not generally regard AI-generated lesson plans as ready-to-use products. They reviewed, modified, and contextualized the generated content according to curriculum requirements, students' abilities, available learning resources, and the characteristics of Islamic educational settings. This finding reflects the broader understanding that AI can reduce teachers' workload in planning while requiring professional judgment to ensure that generated materials remain pedagogically appropriate (Holmes et al., 2022).

GenAI was also integrated into learning-material development, particularly for generating explanations, examples, discussion prompts, worksheets, summaries, and alternative formulations of difficult concepts. Teachers indicated that AI allowed them to develop several versions of the same material and subsequently select or modify the most appropriate version for their students. This practice was particularly relevant for differentiated instruction because teachers could request simplified explanations for students who required additional support or more challenging activities for students with higher levels of competence. Such practices demonstrate a movement from standardized material preparation toward more flexible and learner-oriented instructional design. However, teachers still needed to evaluate AI-generated content because inaccuracies, inappropriate examples, oversimplifications, and contextual inconsistencies could occur. The need

for verification is consistent with research emphasizing that generative AI should be treated as a probabilistic system whose outputs require critical human evaluation rather than unquestioned acceptance (Bender et al., 2021).

Another important area of integration involved assessment, where teachers used GenAI to generate question items, develop alternative assessment tasks, construct rubrics, and formulate feedback. In some cases, AI-assisted assessment was perceived as useful because it enabled teachers to produce variations of questions and activities more efficiently. This potentially reduced repetitive preparation tasks and allowed teachers to devote more attention to classroom interaction and student support. Nevertheless, teachers also recognized that AI-generated questions could fail to reflect the intended learning outcomes or could produce tasks that were too general. Consequently, assessment materials generated through AI were reviewed and adapted before being implemented. This finding indicates that AI-assisted assessment does not eliminate teachers' evaluative responsibilities; instead, it shifts part of the teacher's role from content production toward content evaluation, validation, and pedagogical adaptation.

The findings further show that some teachers employed GenAI to support personalized and differentiated learning. Teachers generated alternative explanations, remedial exercises, enrichment activities, and additional examples based on perceived differences in students' learning needs. Such practices are consistent with the broader potential of AI-supported education to provide adaptive learning experiences and respond to learner differences (Zawacki-Richter et al., 2019). However, personalization in the cases examined was not fully automated. Teachers remained responsible for identifying students' needs and deciding which AI-generated resources were appropriate. Therefore, GenAI functioned primarily as a teacher-mediated personalization tool rather than an autonomous personalized learning system.

A comparison across the cases revealed differences in the intensity and sophistication of GenAI integration, particularly in relation to teachers' technological familiarity, institutional support, and confidence in evaluating AI-generated content. Cases characterized by greater teacher familiarity with AI demonstrated broader applications extending from lesson planning to assessment and differentiated learning. In contrast, teachers with more limited AI experience tended to use GenAI for relatively simple activities, particularly generating ideas, summaries, or

instructional materials. Institutional support also appeared to influence the depth of adoption. Where schools provided clearer guidance and opportunities for professional learning, teachers were more likely to experiment with diverse pedagogical applications. This pattern is consistent with the argument that successful AI adoption requires not only technological availability but also teacher competence, institutional support, and appropriate pedagogical conditions (Schmid et al., 2021).

Overall, the findings demonstrate that Islamic school teachers integrate GenAI primarily as a pedagogical augmentation tool across lesson planning, material development, assessment, and differentiated learning. The technology expands teachers' capacity to generate and adapt educational resources, but its effective use remains dependent on human verification and professional judgment. The cross-case findings therefore suggest that meaningful GenAI integration is better understood as teacher-mediated augmentation rather than technological substitution, with teachers retaining responsibility for pedagogical decisions, contextual appropriateness, and the quality of educational content.

