# Interpreting AI in the Classroom through Actor–Network and Sensemaking Analysis of Pedagogical Dialogue

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## Abstract

This article presents a reflective account of the AI Coffee and Chat sessions at Nelson Mandela University, examining how education stakeholders collectively negotiate the role of AI in education. Drawing on the theory of reflective practice, the article reflects on recurring pedagogical concerns. The analysis is informed by Actor–Network Theory and Sensemaking Theory to examine how pedagogical meanings of AI emerge through socio-technical relations and collective interpretation. Four interconnected themes are explored: negotiating institutional AI guidelines in practice, AI as an ambiguity generator, pedagogical adaptation and experimentation, and the plurality of AI interpretation. The discussion demonstrates that AI-related uncertainty is produced not by technology alone, but through evolving relations among human and non-human actors, while pedagogical understandings are continuously negotiated through dialogue, reflection, and shared experience. The article positions AI Coffee and Chat sessions as institutional spaces where responsible AI practices, interpretive understandings, and pedagogical responses are collaboratively developed. The article demonstrates that recurring dialogue spaces can provide an important forum for negotiating these multiple meanings and developing contextually situated understandings of AI in higher education. In doing so, it contributes to discussions of plural Digital Humanities, AI, and socio-technical futures in Southern Africa by demonstrating the value of informal, dialogic spaces for pedagogical sensemaking around emerging technologies.

**Keywords**: *Artificial Intelligence, AI Chats, Pedagogical Dialogue, Actor–Network Theory, Sensemaking Theory*

## 1 Introduction

When generative artificial intelligence (AI) gained prominence in 2022 with the introduction of ChatGPT (Teubner et al., 2023; Wu et al., 2023), many institutions responded by pausing to consider a central question: *Generative AI has arrived—what now*?

Regardless of the context in which they are deployed, AI systems and their underlying algorithms may introduce a range of technical, social, and ethical challenges that affect both society and individual users (Gutiérrez, 2024). Accordingly, the rapid emergence of AI technologies has introduced new opportunities and challenges for learning and teaching (Kamel, 2024; Silvola et al., 2025; Peltekova et al., 2026).

Effective practice in complex and rapidly evolving environments, such as the fast-evolving nature of learning and teaching in higher education, requires the ability to critically reflect on action, interpret emerging situations, and adapt responses to shifting contextual demands (Kinsella, 2010). In higher education, such reflective engagement is central to pedagogical development, particularly in contexts marked by uncertainty and ongoing change (Hébert, 2015). Because of these changes caused by the current uncertainty with the emergence of AI in the classroom, education is increasingly challenged to move beyond conventional, human-centered pedagogical models (Nopas, 2025). To make such a move successful, higher education must develop digital pedagogies that are context aware to avoid irresponsible learning and teaching (Fyfe, 2011).

While pedagogy is typically translated to the teaching of children (Shah, 2021, p.8), or how the teacher influences the learning context (Sandri, 2022), it is understood here in its broad higher education sense, encompassing learning, teaching, and independent knowledge construction across both structured and self-directed activities (Murphy, 2003; Leibowitz, 2016; Istrate, 2022; Friesen and Su, 2023). Thus, digital pedagogies refer to the use of digital tools and platforms to support these processes (Istrate, 2022, p.4).

The relevance of digital pedagogies to Digital Humanities (DH) emerges where digital mediation intersects with questions of interpretation and knowledge production. DH provides a critical lens for examining how digital tools shape textuality, authorship, and meaning-making, particularly when systems such as AI generate, transform, or re-present academic and interpretive artefacts including texts, visuals, and sound, among other things. In this sense, AI becomes both a pedagogical tool and a site of epistemic negotiation.

The article contributes to the theme, *Building the Methodological Commons: Plural Digital Humanities, AI, and Socio-Technical Futures in Southern Africa*, by examining Nelson Mandela University's Artificial Intelligence Coffee and Chat initiative as an institutional forum for reflecting on the pedagogical implications of AI. Through these discussions, students, lecturers, and library and information science practitioners share experiences of AI use, explore emerging opportunities and challenges, and collectively interpret the implications of AI for teaching, learning, and academic practice. In doing so, the sessions create a dialogic space in which responsible AI use is continuously negotiated through multiple disciplinary and professional perspectives. The article therefore demonstrates how diverse epistemic standpoints contribute to a shared understanding of AI within the classroom while advancing conversations on responsible AI and digital pedagogy

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capacity-building.

