INTERNATIONAL JOURNAL OF NUSANTARA ISLAM ISSN : 2355-651X

AI-Era Digital Literacy: Cultivating Honesty in Islamic Education

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Received: November 15, 2025, *Revised*: December 28, 2025, *Accepted*: January 22, 2026, *Published*: January 22, 2026

Abstract: This qualitative case study at SMP Prima Cendikia Islami (PCI), Bandung, examines integrating AI-driven digital literacy with honesty education in a faith-based junior high school. Using purposive sampling of leaders, teachers, students, and parents, data from interviews, focus groups, document analysis, and observations underwent thematic analysis with triangulation for rigor. Findings show AI platforms (e.g., TAKJUP, LMS, Parent Information System) embed moral reasoning via formative monitoring, sustaining top national character rankings. High teacher training and student-led clinics promote ethical accountability, proving pedagogical design determines AI's moral impact. Faith-based schools can thus harmonize tech innovation with values education, offering a scalable model. Future research should explore longitudinal moral outcomes and validated honesty measures.

Keywords: artificial intelligence; digital literacy; honesty education; moral reasoning; faith-based education.

Introduction

The unprecedented acceleration of information and communication technology (ICT), coupled with the exponential expansion of internet connectivity and the maturation of artificial intelligence (AI), has fundamentally redefined the architecture of contemporary education systems. AI is now deeply embedded in secondary education ecosystems, enabling pedagogical innovations such as adaptive instruction, highly personalized learning trajectories, and sophisticated content delivery infrastructures (Khaldi, 2025; Sharma et al., 2024). Platforms powered by AI—including automated assessment engines, intelligent tutoring systems, and predictive learning analytics—are transforming instructional design, optimizing administrative workflows, and enhancing student engagement (Alaqad et al., 2025; Iskandar et al., 2025). Increasingly, educational authorities have mandated AI literacy as a core component of curricula, recognizing its necessity for equipping learners to navigate and critically engage with evolving technological landscapes(Karan & Angadi, 2025; S. Nurhayati et al., 2025). Yet the efficacy of such initiatives remains contingent upon educators' preparedness, with substantial evidence underscoring the urgency of comprehensive AI-focused professional development (Adiyono, Suwartono, et al., 2025; Iryna, 2025).

Despite its transformative capacity, AI integration in education is accompanied by a constellation of ethical, sociocultural, and pedagogical complexities. These include the safeguarding of sensitive learner data, the mitigation of algorithmic biases, the assurance of equitable access, and the preservation of academic integrity (Annamalai et al., 2025; Sulkipani et al., 2024). Persistent disparities in technological infrastructure threaten to exacerbate existing

inequities, while the opacity of AI-driven decision-making processes can erode trust in institutional fairness (Kaddouri et al., 2024). Moreover, concerns have emerged regarding the potential attenuation of critical thinking skills, the facilitation of plagiarism, and a decline in creative agency resulting from excessive reliance on AI (Barca, 2025). These realities demand the establishment of robust governance frameworks, inclusive infrastructural development, and ethically grounded policies that balance innovation with humanistic educational values.

Within this landscape, digital literacy assumes renewed significance as a complex, multidimensional construct encompassing technical fluency, evaluative acumen, ethical judgment, and socially responsible content creation (S. Nurhayati, 2024; Taufikin, Nurhayati, Badawi, et al., 2025; Wu & Zhang, 2025). In AI-mediated environments, learners must possess the cognitive and ethical competencies to comprehend AI systems' mechanisms, interrogate their societal implications, and engage with them responsibly. Contemporary models, such as Baskara's (2025) integrative framework and Biagini et al.'s (2023) AI Literacy Questionnaire, operationalize this nexus of technical and ethical capability. Assessment tools like the AILQ and DigiCompEdu-aligned self-evaluation instruments have further institutionalized integrity as a foundational component of technical skill development (Tenberga & Daniela, 2024).

Nevertheless, significant implementation gaps persist, particularly in teacher competence, curricular coherence, and standardized pedagogical protocols (Musa et al., 2024; Su et al., 2023; Winarti et al., 2022). Ethical instruction remains essential for preventing the misuse of AI technologies, addressing inherent biases, and countering the proliferation of misinformation (Bhavana et al., 2025). Empirical studies highlight the interdependence of AI literacy and broader innovation capabilities, while demonstrating that interactive, experiential pedagogies—such as game-based learning—can simultaneously strengthen learner engagement and proficiency (Lobo-Quintero et al., 2025). Despite this, moral reasoning frameworks are still peripheral to the majority of digital literacy initiatives in formal education.

