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Writing in the GenAI era: Assessing thinking or picturing a mirage?

Since the arrival of ChatGPT in November 2022, numerous resources have explored the opportunities and challenges of generative artificial intelligence (GenAI) tools such as ChatGPT, Gemini, Midjourney, DALL-E, GitHub Copilot, Synthesia, and ElevenLabs, to name a few. They allow users to generate text, code, images, and audio and video content within seconds. Among the challenges discussed regarding GenAI tools, major concerns include faculty fears that students will use large language models (LLMs) and numerous AI-powered homework services to plagiarize or cheat on assignments and exams, and the faculty's inability to define appropriate or inappropriate uses of artificial intelligence (AI) in student work. These concerns emerged shortly after ChatGPT was released (e.g., Cotton et al., 2023; Mao et al., 2024), and they have remained the same since then (e.g., An et al., 2025; Kovari, 2025). As educators and researchers quickly found out that AI detection tools are ineffective in detecting plagiarism, and as more students and researchers started using such tools, concerns intensified over plagiarizing AI-authored content, violating academic integrity, and disrupting research standards (e.g., Balalle & Pannilage, 2025; Malik et al., 2024).

This statement paper continues the academic discourse on these concerns and follows the call of this international special issue to focus specifically on how the arrival of GenAI tools changes perceptions of writing as an academic endeavor. One central question that prompts this statement about the issues with ChatGPT and other GenAI tools is: Will these tools lead to the end of our abilities to write and think? In this statement paper, I shall focus on this central question by reflecting on the role of writing in educational assessment, particularly as a powerful and widely used tool for evaluating and fostering higher-order thinking and learning. This reflection begins with the history of writing. It then considers various functions of writing in human thinking, education, human knowledge, and intelligence; AI's disruptive impact; and, finally, what we should do to prepare for writing in the AI era.

1 Writing as human thinking

Writing is human thinking, and it demonstrates and records the evolution of human thinking. Historically, written work has been an important way to convey meaning and record knowledge, tradition, and culture since the very beginning of language development. Writing is "humankind's principal technology for collecting, manipulating, storing, retrieving, communicating and disseminating information" and may have been invented independently in the Near East, China, and Mesoamerica (Schmandt-Besserat, 2014, p. 1). Borrowed by many other cultures, the unique Greek invention of the alphabet in

Didaktik Deutsch

Halbjahresschrift für die Didaktik der deutschen Sprache und Literatur

Special Issue (2026) – Writing with AI. S. 13–18

DOI: 10.21248/dideu.953

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western culture is the most representative stage in the history of writing systems following picture writing, word-based writing, and sound-based syllabic writing (Olson, 2025). Regardless of cultural differences, writing was a privilege reserved for the rich and powerful in ancient history, and it has remained one of the most important literacy skills in contemporary history.

Britannica describes writing as a skill that must be taught to children and to every generation, unlike spoken or signed language as a basic human characteristic and competence that can be acquired without systematic instruction (Olson, 2025). However, writing is more than just a mechanical skill that must be taught as a literacy skill. According to Ong (1992), it is a technology for thinking and a tool to structure cognition, and it is an indispensable part of the oral and the literate mind because: “Without writing, the literate mind would not and could not think as it does, not only engaged in writing but even when it is composing its thoughts in oral form” (p. 293).

2 Writing as a major learning outcome

Writing has been considered a significant learning outcome in formal education, although it existed long before formal schooling was established in history. Since the 1950s, Bloom’s taxonomy has served as the foundation for classifying cognitive processes and higher-thinking skills. Given the apparent challenge of assessing thinking directly, writing has been considered a significant learning outcome and a frequently used assessment technique for measuring higher-order thinking skills at all levels of education. Writing across the curriculum is a representative movement that demonstrates the sweeping influence and widely recognized importance of writing in education, not only as an assessment technique but also a means of learning. Regardless of educational context, writing in various formats has been widely used to demonstrate learning and performance status, assess higher-order thinking and learning outcomes, and communicate formative or summative feedback on student work in both traditional face-to-face classrooms and blended or online environments.