## **Academic Integrity Challenges in AI-Based Learning**

The findings reveal that the growing accessibility of GenAI also creates significant academic integrity challenges, particularly concerning AI-generated assignments, plagiarism, student dependency, authenticity of academic work, and the validity of conventional assessment practices. Across the cases, teachers expressed concern that students could use AI to produce academically acceptable responses without necessarily demonstrating the knowledge, reasoning, writing ability, or critical thinking expected from the learning process. The problem therefore extends beyond conventional plagiarism because AI can produce newly generated text that may not correspond directly to an identifiable source. This creates a more complex challenge concerning authorship, originality, and the authenticity of learning (Perkins, 2023).

The most visible challenge involved AI-generated assignments, particularly when the quality and linguistic sophistication of submitted work appeared inconsistent with students' demonstrated classroom abilities. Teachers encountered assignments containing vocabulary, sentence structures, conceptual organization, or argumentative patterns that differed substantially from students' previous work. Such discrepancies made it increasingly difficult to determine whether students

had independently completed their assignments or had relied substantially on AI. The problem was not necessarily the use of AI itself but the absence of transparency concerning the extent to which AI contributed to the final product. This finding supports the emerging view that generative AI challenges traditional assumptions underlying take-home written assignments and requires educators to reconsider how students demonstrate their learning (Perkins, 2023).

The issue of plagiarism has consequently acquired a new dimension in AI-assisted learning environments. Conventional plagiarism generally involves copying existing material without appropriate attribution, whereas generative AI can create original-looking responses that may nevertheless represent an inappropriate substitution of AI-generated content for students' own intellectual work. Teachers therefore increasingly distinguished between legitimate AI assistance, such as brainstorming, language improvement, or idea generation, and inappropriate use, such as submitting an AI-generated response as entirely the student's own work. This distinction requires clearer definitions of acceptable AI assistance and greater transparency concerning the contribution of AI to academic tasks.

Another concern identified across the cases was student dependency. Teachers perceived that frequent reliance on GenAI could reduce students' willingness to think independently, formulate arguments, search for information, and revise their own writing. When students become accustomed to obtaining immediate answers from AI, the technology may unintentionally encourage passive consumption rather than active knowledge construction. Such concerns are particularly important in education because learning involves not only obtaining correct answers but also developing reasoning, reflection, creativity, and problem-solving abilities. Excessive dependence on generative systems may therefore weaken opportunities for students to engage in these cognitive processes independently.

The challenge of authenticity of student work was closely connected to assessment practices. Teachers reported increasing difficulty in determining whether submitted assignments accurately represented students' actual competence. Rather than relying exclusively on AI-detection systems, teachers in several cases responded by modifying assessment practices, including greater use of classroom-based tasks, oral questioning, presentations, reflective activities, project-based assessment, and process-oriented assignments. Such strategies shift assessment from evaluating

only the final product toward examining how students develop, explain, defend, and reflect upon their work. This approach is consistent with arguments that assessment redesign may be more educationally meaningful than relying exclusively on technological detection mechanisms (Eaton, 2023).

Teacher responses consequently extended beyond simple prohibition. Teachers attempted to establish explicit rules concerning acceptable and unacceptable AI use, required students to revise and personalize AI-generated materials, encouraged disclosure of AI assistance, and used classroom interaction to verify students' understanding. At the institutional level, some cases demonstrated emerging efforts to develop guidelines concerning AI use and academic integrity, although the degree of formalization differed between institutions. These differences indicate that academic integrity in the GenAI era requires a combination of teacher guidance, assessment redesign, student AI literacy, and institutional policy rather than reliance on a single technological solution.

Taken together, the findings demonstrate that GenAI creates interconnected academic integrity challenges involving AI-generated assignments, changing forms of plagiarism, student dependency, uncertainty regarding authorship and authenticity, and difficulties in conventional assessment. The responses observed across the cases indicate a gradual movement from a prohibition-oriented approach toward a responsible-use approach, in which students are encouraged to use AI transparently, critically, and proportionately. Academic integrity in AI-assisted Islamic education therefore requires not merely controlling access to technology but developing pedagogical practices that preserve students' intellectual agency, authentic learning, and responsibility for the work they submit.