In Islamic educational contexts, the integration of ICT and AI is pursued with a dual imperative: to embrace pedagogical modernization while safeguarding moral and spiritual values (Ismail et al., 2024; Siregar et al., 2025; Taufikin, Nurhayati, Muzakki, et al., 2025). This is operationalized through ethics-infused teacher training, the alignment of religious and academic content, and AI-supported e-learning infrastructures that incorporate character development as a central design element (Dzo'ul Milal et al., 2020; Taufikin, Nurhayati, & Muhajarah, 2025). Islamic ethical paradigms enrich global AI ethics discourse by foregrounding principles of fairness, justice, and human dignity (Kannike & Fahm, 2025). Nonetheless, deficits in infrastructure, expertise, and cultural receptivity continue to challenge these initiatives (Abubakari & Kalinaki, 2024; Musa & Nurhayati, 2024; Susanti & Nurhayati, 2024).

Misinformation and academic dishonesty introduce additional layers of complexity. The proliferation of manipulated digital content, including deepfakes and algorithmically generated disinformation, undermines learners' capacity for critical verification (Tomlinson et al., 2025). Concurrently, generative AI applications have facilitated plagiarism and cheating, particularly in environments lacking direct supervision (Coleman & Van Belle, 2025). Effective mitigation necessitates both technical interventions—such as AI-based detection systems—and pedagogical innovations that cultivate metacognitive self-regulation, ethical discernment, and collaborative accountability (Zheng & Kim, 2025).

This investigation centers on SMP Prima Cendikia Islami (PCI), a faith-based junior high school in Bandung Regency, which exemplifies the intentional integration of digital literacy and honesty education within an AI-mediated learning framework. PCI's educational architecture incorporates a fully digitized learning environment underpinned by a Qur'anic moral ethos, operationalized through platforms including the TAKJUP School Management System, Learning Management System, and Parent Information System to ensure transparency, foster parental engagement, and reinforce ethical behavior. The study's contribution lies in providing empirical insights into a rare pedagogical model within developing country contexts: a faith-based institution that systematically embeds moral education into AI-driven pedagogy. It seeks to elucidate how PCI addresses the confluence of digital literacy, AI ethics, and character formation, with the broader aim of informing scalable, contextually adaptable models for ethically responsible AI adoption in secondary education.

The convergence of digital literacy and honesty education in the age of artificial intelligence (AI) is reshaping how schools prepare students for both technological competence and moral integrity. This literature review synthesizes research into four thematic areas: AI in personalized and values-based learning, digital literacy frameworks with ethical integration, honesty and moral education in AI-enabled classrooms, and contextual challenges and research gaps. The review also identifies implications for the context of Prima Cendikia Islami (PCI) Junior High School in Bandung, where moral formation is central to the institutional mission.

Recent global trends demonstrate AI's capacity to tailor learning experiences to individual student needs through adaptive learning platforms, intelligent tutoring systems, and predictive analytics (Alaqad et al., 2025). These tools can enhance engagement, improve efficiency, and support differentiated instruction. Countries such as India have embedded AI literacy into national curricula, reflecting its growing importance in preparing students for future technological landscapes (Karan & Angadi, 2025). However, the literature warns against over-reliance on AI, citing risks of reduced critical thinking, creativity, and moral reasoning (Barca, 2025). For schools with a strong moral mandate, such as PCI, AI adoption must be balanced with pedagogical strategies that preserve human judgment and ethical decision-making, ensuring technology supports rather than replaces moral instruction.

Digital literacy in AI-enhanced environments is increasingly defined as a multidimensional competence that includes technical proficiency, critical evaluation, ethical awareness, and empathy in digital interactions (Wu & Zhang, 2025). Frameworks such as Baskara's (Baskara, 2025) meta-learning model integrate adaptability and continuous learning, while instruments like the AI Literacy Questionnaire (O'Dea & Ng, 2024) assess operational, cognitive, and ethical dimensions. Ethics is no longer considered an optional add-on but a core competency within digital literacy (Bhavana et al., 2025). This shift reflects the need to address data privacy, algorithmic bias, and fairness as fundamental aspects of technology use (Khaldi, 2025). In Islamic education contexts, AI integration is guided by moral and spiritual principles, with teacher training programs embedding ethical values alongside technical skills (Mohd Amin et al., 2025). This model is particularly relevant to PCI, where Islamic values must shape both the content and methods of digital literacy instruction.