3 Writing as human knowledge and intelligence

Writing is fundamental to human knowledge and intelligence, and therefore, it is widely used in educational assessment to demonstrate higher-order thinking and learning skills. The definitions of knowledge vary by different theoretical foundations such as behaviorism, cognitivism, constructivism, and connectivism. According to Wilson and Myers (2000), “knowing, learning, and cognition are social constructions, expressed in actions of people interacting within communities” (p. 59). In line with this social and cultural perspective on knowledge within situated cognition, writing is one of the actions that capture and demonstrate human interactions with the communities and with the environment.

To summarize, writing has contributed to the accumulation of human knowledge and collective intelligence since its invention. Writing is essential to any meaning-making processes and products, within the broader social contexts that both shape human experience and are shaped by human activity. Writing is an indispensable part of human knowledge, intelligence, culture, and civilization.

4 AI and its disruptive impact

Unlike other learning technologies that enter education gradually, the abrupt, high adoption of GenAI tools has had a disruptive, immense impact on education. Serious concerns emerged about GenAI-created content, whether for writing or scientific research, due to a lack of human authenticity and

creativity. Consequently, the loss of trust in human-to-human interactions and the crisis of authenticity have added immediate pressure to the tensions already present in educational tests and assessments (Mao et al., 2024). Can writing still be a trustworthy assessment technique with widespread, but untrained and unintended, GenAI adoption among students? Should research and publications devoid of human authenticity continue to be reliable sources and indicators of human thinking, intelligence, and productivity?

Increasingly, the unconstrained and unethical use of GenAI-created content cycled from limited training data will lead to the vicious cycle of a falsified, fabricated, erroneous knowledge base, completely deprived of the trust expected in the human knowledge system and intelligence. By that time, writing will no longer be human thinking, and can no longer be fundamental to human knowledge or intelligence. Nevertheless, there are still optimistic expectations for positive changes in education, with the assumption that AI and GenAI tools are developing rapidly and that such issues may disappear with the upcoming versions.

5 Writing with GenAI as a new tool

Inevitably, AI and GenAI are developing and advancing rapidly, and their pervasive, disruptive impact will continue to appear in education. It is impossible to ban the use of AI and GenAI tools in educational contexts or to limit how students or researchers use them, due to the challenges of defining and providing guidelines for appropriate and inappropriate use in the first place. The history of educational technology has shown that banning new technologies (e.g., calculators to cell phones) in schools has never resolved the issues they raise.

The AAC&U report (Watson & Rainie, 2025) finds that most colleges and universities are unprepared for the challenges posed by AI and GenAI, and that graduates are not adequately prepared to work in the AI-flooded job market. Thus, one pressing need is to provide opportunities to improve AI literacy and to acquire the relevant expertise and skills. Besides the practical needs of workforce readiness, writing educators require the teaching of GenAI tools specifically for writing. Wang and Tian (2025) pointed out that AI is a technology just like other tools for writing that must be taught to students because of “the inherently social and political nature of both writing and technology that compels us, as writing educators, to engage students with the reality of an increasingly AI-mediated world” (p. 2).

Undoubtedly, the writing process can be more efficient with accelerated search and research processes. In this regard, the transition to using GenAI tools for writing is similar to the transition from using a traditional library and searching through hard copies of books to using digital library databases for electronic searching using keywords. The speed of searching and summarizing with AI and prompt engineering should save writers much time in the research process, requiring the ability to write effective prompts and to critically evaluate the results generated by AI tools. It is ultimately the users’ or writers’ responsibility to determine how to assign meaning to the search results and to use them with critical thought relevant to human experience, the purpose of the writing, and the context for the writing. Reflecting on the role of writing in assessment and for the human knowledge system, I would summarize the following recommendations for transitioning to the use of writing with GenAI.

