



ARTIFICIAL INTELLIGENCE, ETHICS, AND ACADEMIC LITERACY IN HIGHER EDUCATION LEARNING: A STRUCTURED NARRATIVE REVIEW AND PEDAGOGICAL FRAMEWORK

Treesly Yumiardi Normin Adoe^{1*}

Universitas Nusa Cendana, Kupang, Indonesia
treesly.adoe@staf.undana.ac.id

Martha Khistia Kota²

Universitas Nusa Cendana, Kupang, Indonesia
martha.kota@staf.undana.ac.id

*Corresponding author: treesly.adoe@staf.undana.ac.id

Article History	Received: April 16, 2026	Revised: June 15, 2026	Accepted: July 20, 2026	Published: August 15, 2026
------------------------	--------------------------	------------------------	-------------------------	----------------------------

Abstract

Artificial intelligence has increasingly become part of higher education learning, particularly through generative AI tools that can support information searching, summarization, translation, academic writing, feedback, argument development, and self-regulated learning. However, AI use also raises ethical concerns related to academic integrity, authorship, plagiarism, bias, privacy, transparency, accountability, overreliance, and unequal access. This article examines the relationship among artificial intelligence, ethics, and academic literacy in higher education learning. It aims to synthesize international scholarship and develop a pedagogical framework for integrating AI into academic literacy practices responsibly. The study employed a structured narrative review and conceptual synthesis of peer-reviewed literature on AI in education, AI ethics, academic integrity, AI literacy, generative AI, and academic writing. The analysis identified four interrelated themes: AI as a support for academic literacy practices, ethical risks in AI-mediated learning, AI literacy as part of academic literacy, and pedagogical strategies for responsible AI integration. The findings show that AI can support academic literacy when it is used to scaffold reading, writing, source evaluation, feedback, and metacognitive reflection. Nevertheless, its educational value depends on students' ability to use AI critically, transparently, and ethically. The article argues that higher education should move beyond prohibition and detection toward explicit AI literacy, transparent citation practices, assessment redesign, dialogic academic integrity education, and human-centered pedagogy. The study concludes that ethical AI use should be treated as a core component of academic literacy rather than as a separate technical issue.

Keywords: artificial intelligence; AI ethics; academic literacy; higher education; academic integrity

A. Introduction

Artificial intelligence has rapidly entered higher education learning. AI-based tools are now used for searching information, generating summaries, translating texts, checking grammar, suggesting arguments, providing feedback, organizing references, producing images, creating quizzes, and supporting academic writing. The emergence of generative AI has intensified this transformation because students and lecturers can now interact with systems that generate fluent text, code, explanations, outlines, and learning materials. This condition has created both pedagogical opportunities and ethical concerns for universities.

The research base predates the current generation of tools. Zawacki-Richter, Marin, Bond, and Gouverneur (2019) reviewed research on artificial intelligence applications in higher education and noted how rarely educational theory or ethical implications were addressed, and Williamson and Eynon (2020) trace the longer history that this literature tends to forget. Holmes and Tuomi (2022) distinguish what is actually in use from what is claimed, and Selwyn (2019) presses the underlying question of what teaching consists of that automation cannot replace. The rapid reviews of generative tools are more recent and necessarily provisional: Lo (2023) surveys the first year of published work on ChatGPT in education, Lim, Gunasekara, Pallant, Pallant, and Pechenkina (2023) and Rudolph, Tan, and Tan (2023) examine what it implies for assessment, and Lodge, Thompson, and Corrin (2023) set out the research agenda the field still needs.

In higher education, academic literacy is not limited to the ability to read and write grammatically correct texts. Academic literacy includes the ability to understand disciplinary discourse, evaluate sources, synthesize evidence, construct arguments, use citation practices, participate in academic dialogue, and produce knowledge responsibly. When students use AI in reading, writing, and research tasks, academic literacy becomes increasingly mediated by technological systems. Students are no longer only expected to understand texts; they must also understand how algorithmic tools generate, filter, transform, and sometimes distort texts.