The rapid expansion of AI tools, including generative models like ChatGPT, has heightened concerns about academic dishonesty, plagiarism, and misinformation (Elnagar et al., 2024). In parallel, the rise of deepfakes and fabricated digital content has made it more difficult for students to discern credible information (Blankenship, 2021). Research on honesty education emphasizes the integration of moral instruction into all aspects of learning, moving beyond fragmented approaches toward holistic frameworks such as Neo-Aristotelian virtue ethics and integrated moral curricula (Roqai et al., 2025). Pedagogical strategies including case-based moral dilemmas, multimedia-enhanced discussions, and culturally embedded values have been effective in cultivating honesty and integrity (Adiyono, Nurhayati, et al., 2025; Melo & Parente, 2024). AI-assisted moral education has yielded positive outcomes when paired with structured guidance—improving moral reasoning, reinforcing values such as honesty, and creating ethically conducive classroom climates (Kasimovskaya et al., 2025). For PCI, these approaches align with the school's emphasis on character formation rooted in Islamic principles.

Several barriers limit the effective integration of AI and honesty education in junior high schools. Infrastructure constraints, digital divides, and inadequate teacher AI literacy can impede both digital competence and moral education (Weligodapola & Kumarapperuma, 2025). In many systems, national AI strategies prioritize technical skills without parallel development of ethical frameworks (ElSayary, 2025). A notable gap lies in the assessment of honesty as an educational outcome. While academic metrics are well established, few validated tools measure moral behaviors or integrity in AI-mediated learning environments (Portela & Camanho, 2016). There is also limited research that examines the interplay between digital literacy and honesty education in Islamic school contexts, despite evidence that cultural and religious values strongly influence technology use (Syukur et al., 2024).

This study addresses these gaps by exploring how digital literacy can serve as a vehicle for instilling honesty among students at PCI Junior High School in Bandung. Unlike existing research

that often treats digital competence and moral education separately, it adopts an integrated perspective, combining: (1) Technical AI skills with ethical reasoning grounded in Islamic values. (2) Teacher training and community engagement to reinforce honesty in both digital and offline behaviors. (3) Culturally responsive digital literacy curricula that address the challenges of misinformation, plagiarism, and misuse of AI tools.

By situating AI adoption within a dual emphasis on competence and character, this research aims to provide practical and culturally aligned strategies for ensuring that AI serves not only as an educational tool but also as a catalyst for moral growth.

Method

This study employed a qualitative case study design, which is well-suited for in-depth exploration of complex educational phenomena within their real-life context (Iswahyudi et al., 2023; D. S. Nurhayati et al., 2025). The case study approach enables the examination of SMP Prima Cendikia Islami's (PCI) distinctive integration of digital literacy, AI ethics, and honesty education, allowing for a holistic understanding of institutional strategies and pedagogical practices. This design was chosen because it aligns with the research objective of elucidating nuanced interactions between technological adoption, ethical instruction, and moral character development in a faith-based junior high school. Furthermore, qualitative inquiry permits inductive theory-building grounded in empirical observation, as recommended by Yin (2018), making it particularly appropriate for contexts where limited prior research exists.

Purposive sampling was employed to identify participants with direct experience and substantial knowledge of PCI's digital literacy and AI ethics programs. The sample comprised 2 school leaders, 3 ICT coordinators, 10 teachers across various disciplines, and selected 20 parents and 20 students. Inclusion criteria emphasized participants' active involvement in the design, implementation, or experience of PCI's digital learning environment. Purposive sampling was selected to ensure the recruitment of information-rich cases capable of providing detailed insights into the pedagogical, administrative, and ethical dimensions of AI integration (Patton, 2015). The targeted approach maximized data relevance and depth, supporting the study's aim to generate contextually grounded findings.