Accordingly, this article seeks to answer two pertinent questions:

RQ1 What recurring pedagogical concerns about artificial intelligence emerge from the AI Coffee and Chat sessions involving students and staff?

RQ2 How can these recurring pedagogical concerns be interpreted through the combined lenses of Actor–Network Theory and Sensemaking Theory?

The aim of this article is to present a reflective account of recurring pedagogical concerns surrounding artificial intelligence in higher education and to interpret these concerns through Actor–Network Theory and Sensemaking Theory. The article draws on recurring observations from the AI Coffee and Chat sessions, where students and staff engage in ongoing dialogue about the opportunities, challenges, and implications of AI for teaching, learning, and academic practice.

The value of interpreting AI through Actor—Network Theory and Sensemaking Theory (see RQ2 above), lies in their ability to move the analysis of the emergence of AI in the classroom beyond technological capabilities towards the social and interpretive processes through which AI acquires meaning in educational contexts. Rather than treating AI as a neutral tool or an autonomous force, these theories reveal how its significance is negotiated through interactions among people, technologies, institutional policies, and disciplinary practices. For the Humanities and DH, this shift is particularly important because it foregrounds questions of meaning, interpretation, authorship, knowledge production, and institutional culture. In doing so, the article demonstrates that AI is not merely a computational technology but a socio-technical phenomenon whose educational significance is continuously constructed through dialogue and practice. This represents a valuable contribution to DH by extending methodological approaches to AI beyond computational analysis to include interpretive frameworks that illuminate how digital technologies become embedded in humanistic and educational contexts.

The rest of this article is structured as follows. First, background information on the AI Coffee and Chat sessions is presented in §2. This is followed by the methodological positioning of the article as a reflective institutional account in §3. The emergent patterns of concern are discussed in §4, drawing from the Actor–Network Theory and from the Sensemaking Theory. Finally, the conclusion is presented in §6, and the limitations of the discussion are presented in §6.

## 2 Blackboxing AI and the emergence of AI Coffee and Chat

When a technology's internal processes, assumptions, and mechanisms are taken for granted, leaving users primarily concerned with its inputs and outputs, it is considered black-boxed (Witt, 2018; Chakraborty et al., 2023). This concept is particularly useful for understanding the early institutional response to generative AI at Nelson Mandela University (Mandela). As a teaching-intensive comprehensive university committed to excellence in learning and teaching (Boswell and Pillay, 2022), Mandela's pedagogical philosophy is grounded in humanising pedagogy, which promotes critically engaged, socially responsible, and reflective graduates (Pillay, 2024, p.85). This approach foregrounds mutual humanisation through dialogic and problem-posing engagement aimed at developing critical consciousness (Zembylas, 2018), while emphasising compassion, care, respect, and recognition of the identities, histories, and experiences of students and educators (Zinn et al., 2009, p.111).

The release of ChatGPT in 2022 introduced considerable pedagogical uncertainty within the Faculty of Humanities. Discussions within the Learning and Teaching Committee reflected concerns not only about what AI could generate, but also about what its increasing use might mean for learning and teaching. AI was frequently understood primarily through its visible outputs: a system capable of producing coherent academic-like text, answers, essays, summaries, and teaching materials (Danyaro et al., 2025, p.15). Its underlying processes, assumptions, limitations, and conditions of operation remained comparatively less visible. In this sense, AI was being encountered as a black box.

This black-boxed understanding contributed to uncertainty about the appropriate role of AI in education, the extent to which its outputs could be trusted (Ibrahim, 2026), and whether increasing reliance on such systems might undermine the development of the knowledge and skills expected of higher education graduates. It also contributed to concerns about whether AI might replace lecturers (Selwyn, 2019; Mutanga et al., 2025) and, more fundamentally in the humanities, whether educators would still be able to recognise students' own voices in increasingly AI-mediated academic work. In the absence of ready answers, these concerns created a need to move beyond immediate reactions to AI towards more sustained and collective engagement with how these technologies were being understood and used in practice.