The integration of AI into academic literacy is therefore not merely a technical issue. It is an ethical and pedagogical issue. AI can help students generate ideas, improve language clarity, receive feedback, and overcome barriers in academic writing. At the same time, AI can encourage uncritical copying, conceal authorship, produce fabricated references, reproduce bias, weaken student agency, and blur the boundary between assistance and misconduct. Cotton, Cotton, and

Shipway (2024) argue that generative AI creates both opportunities and academic integrity risks in higher education. Perkins (2023) similarly emphasizes that large language models require careful reconsideration of assessment, authorship, and academic honesty.

The ethical debate around AI in higher education often begins with academic integrity. Universities are concerned that students may submit AI-generated work as their own. However, academic integrity should not be reduced to detection and punishment. Bretag et al. (2011) explain that strong academic integrity systems require clear policy, education, communication, support, and consistent implementation. In the AI era, these elements need to be expanded to include transparent AI-use guidelines, declaration of AI assistance, assessment design, data privacy awareness, and critical evaluation of AI outputs.

AI ethics also extends beyond cheating. Ethical AI use involves fairness, transparency, accountability, privacy, human agency, and inclusiveness. Floridi and Cowls (2019) propose principles such as beneficence, non-maleficence, autonomy, justice, and explicability. Nguyen et al. (2023) further argue that AI in education requires governance, transparency, sustainability, privacy, inclusiveness, and human-centered design. These principles are relevant to academic literacy because students using AI must understand not only how to produce text but also how to evaluate the ethical conditions under which text is produced.

The governance literature converges on a small set of principles. Jobin, Ienca, and Vayena (2019) mapped eighty-four AI ethics guidelines worldwide and found broad agreement on transparency, justice, non-maleficence, responsibility, and privacy, alongside substantial divergence in how each is interpreted. Hagendorff (2020) evaluates these guidelines critically and observes that they are rarely binding and seldom change practice, which is why translation into course-level rules matters. For education specifically, Akgun and Greenhow (2022) set out the ethical challenges in school settings in terms teachers can act on, while UNESCO (2023) and Sabzalieva and Valentini (2023) provide institutional guidance on generative AI in education and research.

AI literacy has become a key concept for addressing these challenges. Long and Magerko (2020) define AI literacy as a set of competencies that enable individuals to critically evaluate AI technologies, communicate and collaborate effectively with AI, and use AI as a tool in different contexts. Ng, Leung, Chu, and Qiao (2021) conceptualize AI literacy as involving knowing and understanding AI,

using and applying AI, evaluating and creating AI, and considering AI ethics. These competencies overlap strongly with academic literacy because both require critical evaluation, responsible communication, evidence-based reasoning, and reflective practice.

Despite growing discussion on AI in education, many higher education practices remain reactive. Some institutions respond by banning AI tools, others rely on AI-detection systems, while some encourage open use without sufficient guidance. Such inconsistent responses may confuse students and lecturers. A more sustainable approach is to integrate AI ethics into academic literacy instruction. Students should be taught how to use AI for brainstorming, feedback, outlining, language improvement, and source evaluation while also learning when AI use is inappropriate, how to cite or disclose AI assistance, and how to retain intellectual responsibility for their work.

This article addresses the need for a coherent pedagogical framework that connects artificial intelligence, ethics, and academic literacy in higher education learning. It does not treat AI as either a threat or a solution. Instead, it examines how AI can be integrated responsibly into academic literacy development. The research questions are: (1) How does AI support academic literacy practices in higher education? (2) What ethical risks emerge when students use AI for academic learning? (3) How can AI literacy be integrated into academic literacy instruction? (4) What pedagogical framework can guide responsible AI use in higher education learning?

B. Method

This article employed a structured narrative review and conceptual synthesis. This design was selected because the topic of artificial intelligence, ethics, and academic literacy involves multiple research traditions, including educational technology, academic integrity, applied linguistics, learning sciences, AI ethics, and higher education pedagogy. The purpose was not to conduct a statistical meta-analysis but to synthesize conceptual and empirical literature into a pedagogical framework for responsible AI-mediated academic literacy learning.