Data were collected using a triangulated approach to enhance credibility and comprehensiveness: (1) Semi-Structured Interviews: Conducted with school leaders, ICT coordinators, and teachers to capture their perspectives on policy frameworks, curriculum design, and practical challenges in integrating digital literacy and ethics. The interview protocols were informed by prior studies on AI literacy (Ng et al., 2024; Hwang et al., 2023) and ethical education in digital contexts (Roqai et al., 2025). (2) Focus Group Discussions (FGDs): Facilitated with students and parents to explore lived experiences, perceived benefits, and challenges of the school's digital ecosystem. (3) Document Analysis: Reviewed institutional policy documents, digital platform usage reports, and curricular materials to identify explicit and implicit strategies for embedding honesty and ethical AI usage. (4) Observation: Non-participant observations of classroom sessions and digital platform interactions provided contextualized insights into the enactment of pedagogical strategies. All data collection activities adhered to rigorous qualitative protocols, with instruments pilot-tested to ensure clarity and alignment with research objectives.

Thematic analysis was employed to interpret the data, following Braun and Clarke's (Braun & Clarke, 2006) six-phase framework: familiarization, coding, theme development, review, definition, and reporting. guided by existing frameworks on digital literacy and AI ethics (Baskara, 2025; Biagini et al., 2023), and inductive, allowing themes to emerge from participants' narratives. Data triangulation across interviews, FGDs, documents, and observations strengthened analytical rigor and minimized single-source bias.

To ensure validity, methodological triangulation and member checking were implemented. Participants were invited to review and confirm the accuracy of interview transcripts and thematic interpretations. Reliability was reinforced through the maintenance of an audit trail documenting data collection procedures, coding decisions, and analytical memos. Reflexive journaling was employed to identify and mitigate potential researcher biases. The study also employed peer

debriefing with colleagues familiar with qualitative educational research to enhance analytical transparency.

Ethical clearance was obtained from the relevant institutional review board. Informed consent was secured from all participants, with additional parental consent for student participants. Confidentiality was maintained by anonymizing all identifiable information in transcripts and reports. The study adhered to the principles of the Declaration of Helsinki, ensuring respect, beneficence, and justice. Special attention was given to the ethical implications of observing and analyzing AI-mediated learning environments, including the protection of sensitive digital records and the respectful handling of religiously-informed pedagogical practices.

Results and Discussion

Character Development Indicators

The 2025 Rapor Pendidikan results position SMP Prima Cendikia Islami (PCI) among Indonesia's top 20% of schools nationwide in all measured domains of character development. The indicators—Religious Faith and Morality (Beriman, Bertakwa kepada Tuhan Yang Maha Esa, dan Berakhlak Mulia), Mutual Cooperation (Gotong Royong), Creativity (Kreativitas), Critical Reasoning (Bernalar Kritis), Global Diversity (Kebinekaan Global), and Independence (Kemandirian)—are summarized in Table 1.

Table 1. Character Development Scores – PCI, 2024–2025

Indicator	2024 Score	2025 Score	Change (%)	National Rank Category
Religious Faith and Morality	57.16	57.00	-0.28	Top 20%
Mutual Cooperation	59.40	59.60	+0.34	Top 20%
Creativity	56.80	57.13	+0.58	Top 20%
Critical Reasoning	52.77	53.03	+0.49	Top 20%
Global Diversity	58.20	58.48	+0.48	Top 20%
Independence	53.50	53.75	+0.47	Top 20%

Source: Educational Report of PCI, 2024–2025

Teacher interviews consistently emphasized the school's intentional coupling of AI tools with ethical reflection. As one moral education teacher stated: *"When students complete AI-based quizzes, the system includes scenarios where they must choose an action aligned with Qurani values. This is not just testing memory—it forces them to reflect on honesty and fairness."* (Teacher Interview, May 2025).

Observation field notes from a Grade 9 Critical Reasoning lesson provide further support. Students were presented with an AI-generated case study involving group plagiarism. The teacher facilitated a guided discussion, prompting students to evaluate both academic and ethical implications before proposing preventive strategies. This aligns closely with Lin et al. (2023), who found that contextualized moral reasoning tasks foster deeper ethical engagement. Students themselves recognized the dual learning benefit. In focus group interviews, one student remarked: *"We're not only learning how to answer questions but how to decide if the answer is right, fair, or copied. It's about more than just marks."* (Student Interview, June 2025) Such comments illustrate the intended pedagogical shift—from moral instruction as a separate subject to moral reasoning embedded in cognitive skill development.