## **Islamic Ethical Values for Responsible AI Use**

The integration of generative artificial intelligence in Islamic education requires more than technological competence because educational practices are fundamentally concerned with knowledge, character formation, moral responsibility, and the ethical use of intellectual resources. The findings indicate that teachers employed Islamic ethical values as an important reference when determining how generative AI should be introduced, used, and limited within teaching and learning activities. Rather than rejecting AI because of its potential risks, teachers generally

attempted to establish boundaries that allowed students to benefit from technological assistance while maintaining academic honesty, intellectual responsibility, and authentic learning. This orientation is consistent with broader discussions of ethical AI in education, which emphasize that technological innovation should be accompanied by consideration of human values, fairness, accountability, and the potential consequences for learners (Akgun & Greenhow, 2022).

One of the most prominent ethical values identified in teachers' perspectives was *amanah*, understood as trustworthiness and responsibility in fulfilling an entrusted obligation. Within AI-assisted learning, *amanah* was associated with the responsible use of technology for legitimate educational purposes. Teachers emphasized that students should not employ GenAI to avoid learning responsibilities, deceive teachers, or submit work that does not represent their own intellectual engagement. Teachers also regarded themselves as responsible for checking AI-generated information before incorporating it into instructional materials. This understanding is compatible with the Islamic educational philosophy emphasizing that the acquisition and transmission of knowledge should be connected with responsibility, discipline, and the proper purposes of education (Wan Daud, 1998). Thus, *amanah* provides a moral foundation for ensuring that technological capability remains connected to responsible educational practice.

The principle of *sidq*, or truthfulness, emerged particularly strongly in relation to academic authorship and transparency. Teachers considered it important for students to acknowledge the contribution of generative AI when its use substantially influenced the production of an assignment. The ethical concern was therefore not necessarily the use of AI itself but the misrepresentation of AI-generated material as entirely the student's independent intellectual work. Teachers consequently encouraged students to distinguish between AI as a supporting resource and AI as a substitute for their own reasoning. This emphasis on transparency is also consistent with contemporary research showing that students recognize both the benefits and ethical risks associated with generative AI, including concerns about appropriate use and academic responsibility (Chan & Hu, 2023). Within Islamic education, *sidq* consequently provides an ethical basis for transparent and honest engagement with AI-assisted academic work.

Closely related to *amanah* and *sidq* was the principle of responsibility, particularly the recognition that individuals remain accountable for AI-assisted outputs. Teachers emphasized that

students could not transfer responsibility for inaccurate, misleading, or inappropriate information to the AI system. Students remained responsible for checking the accuracy of generated information, while teachers remained responsible for evaluating whether AI-generated instructional materials were appropriate for their learning objectives and students' contexts. This human-centered orientation corresponds with international discussions of AI ethics that emphasize human agency, accountability, transparency, and oversight as essential components of responsible AI governance (UNESCO, 2021). In Islamic educational contexts, responsibility therefore operates as a practical bridge between technological use and moral accountability.

The findings further highlight intellectual integrity as an important ethical dimension of GenAI use. Teachers expressed concern that excessive dependence on AI could reduce students' willingness to think independently, formulate arguments, solve problems, and construct their own interpretations. Consequently, teachers established distinctions between acceptable and unacceptable AI assistance. AI could be used for brainstorming, generating examples, obtaining alternative explanations, or supporting the early stages of academic work, whereas submitting fully AI-generated work as an individual achievement was considered inconsistent with intellectual integrity. This concern is particularly important because the educational value of AI should be assessed not simply according to whether students obtain correct answers but according to whether the technology supports meaningful learning and the development of learner competencies (Montenegro-Rueda et al., 2023).