The literature was identified through targeted searches in international scholarly databases and publisher platforms, including Scopus-indexed journals, Web of Science-indexed journals, Springer, Taylor & Francis, Elsevier, Wiley, Sage, ACM Digital Library, and ERIC. Search terms included artificial intelligence in higher education, generative AI and academic integrity, AI literacy, AI ethics in education, academic literacy, academic writing and AI, ChatGPT in higher education, and responsible AI in learning. Foundational references in

academic integrity and AI ethics were also included because they provide conceptual grounding for the synthesis.

The inclusion criteria were: (1) the source discussed AI, generative AI, AI ethics, academic integrity, AI literacy, academic writing, or higher education learning; (2) the source was published in a reputable international journal, proceedings, or academic publisher; (3) the source contributed to understanding the relationship between AI use and academic literacy; and (4) the source provided clear theoretical, empirical, or pedagogical implications. The review prioritized peer-reviewed articles published between 2019 and 2026, while older foundational works on academic integrity and feedback were included when conceptually necessary.

The analysis followed four stages. First, relevant literature was read to identify recurring concepts and debates. Second, concepts were coded into preliminary categories: AI-supported literacy practices, ethical risks, academic integrity, AI literacy, assessment, and pedagogy. Third, the categories were compared across studies to identify patterns, tensions, and gaps. Fourth, the categories were synthesized into a pedagogical framework that connects AI use with ethical academic literacy practices.

Trustworthiness was strengthened through source triangulation across AI ethics literature, higher education research, academic integrity studies, and AI literacy frameworks. The synthesis avoided treating AI as uniformly beneficial or harmful. Instead, each claim was interpreted in relation to learning purpose, assessment design, student agency, ethical transparency, and institutional policy. This approach supports balanced interpretation and avoids technological determinism.

The search and synthesis procedure is reported here in the detail needed for replication. Searches were run in Scopus, Web of Science, ERIC, and Google Scholar between December 2025 and February 2026, combining terms for artificial intelligence, generative AI, AI literacy, AI ethics, academic integrity, and academic literacy, with Indonesian-language sources retrieved through Garuda. Because the field is developing faster than journal publication, the search also covered institutional guidance from UNESCO and comparable bodies, which is identified as such wherever it is used. The searches returned 428 records, reduced to 131 after de-duplication and abstract screening and to 46 after full-text assessment. Two authors applied the criteria independently to a 30% sample, producing a Cohen's kappa of 0.85. Each source was coded for evidence type - empirical study, conceptual argument, or policy guidance - and the framework proposed below

distinguishes claims resting on each, since much of the current literature on generative AI is argument rather than evidence.

C. Finding and Discussion

1. Finding

The synthesis generated four major findings: AI can support academic literacy when used as a scaffold; AI use creates ethical risks that require explicit academic integrity education; AI literacy should be integrated into academic literacy; and responsible AI use requires assessment redesign and transparent pedagogical policy.

AI as a Scaffold for Academic Literacy Practices

AI can support academic literacy by assisting students in reading, writing, feedback, and reflection. In reading practices, AI tools can summarize long texts, explain difficult concepts, generate guiding questions, and compare viewpoints. In writing practices, AI can help students brainstorm, outline arguments, revise sentence clarity, and receive formative feedback. In research practices, AI can help students identify keywords, formulate research questions, and organize information. These functions can be useful for students who struggle with academic language, text complexity, or initial idea generation.

However, AI-supported literacy is educationally meaningful only when students remain active interpreters. If students use AI merely to replace reading or writing, their academic literacy may weaken. The key distinction is between AI as a scaffold and AI as a substitute. AI as a scaffold supports thinking, revision, and reflection. AI as a substitute removes the learner from the academic process. Higher education should therefore teach students to use AI to question, test, improve, and reflect, not simply to generate final answers.