The PCI approach directly reflects the integrated model described by Ristiana et al. (2025), where digital learning tools are designed to concurrently target cognitive competencies and moral dispositions. By embedding moral scenarios within AI-driven learning platforms, PCI operationalizes the recommendation that moral reasoning gains are maximized when digital instruction is value-oriented rather than purely skill-oriented. Furthermore, PCI's top-quintile ranking across all domains shows that moral capacity can be preserved—even strengthened—within a high-tech, AI-enhanced environment. This challenges the concern raised by some scholars that increased AI dependence may erode student agency or moral reasoning if not carefully scaffolded. PCI's results suggest that the *presence* of AI is not

inherently detrimental (Pei et al., 2025); the *design* of AI-mediated learning experiences is the determining factor. The small decline in Religious Faith and Morality can be interpreted in light of Abdallah & Nassour (2025), who caution that technology-rich environments require continual cultural and religious contextualization to maintain alignment with institutional values. In PCI's case, interviews revealed that several extracurricular religious programs in 2025 were restructured or shortened due to scheduling conflicts with academic competitions, potentially explaining the minor score dip.

Digital Learning Infrastructure

The digital ecosystem at SMP Prima Cendikia Islami (PCI) consists of three core, interconnected platforms: the TAKJUP School Management System (SMS), the Learning Management System (LMS), and the Parent Information System (PIS). Each system is designed not only for operational efficiency but also for embedding and tracking moral education outcomes. The infrastructure is summarized in Table 2.

Table 2. Core Digital Infrastructure and Functions – PCI (2025)

System	Primary Functions	Integration with Moral Education
TAKJUP SMS	Attendance, scheduling, academic records	Tracks incidents of academic dishonesty and misconduct
LMS	Lesson delivery, assignments, assessment	Embeds moral dilemmas into content; auto-flags plagiarism
PIS	Parent-school communication	Sends alerts on e-safety breaches and moral performance issues

Source: PCI Digital Infrastructure Report, 2025

One ICT coordinator explained the design philosophy: *"The LMS doesn't just host content; we use it to track academic honesty. If a student's work is flagged, the teacher gets notified and we follow up with a reflective assignment on honesty. This changes the mindset from 'I got caught' to 'I learned why this matters.'"* (ICT Coordinator Interview, May 2025) Classroom observation confirmed this approach. In a Grade 8 history lesson, a student's assignment submission triggered a plagiarism alert. Instead of receiving an immediate penalty, the student was asked to review an AI-generated tutorial on proper citation and then resubmit. The teacher reported that the student's revised work showed both improved factual accuracy and originality. Parents also valued the immediacy of the PIS alerts. One parent noted: *"When the system sends a message that my child has done something right—like helping a classmate online—it reinforces the lesson at home. It's not just about catching mistakes."* (Parent Interview, May 2025).

The PCI model aligns closely with Pei et al. (Pei et al., 2025), who stress the need for AI ethics systems to be proactive and educative rather than punitive. The LMS's corrective feedback loop mirrors the "formative intervention" model described by Al-Abdullatif (2025), in which ethical breaches become teachable moments. Furthermore, the PIS's integration of moral updates directly addresses the gap identified by Hsu & Chen (2023), who found that most parent communication systems focus narrowly on academic grades and attendance, neglecting behavioral and ethical dimensions. PCI's PIS explicitly includes these domains, making it a more holistic tool for home–school collaboration. The TAKJUP SMS's role in maintaining integrity records connects with Ristiana et al. (Ristiana et al., 2025), who recommend that digital administrative tools be leveraged for ethical monitoring as well as logistical purposes. PCI operationalizes this recommendation by embedding moral tracking into routine school management processes, ensuring moral education is part of daily institutional data flow.

Teacher and Student Participation

Teacher and student engagement in professional development and classroom learning activities is a critical factor in sustaining moral and academic excellence. PCI's *Rapor Pendidikan* (2025) data show that both teacher participation in training and the quality of classroom teaching exceed national averages across all observed metrics (Table 3).