Teacher guidance emerged as the central mechanism connecting Islamic ethical values with everyday AI practices. Teachers did not simply instruct students to avoid misuse; they explained why particular forms of AI use were considered appropriate or inappropriate and encouraged students to develop critical awareness of AI-generated information. Guidance included verifying AI outputs, maintaining personal intellectual contributions, acknowledging substantial AI assistance, and understanding boundaries concerning acceptable use. This role positions teachers as ethical mediators who translate abstract moral principles into practical classroom expectations. Such mediation is especially important because AI literacy encompasses not only technical knowledge but also the ability to critically evaluate the opportunities, limitations, and consequences of AI use (Chan & Hu, 2023).

The cross-case findings also revealed differences in how institutions established boundaries for AI use. Some institutions relied primarily on teacher-level agreements and classroom instructions, whereas others had begun developing more formal institutional guidelines. Despite these differences, several common principles emerged: students should not submit AI-generated work as entirely their own, AI-generated information should be critically verified, substantial AI assistance should be disclosed when required, and students should remain accountable for the final product. These practices demonstrate a transition from a simple question of whether AI should be permitted toward a more nuanced question of how AI can be used responsibly. Such an approach is important because educational AI policies increasingly need to balance innovation with protection of human agency, academic values, and learner development (UNESCO, 2021). Based on the integration of these findings, the study proposes the Ethical Generative AI Integration Model, presented in Figure 1.

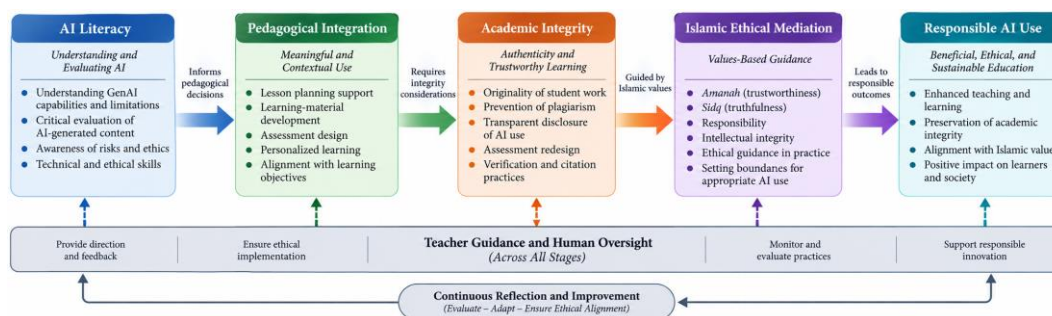


**Figure 1.** Ethical Generative AI Integration Model

The model consists of five interconnected dimensions: AI Literacy, Pedagogical Integration, Academic Integrity, Islamic Ethical Mediation and Responsible AI Use. The first dimension, AI Literacy, represents teachers' and students' capacity to understand the capabilities, limitations, risks, and appropriate applications of generative AI. AI literacy is foundational because responsible use cannot be achieved when users are unable to critically evaluate AI-generated information. The second dimension, Pedagogical Integration, refers to the purposeful incorporation of GenAI into lesson planning, learning-material development, assessment, and personalized learning while maintaining alignment with educational objectives. Research on AI implementation in education indicates that meaningful integration depends substantially on educators' understanding of the technology and their ability to connect it with appropriate pedagogical practices (Montenegro-Rueda et al., 2023).

The third dimension, Academic Integrity, establishes boundaries concerning authorship, originality, authenticity, transparency, and appropriate disclosure of AI assistance. This dimension ensures that technological efficiency does not undermine students' responsibility for their own intellectual work. The fourth dimension, Islamic Ethical Mediation, provides the normative foundation through *amanah*, *sidq*, responsibility, and intellectual integrity. This component distinguishes the proposed framework from technology-centered approaches because AI-related decisions are explicitly interpreted through Islamic educational values. The educational philosophy associated with Al-Attas emphasizes that education should involve not merely the transmission of information but the formation of appropriate relationships between knowledge, human beings, values, and responsibility (Wan Daud, 1998).