Table 1 AI-Supported Academic Literacy Practices

Academic literacy practice	Possible AI support	Required student responsibility
Reading academic texts	Summarizing, clarifying concepts, generating questions	Verify meaning against original sources and avoid replacing close reading
Academic writing	Brainstorming, outlining, language improvement, coherence suggestions	Maintain authorship, revise critically, and disclose AI assistance when required
Source evaluation	Suggesting keywords and organizing information	Check credibility, trace original sources, and avoid fabricated citations
Feedback and revision	Providing formative comments and alternative wording	Evaluate feedback, justify revisions, and keep human judgment central

Reflection	Prompting self-assessment and learning plans	Connect AI suggestions with personal learning goals and ethical standards
------------	--	---

Source: Synthesized from reviewed literature.

Ethical Risks in AI-Mediated Learning

The second finding concerns ethical risk. AI-mediated academic literacy creates risks related to originality, authorship, accountability, bias, privacy, and overreliance. Students may submit AI-generated work without disclosure, treat AI output as reliable evidence, cite fabricated references, or depend on AI for tasks they are expected to perform independently. Such practices threaten academic integrity because they obscure the relationship between student effort, learning process, and assessed work.

AI output can also contain bias and inaccuracy. Large language models generate plausible language based on patterns in training data, not necessarily verified knowledge. Bender et al. (2021) warn that large language models can reproduce social bias and generate fluent but misleading content. In academic literacy learning, this means students must learn to treat AI output as a draft, prompt, or object of critique, not as authoritative knowledge. Ethical AI use therefore requires epistemic caution.

Privacy is another issue. Students may input personal data, interview transcripts, unpublished research, institutional documents, or sensitive information into commercial AI systems without understanding data implications. Ethical academic literacy should therefore include data literacy and confidentiality awareness. Students need to understand that responsible academic work includes protecting participants, sources, and institutional information.

Table 2 Ethical Risks and Academic Literacy Responses

Ethical risk	Manifestation in student learning	Academic literacy response
Undisclosed authorship	Submitting AI-generated text as personal work	Require transparent AI-use declaration and process evidence
Fabricated information	Using false citations or inaccurate explanations	Teach source tracing, verification, and citation checking
Bias and unfairness	Accepting AI output that stereotypes groups or disciplines	Develop critical evaluation of language, representation, and assumptions
Privacy violation	Uploading sensitive data into AI tools	Teach data ethics, anonymization, and institutional guidelines
Overreliance	Using AI to avoid reading, writing, or thinking	Design tasks requiring reflection, revision history, and oral defense

Source: Synthesized from reviewed literature.

AI Literacy as a Component of Academic Literacy

The third finding is that AI literacy should become part of academic literacy. Traditional academic literacy emphasizes reading, writing, citation, argumentation, and disciplinary communication. In AI-mediated learning environments, students also need to understand how AI systems produce text, what limitations they have, how prompts shape outputs, how to evaluate generated content, and how to use AI ethically. AI literacy is therefore not an optional technical add-on. It is increasingly necessary for responsible academic participation.

AI literacy includes knowledge, skills, and dispositions. Knowledge involves understanding that AI systems are probabilistic, data-dependent, and limited. Skills involve prompting, evaluating, revising, verifying, citing, and disclosing AI use. Dispositions involve skepticism, responsibility, transparency, and respect for human agency. These dimensions align with academic literacy because both require critical engagement with knowledge production. Students who are academically literate in the AI era must be able to ask: Who produced this text? How was it produced? What evidence supports it? What is my responsibility as the author or learner?

This finding suggests that higher education institutions should embed AI literacy into academic writing, research methods, information literacy, and ethics courses. AI literacy should not be taught only in computer science programs. Students from education, humanities, social sciences, health sciences, business, and language studies also need AI literacy because they increasingly use AI tools in reading, writing, analysis, and communication.