It was within this context that the Faculty of Humanities established the AI Coffee and Chat sessions in 2024[1]. The sessions can be understood as a practical response to the black-boxing of AI: rather than treating AI as a non-transparent system that simply produces outputs, they create opportunities to interrogate how AI systems operate, what their limitations are, how their outputs are produced and interpreted, and what these characteristics mean for educational practice. Through dialogue, demonstration, and reflection, participants collectively work to make visible aspects of AI that are otherwise easily taken for granted. The sessions therefore constitute a process of progressively opening the black box, not by claiming to make the technical workings of AI fully transparent (the expertise is limited), but by making its assumptions, limitations, affordances, and effects objects of collective pedagogical exploration.

The AI Coffee and Chat sessions (also referred to as AI Chats in this article) are coordinated by Mandela's Digital Humanities Hub as part of its mandate to support digital pedagogies and foster engagement with emerging technologies across the Faculty of Humanities and the university. Participation is open to the broader university community and typically includes academic staff, students, librarians, and professional support staff. Each session generally begins with a context-setting presentation on a selected aspect of AI. These presentations are not intended to provide definitive answers; rather, they function as discussion starters or prompts for dialogue, enabling participants to share experiences, raise concerns, examine emerging practices, and reflect on institutional responses. Most sessions have been led by members of the Mandela community, helping to ground discussions in local and institutional pedagogical realities. Even so, we also remain attentive to broader developments in AI and higher education.

In this sense, the AI Coffee and Chat initiative is not merely a forum for discussing the emergence of AI in the classroom as a technology. Rather, it is a recurring pedagogical space in which the assumptions and uncertainties surrounding AI in pedagogy can be surfaced, questioned, and collectively negotiated. The sessions thus provide a setting in which blackboxing can be interrupted through situated dialogue and reflection.

[1]The sessions are held monthly during the lunch hour and typically include refreshments. Although coffee is traditionally associated with colder periods and cold beverages with warmer periods, the title AI Coffee and Chat has been retained throughout.

In this way, AI is considered not simply in terms of what it produces, but in relation to the people, practices, institutional norms, and educational values through which its meaning and use are continually constructed.

# 3 Methodology

This article adopts a reflective practitioner inquiry approach, informed by the theory of reflective practice (Schön, 1987, 1995). Reflective practice is grounded in the understanding that professional knowledge, including pedagogical knowledge, is not produced solely through formalised research procedures, but also emerges through critical engagement with lived experience and situated practice (Hébert, 2015; Silvola et al., 2025; Kinsella, 2010, p.568). In this sense, knowledge is understood as both enacted and interpreted through ongoing cycles of action and reflection within professional contexts.

The article is situated within the AI Coffee and Chat sessions, which I convene and facilitate. This positioning situates me as an insider-practitioner, occupying the dual role of organiser and reflective observer.

My methodological orientation is informed by reflection-on-action, which involves revisiting experiences after practice[2] in order to generate insight, deepen understanding, and inform future action (Schön, 1995; Hébert, 2015). This reflective practitioner approach is particularly well suited to contexts characterised by uncertainty, complexity, and rapid change, where practitioners are required to interpret evolving circumstances and adapt their practices accordingly (Schön, 1987, 2017; Roche, 2022; Carlson, 2026). Accordingly, this article reflects on recurring pedagogical concerns documented across the AI Coffee and Chat sessions as students and staff collectively grapple with the opportunities, challenges, and uncertainties associated with integrating AI into the classroom.

The reflections in this article are based on 15 sessions hosted between September 2024 and May 2026. They draw on fieldnotes recorded during and after each AI Coffee and Chat session, together with reflective reports prepared for internal institutional purposes. These insights were not originally produced as research data or formal research instruments but as records of practice that supported ongoing institutional reflection (Lawton, 2026). For this article, they served as reflective artefacts that enabled me to revisit the discussions over time and identify recurring pedagogical concerns associated with the integration of generative AI into learning and teaching.

Rather than undertaking a formal qualitative coding process, I repeatedly revisited these reflective artefacts to identify concerns that consistently resurfaced across successive sessions. This iterative process of reflection-on-action enabled me to synthesise recurring observations and consider them in relation to my roles as facilitator and participant, the issues raised by participants, and the broader pedagogical context in which the discussions occurred. Throughout this process, I remained mindful that the reflective artefacts were shaped in part by my own facilitation, judgement, and interpretation (Novoa-Echaurren et al., 2025).