The final dimension, Responsible AI Use, represents the intended outcome of the integration process. Responsible use occurs when GenAI supports teaching and learning while preserving human agency, academic integrity, ethical accountability, and alignment with educational objectives. The model therefore conceptualizes responsible AI use not as an automatic consequence of technological adoption but as the outcome of a continuous process involving technological understanding, pedagogical judgment, academic integrity, and ethical reflection.

Importantly, Teacher Guidance and Human Oversight operate across all five dimensions. Teachers are positioned as the central actors who determine whether AI use is technically appropriate, pedagogically meaningful, academically legitimate, and ethically consistent with Islamic educational values. This cross-cutting role means that the model should not be interpreted as a purely linear technological process. Instead, the sequential arrows represent a developmental pathway, while teacher guidance and human oversight continuously regulate each stage. This interpretation is consistent with human-centered approaches to AI ethics that emphasize the importance of maintaining meaningful human control over AI-supported decision-making (UNESCO, 2021).

The proposed model therefore contributes a contextualized framework for understanding responsible GenAI integration in Islamic education. Its central proposition is that responsible AI use emerges when technological literacy is transformed into pedagogical practice, pedagogical practice is protected by academic integrity, and both are ethically mediated through Islamic values.

In this framework, *amanah*, *sidq*, responsibility, and intellectual integrity are not merely philosophical concepts but practical mechanisms for regulating relationships among teachers, students, AI technologies, and educational knowledge. The model consequently provides a conceptual foundation for Islamic schools and madrasahs to move beyond unrestricted technological adoption or complete prohibition toward an ethically grounded approach to generative AI integration.

## CONCLUSION

This study demonstrates that generative artificial intelligence has become a supplementary resource within Islamic education for lesson planning, material development, assessment, and differentiated learning. Teachers positioned GenAI as a pedagogical augmentation tool rather than a replacement for teaching. Its usefulness was greatest when generated outputs were reviewed, adapted, contextualized, and verified according to curriculum objectives and student needs. Differences across cases indicate that integration depends on teachers' AI literacy, pedagogical confidence, and institutional support.

The study demonstrates that GenAI creates academic integrity challenges. AI-generated assignments, plagiarism, student dependency, uncertainty regarding authorship, and difficulties in determining authentic work complicate conventional assessment. Prohibition alone is insufficient because students can access generative systems beyond classrooms. Teachers therefore employ assessment redesign, classroom-based tasks, oral verification, reflective activities, disclosure expectations, and rules concerning acceptable AI assistance. These strategies shift academic integrity from detecting misconduct toward preserving authentic learning, intellectual agency, and accountability.

The findings establish that Islamic ethical values provide a foundation for responsible GenAI use. *Amanah* emphasizes trustworthy technology use; *sidq* requires honesty concerning AI assistance and authorship; responsibility requires accountability for AI-assisted outputs; and intellectual integrity protects independent reasoning. Teacher guidance translates these values into classroom boundaries. Accordingly, the study proposes the Ethical Generative AI Integration

Model, connecting AI literacy, pedagogical integration, academic integrity, Islamic ethical mediation, and responsible use, with teacher guidance and human oversight across the process.

Theoretically, the model connects technological competence, pedagogy, academic integrity, and Islamic moral reasoning within a framework. Practically, Islamic schools and madrasahs can use it for teacher development, AI guidelines, assessment strategies, and student AI-literacy programs. Policy should establish standards for disclosure, authorship, verification, privacy, and acceptable AI assistance consistent with Islamic educational values. The study is limited by its multiple-case design; future research should test the model across settings using longitudinal and mixed-method approaches.