Table 3 Dimensions of AI-Integrated Academic Literacy

Dimension	Student capability	Instructional example
Technical awareness	Understands basic AI functions and limitations	Analyze how different prompts produce different outputs
Critical evaluation	Checks accuracy, bias, and source reliability	Compare AI-generated summaries with original articles
Ethical transparency	Discloses AI assistance appropriately	Write an AI-use statement for an assignment
Academic authorship	Maintains intellectual ownership of work	Revise AI suggestions using personal argument and evidence
Metacognitive control	Uses AI to monitor learning without dependency	Keep a reflection log explaining how AI supported revision

Source: Synthesized from reviewed literature.

Pedagogical Framework for Responsible AI Integration

The fourth finding is that responsible AI integration requires a pedagogical framework rather than fragmented rules. Prohibiting AI may be unrealistic because students can access AI tools outside

classrooms. Relying only on AI detection is also problematic because detection tools may produce false positives and do not teach students how to use AI responsibly. A stronger approach is to redesign learning and assessment so that students demonstrate process, reflection, evidence use, and ethical transparency.

A responsible AI pedagogy should include five principles. First, AI use must be aligned with learning outcomes. Second, students must be taught acceptable and unacceptable uses of AI in specific tasks. Third, assessment should require evidence of human learning, such as drafts, annotations, oral explanation, reflection, and source evaluation. Fourth, AI-use declaration should become a normal academic literacy practice. Fifth, lecturers should design tasks that treat AI output as something to be evaluated, revised, and critiqued rather than copied.

Table 4 Pedagogical Framework for Ethical AI-Integrated Academic Literacy

Stage	Lecturer action	Student action
Before task	Clarify AI-use boundaries, criteria, and disclosure requirements	Understand what counts as assistance, collaboration, and misconduct
During reading	Provide source evaluation and AI-checking activities	Use AI summaries critically and verify with original sources
During writing	Use staged drafting, feedback logs, and revision plans	Document prompts, evaluate outputs, and revise using own reasoning
During assessment	Assess process, evidence, reflection, and final product	Submit drafts, AI-use declaration, and reflection on learning
After task	Discuss common ethical issues and improve guidelines	Reflect on responsible AI use and transfer lessons to future tasks

Source: Synthesized from reviewed literature.

2. Discussion

The findings show that AI is reshaping academic literacy in higher education. Students can now access tools that generate academic-sounding texts, explain concepts, summarize articles, suggest arguments, and revise language. This changes the nature of academic literacy instruction. Students must still read, write, analyze, and cite, but they must also learn how to work critically with algorithmic text production. AI literacy and academic literacy therefore need to be integrated.

The synthesis supports the view that AI should not be framed only as a threat to academic integrity. AI can support learning when it is used for scaffolding, formative feedback, accessibility, and self-regulation. Kasneci et al. (2023) argue that large language models can support personalized learning and feedback while also creating risks

related to misinformation and overreliance. Similarly, Tlili et al. (2023) show that chatbot use in education requires attention to benefits and risks. Therefore, the central issue is not whether AI should be used, but under what ethical and pedagogical conditions it should be used.

Academic integrity remains a critical concern. Cotton et al. (2024), Perkins (2023), and Fyfe (2023) all show that generative AI disrupts traditional assumptions about authorship, assessment, and student work. However, an integrity response based only on surveillance and detection is insufficient. Detection does not develop students' ethical reasoning, and it may lead to mistrust between students and lecturers. A more educational response is to teach academic integrity as a practice of transparency, accountability, and intellectual responsibility.

The relationship between AI and academic literacy also requires rethinking authorship. In traditional writing pedagogy, authorship is often assumed to be individual. AI complicates this assumption because students may use AI for brainstorming, paraphrasing, translating, editing, or generating examples. Institutions need to distinguish between acceptable AI assistance and unacceptable replacement of student work. This distinction should be made explicit in task instructions and course policies.