The article presents a reflective account rather than a formal thematic analysis. As demonstrated later in this article, the reflections pointed to two interconnected dimensions of AI engagement: (i) the relationships among technologies, people and institutional arrangements, and (ii) the ways participants interpreted uncertainty and negotiated the implications of AI for educational practice. As a result, I used ANT to examine the relational dimension, while I used Sensemaking Theory to illuminate the interpretive dimension. Their combination provides an analytical lens through which to examine AI adoption as a socio-technical process shaped by both institutional arrangements and the negotiation of meaning.

[2]Here, "practice" encompasses both the facilitation of the AI Coffee and Chat sessions and the AI-related teaching, learning, and assessment practices that participants bring to these discussions. Reflection-on-action therefore involves revisiting not only my own facilitation but also the experiences shared by participants, as documented in my facilitation notes and institutional reports.

# 4 Reflective Discussion

This discussion is structured in this way. First, the main patterns observed from the discussions in the AI Chats are presented in §4.1. Second, the patterns are discussed through the lens of Actor–Network Theory in §4.2. Lastly, the patterns are analysed through the lens of Sensemaking Theory in §4.3.

## 4.1 Observed Recurring Patterns

The discussion in this article is organised around four recurring patterns of pedagogical concern identified through reflection on the AI Chats. The patterns include, (i) navigating the ambiguity that results from AI, (ii) negotiating institutional AI guidelines, (iii) pedagogical adaptation, and (iv) the plurality of AI interpretation. Although these concerns frequently overlapped, they recurred consistently across successive sessions and provide the analytical structure for the discussion that follows.

In the first observation, *negotiating institutional AI guidelines*, captures recurring discussions surrounding the interpretation and practical application of institutional policies within diverse learning and teaching contexts. Students frequently asked questions such as, "`My lecturer for Module A says this, but my lecturer for Module B says that. What is the correct thing to do? What is the institution actually saying`?" These discussions often revealed uncertainty about how institutional guidance should be interpreted across different disciplinary and classroom contexts. Lecturers raised different concerns. For instance, they questioned who had developed the guidelines, whose experiences had informed them, how they would continue to evolve as AI technologies and pedagogical practices changed, and how the guidelines would be applied to their specific modules. These conversations demonstrated that institutional guidelines were not treated as fixed rules but as documents requiring ongoing interpretation and negotiation in practice.

I term the second pattern, *navigating the ambiguity that results from AI*, to capture how participants repeatedly questioned the reliability of AI-generated outputs, the occurrence of hallucinations, that is incorrect or senseless output (Kamel, 2024), and appropriate strategies for verification. For instance, lecturers frequently discussed the additional effort required to verify references included in AI-assisted student work after recognising that AI systems could fabricate citations and supporting evidence. Students, in turn, expressed uncertainty about whether AI-assisted paraphrasing preserved their intended meaning and whether such use might negatively affect the quality or assessment of their academic writing. This concern was especially prominent among students who perceive their English as below average.

The third pattern, *pedagogical adaptation*, captures ongoing discussions about how the faculty was adjusting assessment practices, teaching approaches, learning strategies, and independent study in response to AI. For instance, Library and Information Science colleagues reflected on their evolving role within an increasingly digital academic environment, including questions about the continuing relevance of physical library spaces and how best to support students and researchers in AI-mediated contexts. Students expressed concern about new ways of learning in a context where possibly correct answers are readily accessible, raising questions about the depth of engagement and independent thinking. Lecturers, in turn,

grappled with what it means to assess learning across different disciplines in an AI environment, including the extent to which traditional learning, teaching, and assessment approaches remain appropriate. Some discussions also considered the return to face-to-face, pen-and-paper assessments, alongside questions about whether such approaches are sustainable and what new challenges they might introduce.

Finally, *the plurality of AI interpretation* recognises that participants approached AI from different disciplinary, professional, and pedagogical perspectives, resulting in multiple and sometimes competing understandings of its role in the classroom. Across the sessions, AI was variously positioned along a continuum between assistance and delegation. Students frequently described AI as a form of tutor-like support, particularly for explaining concepts, structuring ideas, and assisting with writing processes. At the same time, it was also used pragmatically as a writer or a writing aid, including functions such as drafting, rephrasing, and typing support, blurring the boundary between learning assistance and content production.

Lecturers, by contrast, often framed AI indecisively. On one hand, it was viewed as a potential form of commissioned authorship when used in student assignments, raising concerns about originality, authorship, and assessment validity. On the other hand, lecturers also acknowledged its value as a teaching support tool, particularly for generating lecture materials, summaries, and presentation slides. These contrasting framings highlight that AI was not interpreted in a singular or stable way, but rather occupied shifting positions depending on the pedagogical role in which it was being used or observed.