6 Develop ethical guidelines

Many colleges and universities have developed AI and GenAI policies for teaching, learning, assessment, and research. Educators have started including class policy language in their syllabi and incor-

porating GenAI into assignments. In addition to such policies at different levels, developing detailed ethical guidelines to help students understand and learn responsible use of AI and GenAI tools should be a crucial first step in the transition and learning process. Researchers and authors could also benefit from the clear ethical guidelines from academic journals and professional organizations to delineate the fine line between acceptable and unacceptable uses of AI tools or AI-powered services in the final writing products.

7 Restore and rebuild trust

In his interview with the *Practical Wisdom* podcast, Chomsky named using AI tools as high-tech plagiarism. The use of GenAI tools has destroyed trust between educators and students, raising concerns about educators' reliance on writing as an assessment approach and, conversely, about students' lack of appreciation for the feedback they receive on their work. Using AI or GenAI as real tools rather than a substitute for human effort can help restore and rebuild trust in human-to-human interactions. To achieve this, we need to develop a mindset for trust, a willingness to trust, and the ability to trust through learning and improving the overall AI literacy for everyone involved.

8 Improve AI and GenAI literacy

It is imperative to improve AI and GenAI literacy and learn how to use them as real tools, not replacement agents. With the necessary guidelines and trust in place, everyone involved in the use of AI and GenAI tools should have access to professional learning and practice opportunities to expand AI literacy through first-hand experiences. AI literacy should include not only knowledge of AI in education and skills in using AI tools, but also the soft skills needed for writing and researching with AI tools. Such soft skills should include the ability to reflect on one's writing process and the metacognitive skills that enable one to be self-aware of the process together with the integration of AI tools.

9 Make the process human-centered

It is crucial to intentionally make writing processes human-centered, especially given the argument developed earlier in this paper: Writing is human thinking and is fundamental to the human knowledge system and intelligence. Educators need to develop creative pedagogical approaches to teaching students, especially young students, to take human agency in the writing process, and to engage themselves as active inquiry initiators in writing. Taking an active agency role will help students cultivate beneficial habits and mindsets that make writing processes human-centered from a young age. Additionally, learning and implementing design thinking may be another way to improve human agency in writing.

10 Redefine standards and terms

It is necessary to redefine academic standards and terminologies such as plagiarism, academic dishonesty and integrity, authorship, copyright, ethics, and many others. The redefinition may vary by institutional values, policies, subject areas, or learning outcomes. Undoubtedly, the redefinition requires updated AI literacy, and the definition of certain terms may affect others. For example, a lack of AI literacy can lead to confusing definitions of ethical or unethical uses of AI tools; the meaning of authorship may be affected by how ethics are defined; and the understanding of ethics can decide the scope of misuse.

11 Support writing with GenAI tools

Appropriate support for writing with GenAI tools is essential to help educators and students adapt to the changes. Besides the above recommendations to serve as foundational support, which require institutional involvement, updating assessment techniques and culture in order to focus more on processes rather than products is a direct measure to prepare both educators and students for the changed writing culture. Banning students from using GenAI tools for writing and replacing it with requiring them to write by hand within a set time and location instead is an ineffective and counter-productive approach. Furthermore, it is critical to encourage writing *about* AI, writing *with* AI tools for the process, and reflecting on both.

12 Conclusion

Given its unique importance to human thinking and knowledge systems, writing should continue to be a way of learning and an assessment technique for developing higher-order thinking skills. Essentially, it is more important than ever to learn how to write with new tools and to write within the fast-changing larger environment for writing. Both educators and students are faced with the challenges and opportunities as they learn to write with GenAI tools. Educators will need to intentionally teach students to use AI tools ethically, responsibly, and effectively for writing. Improved human agency and trust are key factors that can help students avoid the unethical, inappropriate use of AI tools for writing or work right from the start. Further, without meaning-making and authentic human experience, sharing content generated by AI or machines in the name of writing is just like picturing a mirage, leading to false, unattainable outcomes. That will make us lose not only the trust in a longstanding assessment technique, but also our ability to think, know, experience, and create as human beings.

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