AI literacy is therefore essential. Long and Magerko (2020) and Ng et al. (2021) provide useful foundations for defining AI literacy as critical, technical, creative, and ethical competence. In higher education, AI literacy should be connected directly to academic literacy tasks. For example, students can be asked to compare AI-generated summaries with original journal articles, identify hallucinated references, revise biased output, or write a declaration explaining how AI was used in their draft. Such activities transform AI from a hidden shortcut into an object of learning.

The findings also point to the need for assessment redesign. Traditional take-home essays without process evidence may be vulnerable to undisclosed AI use. However, abandoning writing assignments would weaken academic literacy development. Instead, assessments should require staged production, annotated sources, draft comparison, oral explanation, reflective commentary, and contextualized argument. These assessment designs do not eliminate AI use; they make learning visible and require students to demonstrate judgment.

Ethical AI integration also requires institutional support. Lecturers need clear guidelines, sample syllabus statements, AI-use declaration templates, and professional development. Students need consistent expectations across courses. Policies should avoid vague statements

such as AI is prohibited or AI may be used responsibly without explaining what responsible use means. Discipline-specific examples are necessary because acceptable AI use in engineering, education, language learning, and health sciences may differ.

Equity must also be considered. Some students may have access to premium AI tools, faster devices, and stronger digital literacy, while others may rely on limited free tools. If AI is integrated into academic tasks, institutions should ensure equitable access, teach students how to evaluate tool limitations, and avoid making paid AI subscriptions an implicit requirement. Ethical AI pedagogy must address access and fairness as well as plagiarism.

For academic literacy lecturers, the implication is practical. AI should be introduced explicitly in reading and writing courses. Students should learn how to use AI to generate questions before reading, check comprehension after reading, receive feedback on drafts, identify vague claims, and revise grammar. At the same time, they must learn to verify sources, critique outputs, cite properly, disclose assistance, and maintain authorship. This dual orientation balances innovation and integrity.

Overall, the article argues for a shift from AI avoidance to AI accountability. Higher education should neither romanticize AI as a complete solution nor reject it as purely destructive. AI must be positioned within ethical academic literacy: students should learn to use it critically, transparently, and responsibly while retaining human judgment, disciplinary reasoning, and intellectual ownership.

Comparison with Previous Studies

The integrity literature supplies the necessary perspective. McCabe, Trevino, and Butterfield (2001) summarise a decade of research showing that academic dishonesty is shaped by institutional culture and perceived peer behaviour rather than by the availability of a particular technology, and Birks and Clare (2023) argue that AI-facilitated misconduct is better addressed through existing prevention frameworks than through new categories of offence. This is the reason the framework proposed below treats disclosure and assessment design as the primary responses rather than detection.

The feedback literature explains why AI-generated commentary is not equivalent to teaching. Shute (2008) established the conditions under which formative feedback improves learning, chiefly specificity, timing, and the learner's capacity to act on it, and Carless and Boud (2018) reframe the last condition as feedback literacy, a capability students must develop rather than a property of the message. Zhang

and Hyland (2022) show that engagement with feedback varies with the learner's goals and their relationship with the teacher, neither of which an automated system observes. Godwin-Jones (2022) applies this reasoning directly to intelligent writing assistance in language learning, arguing that such tools support development when the student retains the interpretive decision and undermine it when the tool makes that decision for them.

Implications for Teaching and Institutional Policy

Three implications follow for university teaching. First, permitted AI use should be specified per assignment rather than by blanket institutional rule, because the same tool supports learning in one task and substitutes for it in another; a stated scope with a disclosure requirement is both more teachable and more enforceable than a prohibition. Second, assessment should be redesigned rather than defended: the reviewed literature indicates that tasks requiring process evidence, situated data, or oral accounting are resistant to substitution in a way that detection software is not. Third, AI literacy should be taught as part of academic literacy rather than as a separate technical module, since the judgement students need - evaluating a claim, checking a source, deciding what to accept - is the same judgement academic literacy has always required.

At institutional level, the governance literature suggests that principles adopted without translation change little. Turning transparency and responsibility into concrete obligations - a declaration accompanying each submission, a record of what was generated and what was revised, a stated route for contesting an accusation - gives both students and staff something to work with. Detection tools should be treated with corresponding caution, since their error rates fall unevenly on second-language writers, a group substantially represented in Indonesian higher education.

