



Metaphors of AI in Education: Discourses, Histories and Practices

COLLECTION:
METAPHORS OF AI IN
HIGHER EDUCATION:
DISCOURSES,
HISTORIES AND
PRACTICES

EDITORIAL

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Metaphor has long played a key role in both exercising and discussing education. Socrates used metaphor to describe teachers as those who help *give birth* to learning, as opposed to simply imparting knowledge (Plato & Cornford 1945). Metaphors help us to explain complexity through simpler, more vivid, and familiar terms. Whether functioning as a pedagogical tool to support knowledge construction or serving as a resource for education specialists to discuss various aspects of the field, metaphors have enduring potency as “condensed analogies” (Perelman & Olbrechts-Tyteca 2008: 671). Indeed, metaphor both displaces and shapes meanings and thus plays a central role in framing, disseminating, and reproducing perspectives (Charteris-Black 2004). In shedding light on specific directions whilst obscuring others, metaphors can encapsulate and communicate value judgements and beliefs. Metaphors “are always a double bind: they at once allow us to see and stop up our abilities to notice” (Hejnal 2017). They create ways of seeing, acting, and being, thus potentially fuelling imagination and understanding.

The discourse around metaphors has its own life. We might read Socrates’ example of the teacher as midwife as an instance of teachers reacting against a transmissive conceptualisation of students as empty vessels waiting to receive content. Or we might ask if it appropriates a gendered metaphor of childbirth and enacts a masculinist colonisation of female knowledge practice. In EdTech discourses, metaphors may simply reproduce specific ways of thinking about the place and role of technology in education or, more productively, offer “a ‘mental sandpit’ to explore issues from different perspectives” (Weller 2022: 170). From a contemporary perspective, metaphors have a potential role in explaining AI to educators, highlighting connections to existing pedagogies or alerting us to new possibilities. Metaphors of current AI-related EdTech discourses often borrow from previous educational technology hype waves. For instance, commentators have heralded an “AI ed-tech ‘tsunami’” (D’Agostino 2023) which echoes technological deterministic metaphors from the MOOC discourse (Bozkurt, Keskin & De Waard 2016), or AI is widely presented as a “tool”, perhaps the most insidious of all metaphors used to frame technology as it supports a perspective of technology as neutral (Winner 1986; Bozkurt et al. 2024; Gupta et al. 2024).

Crucially, educators have been using metaphors, similes, and analogies to ask questions about Artificial Intelligence in Education (AIED). Will AI autotune my essay? (Cormier 2023) Are AI sceptics tilting at windmills in a quixotic quest to be aligned with yesterday’s epistemic landscape? (Perrotta 2023) Is using ChatGPT like “eating plastic for your cognitive agency and natural intelligence”? (Nephew 2023). Metaphors may help to explain AI to educators,

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highlighting connections to existing pedagogies or alerting us to the possibilities of new ones, although commentators also warn us of the dangers of over-reductive metaphors such as ChatGPT as a “calculator for writing” (Lodge et al. 2023). More radical metaphors also present challenges, for example, when ChatGPT is thought of as a “bullshit generator” – drawing on Harry Frankfurt’s metaphor for epistemic nihilism, which may evoke a person who is less concerned with the truth than with being heard (Hicks, Humphries & Slater 2024; Costello 2024). The bullshit metaphor, specifically, can describe the output of a Generative AI (Gen AI) chatbot but can also be used as a lens through which to explore the excessively optimistic tone of discourses on AI in education (Selwyn 2016).

Such AI metaphors and the reactions they provoke carry pedagogical implications and imperatives that this special collection addresses. The use of metaphors and metaphor analysis in EdTech, more specifically, and increasingly in AIED research, may attempt to understand how different educational stakeholders and actors make sense of AI and its roles in their pedagogical practices. For instance, Demir and Güraksin (2022) collected and analysed metaphors about AI from middle school students to explore their current understandings, and Jin et al. (2025) employed metaphor analysis as their methodological framework to investigate graduate students’ perceptions of AI in the academic writing context. In highlighting associated discourses, histories, and practices, this collection gathers papers that help us to think critically about something that is neither “artificial” nor necessarily “intelligent” (Crawford 2021). By drawing attention to authentic and affective pedagogical futures, the collection helps us to consider that, in “acknowledging the contingent nature of teaching and learning, [...] we may need to acknowledge that key aspects of what makes us human may always resist engineering” (Ferreira, Lemgruber & Cabrera 2023).