## REFERENCES

- Akgun, S., & Greenhow, C. (2022). Artificial intelligence in education: Addressing ethical challenges in K-12 settings. *AI and Ethics*, 2, 431–440. <https://doi.org/10.1007/s43681-021-00096-7>
- Bender, E. M., Gebru, T., McMillan-Major, A., & Shmitchell, S. (2021). On the dangers of stochastic parrots: Can language models be too big? *Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency*, 610–623. <https://doi.org/10.1145/3442188.3445922>
- Bittle, K., & El-Gayar, O. (2025). Generative AI and academic integrity in higher education: A systematic review and research agenda. *Information*, 16(4), 296. <https://doi.org/10.3390/info16040296>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Chan, C. K. Y., & Hu, W. (2023). Students' voices on generative AI: Perceptions, benefits, and challenges in higher education. *International Journal of Educational Technology in Higher Education*, 20, Article 43. <https://doi.org/10.1186/s41239-023-00411-8>
- Cotton, D. R. E., Cotton, P. A., & Shipway, J. R. (2024). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. *Innovations in Education and Teaching International*, 61(2), 228–239. <https://doi.org/10.1080/14703297.2023.2190148>

- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.
- Eaton, S. E. (2023). Post-plagiarism: Transdisciplinary ethics and integrity in the age of artificial intelligence and neurotechnology. *International Journal for Educational Integrity*, 19, Article 23. <https://doi.org/10.1007/s40979-023-00146-z>
- Holmes, W., Persson, J., Chounta, I.-A., Wasson, B., & Dimitrova, V. (2022). *Artificial intelligence and education: A critical view through the lens of human rights, democracy and the rule of law*. Council of Europe.
- Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeiffer, F., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., ... Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, 102274. <https://doi.org/10.1016/j.lindif.2023.102274>
- Kvale, S., & Brinkmann, S. (2015). *InterViews: Learning the craft of qualitative research interviewing* (3rd ed.). SAGE Publications.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE Publications.
- Miao, F., & Cukurova, M. (2024). *AI competency framework for teachers*. UNESCO. <https://doi.org/10.54675/ZJTE2084>
- Montenegro-Rueda, M., Fernández-Cerero, J., Fernández-Batanero, J. M., & López-Meneses, E. (2023). Impact of the implementation of ChatGPT in education: A systematic review. *Computers*, 12(8), Article 153. <https://doi.org/10.3390/computers12080153>
- Ouyang, F., Zheng, L., & Jiao, P. (2022). Artificial intelligence in online higher education: A systematic review of empirical research from 2011 to 2020. *Education and Information Technologies*, 27, 7893–7925. <https://doi.org/10.1007/s10639-022-10925-9>
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). SAGE Publications.

- Perkins, M. (2023). Academic integrity considerations of AI large language models in the post-pandemic era: ChatGPT and beyond. *Journal of University Teaching & Learning Practice*, 20(2), Article 07. <https://doi.org/10.53761/1.20.02.07>
- Schmid, R., Brianza, E., & Petko, D. (2021). Developing a short assessment instrument for technological pedagogical content knowledge (TPACK.xs) and comparing the factor structure of different TPACK variants. *Computers & Education*, 171, 104271. <https://doi.org/10.1016/j.compedu.2021.104271>
- UNESCO. (2021). *Recommendation on the ethics of artificial intelligence*. UNESCO.
- UNESCO. (2023). *Guidance for generative AI in education and research*. UNESCO.
- Wan Daud, W. M. N. (1998). *The educational philosophy and practice of Syed Muhammad Naquib Al-Attas: An exposition of the original concept of Islamization*. International Institute of Islamic Thought and Civilization.
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.
- Yusuf, A., Pervin, N., Román-González, M., & Noor, N. M. (2024). Generative AI in education and research: A systematic mapping review. *Review of Education*, 12(2), e3489. <https://doi.org/10.1002/rev3.3489>
- Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education—Where are the educators? *International Journal of Educational Technology in Higher Education*, 16, Article 39. <https://doi.org/10.1186/s41239-019-0171-0>