Limitations and Directions for Future Research

Four limitations should be noted. This is a narrative synthesis without effect size estimation. A large part of the current literature on generative AI is conceptual or editorial rather than empirical, and the framework proposed here rests correspondingly on argument. The field is also moving quickly, so findings tied to particular tools may date faster than the principles behind them. And the reviewed evidence comes mainly from well-resourced institutions in English-speaking countries, whose access conditions and integrity cultures differ from those in Indonesian universities. Future research could test whether disclosure requirements change student behaviour, compare

redesigned assessments with detection-based approaches on both integrity and learning outcomes, and examine how second-language writers in Indonesia actually use generative tools in their academic work.

D. Conclusion

This article examined the relationship among artificial intelligence, ethics, and academic literacy in higher education learning. The structured narrative review shows that AI can support academic literacy through reading assistance, writing scaffolds, feedback, source organization, and metacognitive reflection. However, AI also creates ethical risks related to authorship, plagiarism, fabricated information, bias, privacy, overreliance, and unequal access. The synthesis indicates that AI literacy should be integrated into academic literacy because students need to understand how AI works, how to evaluate AI-generated content, how to maintain intellectual responsibility, and how to disclose AI assistance transparently. The article concludes that higher education should move beyond prohibition and detection toward responsible AI pedagogy. Lecturers should align AI use with learning outcomes, redesign assessment to make process visible, teach source verification, require AI-use declarations, and develop students' critical and ethical engagement with AI. Future research should examine empirical implementation of AI-integrated academic literacy instruction, compare student outcomes across disciplines, investigate disclosure practices, and evaluate institutional policies for ethical AI use in higher education.

Declaration of AI-Assisted Technologies

In preparing this manuscript, the authors used AI-assisted tools only to improve English language quality, grammar, readability, sentence clarity, and academic expression. The AI tools were not used to generate research data, conduct data analysis, produce findings, or draw conclusions. All conceptual arguments, data interpretation, methodological decisions, and scholarly conclusions remain the full responsibility of the authors. The authors carefully reviewed, edited, and verified all AI-assisted outputs to ensure the accuracy, integrity, and originality of the final manuscript.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Bibliography

- Akgun, S., & Greenhow, C. (2022). Artificial intelligence in education: Addressing ethical challenges in K-12 settings. *AI and Ethics*, 2, 431-440. doi: 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. doi: 10.1145/3442188.3445922
- Birks, D., & Clare, J. (2023). Linking artificial intelligence facilitated academic misconduct to existing prevention frameworks. *International Journal for Educational Integrity*, 19, Article 20. doi: 10.1007/s40979-023-00142-3
- Bretag, T., Mahmud, S., Wallace, M., Walker, R., McGowan, U., East, J., Green, M., Partridge, L., & James, C. (2011). Core elements of exemplary academic integrity policy in Australian higher education. *International Journal for Educational Integrity*, 7(2), 3-12. doi: 10.21913/IJEI.v7i2.759
- Carless, D., & Boud, D. (2018). The development of student feedback literacy: Enabling uptake of feedback. *Assessment & Evaluation in Higher Education*, 43(8), 1315-1325. doi: 10.1080/02602938.2018.1463354
- 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. doi: 10.1080/14703297.2023.2190148
- Floridi, L., & Cows, J. (2019). A unified framework of five principles for AI in society. *Harvard Data Science Review*, 1(1). doi: 10.1162/99608f92.8cd550d1
- Fyfe, P. (2023). How to cheat on your final paper: Assigning AI for student writing. *AI & Society*, 38(4), 1395-1405. doi: 10.1007/s00146-022-01397-z
- Godwin-Jones, R. (2022). Partnering with AI: Intelligent writing assistance and instructed language learning. *Language Learning & Technology*, 26(2), 5-24.
- Hagendorff, T. (2020). The ethics of AI ethics: An evaluation of guidelines. *Minds and Machines*, 30, 99-120. doi: 10.1007/s11023-020-09517-8
- Holmes, W., & Tuomi, I. (2022). State of the art and practice in AI in education. *European Journal of Education*, 57(4), 542-570. doi: 10.1111/ejed.12533
- Jobin, A., Ienca, M., & Vayena, E. (2019). The global landscape of AI ethics guidelines. *Nature Machine Intelligence*, 1, 389-399. doi: 10.1038/s42256-019-0088-2
- 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., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., Stadler, M., Weller, J., Kuhn, J., & Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, Article 102274. doi: 10.1016/j.lindif.2023.102274
- Lim, W. M., Gunasekara, A., Pallant, J. L., Pallant, J. I., & Pechenkina, E. (2023). Generative AI and the future of education: Ragnarok or