These four recurring concerns provide the analytical basis for the discussion that follows. Rather than treating them as isolated issues, I examine them through Actor–Network Theory and Sensemaking Theory to understand how they emerge within the socio-technical environment of the classroom and how participants interpret their pedagogical significance.

## 4.2 Actor—Network Theory (ANT)

### 4.2.1 ANT and the Social Life of Machines

The Actor–Network Theory (ANT) offers a useful lens for understanding how artificial intelligence becomes embedded within educational practice, as well as the shifting power relations that characterise the age of AI in the classroom (Gutiérrez, 2024). Central to ANT is the proposition that social phenomena emerge through networks of relations involving both human and non-human actors (Bosco, 2006; Aitken and Valentine, 2006, p.338). Within this perspective, technologies such as AI in the classroom are not passive tools that merely execute human intentions (Ryan et al., 2024). Rather, they participate in shaping actions, influencing decisions, and mediating relationships within networks (Gutiérrez, 2024). AI systems can therefore be understood as possessing a "social life" (Law, 1992), not in the sense of human-like consciousness or equivalent agency, but because they become entangled in the production of meanings, practices, and interactions that characterise institutional life, and may in some instances exert influence within these relations (Birkbak, 2025; Gutiérrez, 2024).

Consistent with recent research such as Nopas (2025), the AI Chats at Mandela reveal that AI is no longer encountered simply as a technological artefact or a supplementary support tool. Instead, AI occupies an increasingly stable position within pedagogical networks as a content creator that participates in teaching, learning, and knowledge production (Park and Nan, 2026, p.1501). Through these relations, AI becomes implicated in the production of trust and mistrust, certainty and uncertainty, interpretation, and pedagogical adaptation (Nopas, 2025; Danyaro et al., 2025). In my view, AI therefore emerges as an inherently ambiguous actant within pedagogical practice, positioned simultaneously as a supportive collaborator and a disruptive presence (Park and Nan, 2026, p.1513). Rather than asking only, "AI is here—now what?", participants in the AI Chats repeatedly questioned what or maybe who AI is within the pedagogical network, whether AI should be understood as friend or foe, and under what circumstances AI ought to participate in teaching, learning, and assessment.

Figure 1 conceptualises the AI Coffee and Chat sessions as the central site of interaction within a socio-technical network comprising both human actors (students, tutors, lecturers, and library and information science staff) and non-human actants (AI systems, institutional guidelines, assessment practices, and learning activities). Note that the spatial arrangement and colour coding of the actors are intended solely to distinguish the different categories of actors and actants visually; they do not imply fixed positions, hierarchy, or separation within the actor network.

Rather than positioning AI as an isolated educational tool, Figure 1 illustrates how teaching, learning, and AI use are constituted through the continual interaction of different human and non-human actors. The solid arrows represent the multiple relations through which actors and actants contribute to the AI Coffee and Chat discussions and to the sensemaking outcomes that emerge from them, while the dashed feedback arrows indicate that these outcomes recursively shape subsequent pedagogical practice, AI use, and future discussions. The network is therefore conceptualised as dynamic rather than linear: AI literacy, ethical awareness, pedagogical adaptation, and collaborative knowledge construction are understood not as the products of any single actor but as emergent effects of the ongoing negotiation and translation of relationships across the network.

### 4.2.2 ANT and the patterns of concern

The discussion below is structured into the four patterns of concern introduced in the introduction to Section 4.

**Negotiation of institutional guidelines** The negotiation of institutional AI guidelines illustrates how a seemingly singular institutional position becomes multiple as it is enacted through different relations within the pedagogical network. At institutional level, guidelines provide a broad framework for AI use, but they do not enter classrooms unchanged. Lecturers interpret these guidelines in relation to their disciplinary practices, their understanding of appropriate AI use, and the purposes of particular assessments. These interpretations are subsequently materialised in module guides and other instructions that communicate specific expectations to students. From an ANT perspective, the institutional guideline therefore does not determine practice on its own; its effects emerge through its associations with lecturers, module guides, assessment practices, and students (Hay, 2025).