The first item in the collection is a specially-prepared version of an interview with Emily Bender (Bender et al. 2025) the co-creator of the well-known metaphor for the Large Language Model (LLM) technology behind Gen AI – the “stochastic parrot” (Bender et al. 2021). This metaphor illustrates how a believable but non-human voice could beguile us but hide a range of ethical problems and harms involved in the creation of AI, or that AI perpetuates, including discrimination based on ethnicity/race, gender, class or disability. In this interview we talk about the influence of the parrot metaphor and the paper itself in a wide ranging discussion on topics including AI bias, AI anthropomorphism, AI harms in education for particular learners and colonial and decolonial responses and impacts of AI in education.

Two articles creatively explore uses of metaphor to foster reflection and new ways of thinking about AI. Creely et al. (2025) present a discussion on the role of AI in education using a theatrical metaphor inspired by Augusto Boal’s Forum Theatre (Boal 1979). The paper is supported on post-qualitative approaches, focusing on the use of narrative, which is reflected in the structure of the text itself, a type of ‘script’ whereby different positions on AIED are represented in the utterances of three archetypal figures (gatekeeper, evangelist and diplomat). In conversation, these figures advance various arguments on AIED. Walton and Cormier (2025) take Donald Schön’s concept of generative metaphor (Schön 1993), that is, metaphors used to (re)frame problems, not necessarily to solve them, as the basis for a thorough revision of Cormier’s metaphor of AI as ‘autotune for knowledge’ mentioned earlier. The authors take a deeper look at the source domain of Cormier’s metaphor (music) to tease out issues that remained unexamined in its original formulation.

Zirenko et al. (2025) present the results of a study with 124 undergraduate students, exploring and analysing metaphors used to express attitudes towards AI. Nine metaphors relating to AI (e.g., *brain, human, machinery, unknown*) and seven relating to learning with AI (e.g., *self-regulation, educator, shared learning*) are identified with a degree of anthropomorphization and an apparent trust that AI will facilitate learning.

Vallis, Wilson and Casey (2025) also report on the results of stakeholder inputs, bringing together students, academics and support staff to produce a set of metaphorical categories (functions, roles, qualities, agency) that explore the possible role of generative AI in teaching and learning. Contextualising these within wider discourses, the authors emphasize the need for human values and collaborative practices alongside technical literacies.

By contrast, Kaitlin Lucas and colleague (Lucas & Lioy 2025), by analysing conceptual metaphors in eighteen AI literacy frameworks, uncover how they construct the relationship between AI, students, and teachers. They frame dominant metaphors for AI as a tool, transformer, or threat, students as analysts, citizens, or creators, and teachers as designers or guides. The article further connects these metaphors to different educational paradigms and reveals three critical tensions, highlighting blind spots in the current AI literacy discourses and calling for new directions in research and practice.

Future orientation is also important for Heinsfeld and Veletsianos (2025), who examine how UNESCO guidance for using generative AI uses personification metaphors to describe artificial intelligence and describe how these linguistic choices shape public understanding of AI's educational role, making AI seem more personally relatable while risking overly optimistic, techno-deterministic perspectives.

Konstantinidis (2025) similarly focuses on discourse, critiquing the anthropomorphic rhetoric around AI and employing a 'mirror' metaphor to explore AI technologies as "reflective surfaces" which distort priorities, amplify biases and present surveillance as 'care'. If we do not like what the mirror shows, it is suggested that we need both to care for the mirror and change the world that it reflects.


Roe, Perkins and Furze (2025) draw on Conceptual Metaphor Theory (CMT) and UNESCO's AI competency framework to develop activities to foster Critical AI Literacy (CAIL), developing criteria for selecting pedagogically appropriate metaphors and demonstrating their alignment with established AI literacy competencies.

In conclusion, metaphors play, in each article, diverse roles as a pedagogical tool, communicative resource, and often research method, weaving and interconnecting themes of discourses, histories, and practices of AIED. The contributions critically examine the discourses surrounding AI, interrogating and unpacking the language used by stakeholders, policymakers, and researchers. It is suggested that the selection and use of metaphors are context and history-bound, revealing how current AI metaphors often echo the techno-determinism of previous EdTech hype waves, repurposing old frames for new anxieties and aspirations. Finally, the collection grounds these discussions in concrete practices, presenting empirical studies on how students and educators use metaphors to make sense of AI, and offering useful practical guidance for educational specialists to better support and empower those stakeholders.

COMPETING INTERESTS


The authors have no competing interests to declare.

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
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