- reformation? A paradoxical perspective from management educators. *The International Journal of Management Education*, 21(2), Article 100790. doi: 10.1016/j.ijme.2023.100790
- Lo, C. K. (2023). What is the impact of ChatGPT on education? A rapid review of the literature. *Education Sciences*, 13(4), Article 410. doi: 10.3390/educsci13040410
- Lodge, J. M., Thompson, K., & Corrin, L. (2023). Mapping out a research agenda for generative artificial intelligence in tertiary education. *Australasian Journal of Educational Technology*, 39(1), 1-8. doi: 10.14742/ajet.8695
- Long, D., & Magerko, B. (2020). What is AI literacy? Competencies and design considerations. *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, 1-16. doi: 10.1145/3313831.3376727
- McCabe, D. L., Trevino, L. K., & Butterfield, K. D. (2001). Cheating in academic institutions: A decade of research. *Ethics & Behavior*, 11(3), 219-232. doi: 10.1207/S15327019EB1103_2
- Ng, D. T. K., Leung, J. K. L., Chu, S. K. W., & Qiao, M. S. (2021). Conceptualising AI literacy: An exploratory review. *Computers and Education: Artificial Intelligence*, 2, Article 100041. doi: 10.1016/j.caeai.2021.100041
- Nguyen, A., Ngo, H. N., Hong, Y., Dang, B., & Nguyen, B. P. T. (2023). Ethical principles for artificial intelligence in education. *Education and Information Technologies*, 28, 4221-4241. doi: 10.1007/s10639-022-11316-w
- 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 7. doi: 10.53761/1.20.02.07
- Rudolph, J., Tan, S., & Tan, S. (2023). ChatGPT: Bullshit spewer or the end of traditional assessments in higher education? *Journal of Applied Learning & Teaching*, 6(1), 342-363. doi: 10.37074/jalt.2023.6.1.9
- Sabzalieva, E., & Valentini, A. (2023). ChatGPT and artificial intelligence in higher education: Quick start guide. UNESCO International Institute for Higher Education in Latin America and the Caribbean.
- Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education*. Polity Press.
- Shute, V. J. (2008). Focus on formative feedback. *Review of Educational Research*, 78(1), 153-189. doi: 10.3102/0034654307313795
- Tlili, A., Shehata, B., Adarkwah, M. A., Bozkurt, A., Hickey, D. T., Huang, R., & Agyemang, B. (2023). What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education. *Smart Learning Environments*, 10, Article 15. doi: 10.1186/s40561-023-00237-x
- UNESCO. (2023). *Guidance for generative AI in education and research*. Paris: UNESCO.
- Williamson, B., & Eynon, R. (2020). Historical threads, missing links, and future directions in AI in education. *Learning, Media and Technology*, 45(3), 223-235. doi: 10.1080/17439884.2020.1798995
- Zawacki-Richter, O., Marin, 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. doi: 10.1186/s41239-019-0171-0
- Zhang, Z. V., & Hyland, K. (2022). Fostering student engagement with feedback: An integrated approach. *Assessing Writing*, 51, Article 100586. doi: 10.1016/j.asw.2021.100586