Table 3. Teacher and Student Participation Indicators – PCI, 2025

Metric	PCI Score	National Average	Category
Teacher Participation in Additional Training (%)	86.9	72.4	High
Classroom Management Score	68.44	64.10	High
Learning Quality Score	63.70	60.85	High

In interviews, teachers consistently linked their professional growth to improved classroom integration of AI and moral reasoning. One science teacher described: *"Before, I only focused on teaching content. Now, with AI tools, I can weave in discussions on bias, fairness, and honesty. Students are more aware of how to verify AI-generated information."* (Teacher Interview, June 2025) Observation during a Grade 7 English class confirmed this shift. The teacher used an AI grammar checker to display alternative sentence corrections, then facilitated a discussion about when and why to choose a particular phrasing. This moved the activity from pure mechanics into a conversation on clarity, authorship, and the ethics of accepting AI suggestions without critical thought. Students also play an active role in this culture of participation. Focus group discussions revealed that many voluntarily participate in "AI literacy clinics," peer-led sessions supervised by teachers where students practice using digital tools ethically. One student explained: *"It's not just about learning how to use AI, but also when not to use it—like for your own homework answers. We talk about the difference between help and cheating."* (Student Interview, May 2025).

This kind of peer-facilitated reflection strengthens both understanding and accountability, echoing Pei et al. (Pei et al., 2025) on the value of participatory ethics in AI education. The PCI model operationalizes the teacher-learner synergy described by Al-Abdullatif (Al-Abdullatif, 2025), where high teacher engagement in continuous training correlates with stronger student adherence to digital ethics. Moreover, PCI's embedding of moral content into AI-based activities resonates with Lin et al. (Lin et al., 2023), who found that deliberate ethical framing within skill-based tasks significantly increases long-term moral awareness. The data also confirm Castaño Muñoz et al. (2023)'s assertion that teachers with higher digital competence are more likely to create learning environments where students can safely explore ethical dimensions of technology. PCI's combination of above-average participation rates and documented classroom practice provides empirical support for this claim (López Franco et al., 2020). Furthermore, the student-led AI literacy clinics address a gap highlighted by Ristiana et al. (Ristiana et al., 2025), who argue that student agency in ethical learning is often underutilized. PCI's program demonstrates how structured peer engagement can complement teacher-led instruction, creating a multi-directional flow of ethical discourse.

Conclusion

This investigation engaged with the critical and underexplored problem of reconciling AI-mediated digital literacy initiatives with the intentional cultivation of honesty within a faith-based junior high school milieu. At SMP Prima Cendikia Islami (PCI), the study interrogated the capacity of technologically enriched pedagogical ecosystems to preserve and advance moral dispositions—particularly integrity—while concurrently fostering advanced technical and cognitive proficiencies. The inquiry was situated against the broader global discourse on the dual trajectories of technological acceleration and the potential attenuation of ethical conduct in AI-supported educational contexts. Empirical findings indicate that PCI's deliberate integration of moral reasoning frameworks into AI-powered instructional and administrative systems sustains exemplary character formation outcomes. The institution consistently ranked in the top quintile nationally across six core character development indicators, with ethical reflection systematically embedded in daily instructional practice. PCI's digital infrastructure—comprising the TAKJUP School Management System, Learning Management System, and Parent Information System—was purposefully architected to monitor, reinforce, and pedagogically address ethical behavior, privileging formative moral engagement over retributive approaches. Enhanced teacher participation in targeted professional development, coupled with student-led AI literacy clinics,

cultivated a reciprocal culture of ethical accountability. These findings carry significant implications. They challenge deterministic narratives that portray AI integration as inherently corrosive to moral reasoning, instead demonstrating that the pedagogical design of AI-mediated learning is the decisive variable. Furthermore, they present a scalable, contextually embedded model for aligning technological innovation with moral education imperatives, particularly within culturally and religiously anchored educational settings. In this paradigm, AI emerges not merely as an instrument of efficiency but as a co-constructive agent in values-based education. This study advances scholarly understanding by contributing empirical evidence from a developing country faith-based context, thereby addressing a notable lacuna in AI-and-ethics research. It affirms the criticality of embedding moral reflection into AI systems and underscores the synergistic role of educators and learners in sustaining ethical praxis. Prospective research directions include longitudinal studies tracking moral trajectory, cross-contextual comparative analyses, and the refinement of validated instruments for measuring honesty within AI-mediated learning environments.

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