The module guide is particularly significant in this network because it carries a lecturer's particular interpretation of AI use into the student's immediate learning environment. A student may therefore encounter one set of expectations in one module and a different set in another. For example, AI may be permitted for brainstorming or language support in one module while being restricted or prohibited in an assessment in another. These differences do not necessarily represent a failure to follow institutional guidance. Rather, they demonstrate how the meaning of that guidance is translated through different lecturer–module–assessment relations. The resulting conflict is therefore produced relationally: module-level guidelines interact with students who move across different modules, while the different interpretations do not necessarily interact directly with one another before being encountered by the same student.

Assessment practices further contribute to this differentiation. Lecturers may permit AI in some learning activities

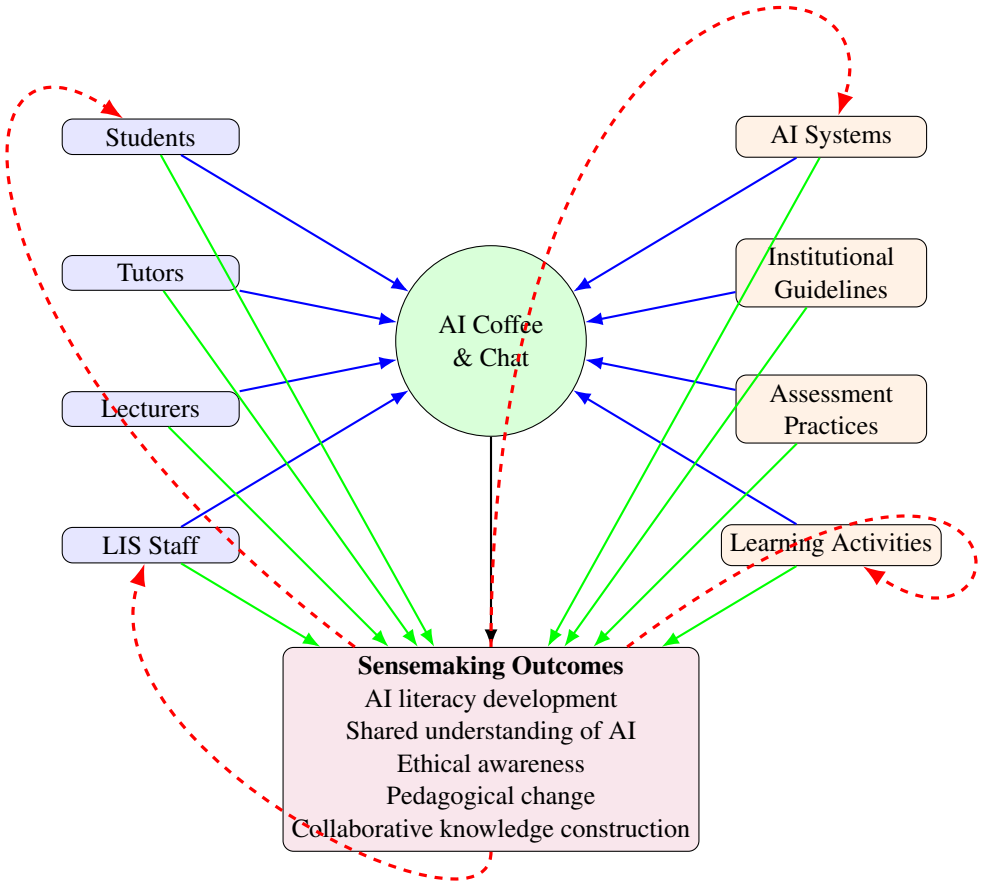


Figure 1: The AI Coffee and Chat Actor–Actant Network and the outcomes of Sensemaking.

while restricting it where an assessment is intended to demonstrate independent student performance. Consequently, AI expectations can emerge from the particular relationship between institutional guidance, lecturer judgement, disciplinary conventions, and assessment purposes. The module guide then stabilises and communicates this local configuration to students. What appears at institutional level as a common framework for AI use therefore becomes a set of locally enacted expectations as it moves through the network.

The AI Coffee and Chat sessions become significant within this network because they bring these otherwise separate configurations into the same space. That is, students can compare expectations across modules, while lecturers and support staff encounter practices beyond their own disciplinary or professional contexts. Contradictions that may remain local to individual modules are consequently made visible as network-level concerns. From an ANT perspective, the concern surrounding institutional AI guidelines is therefore not located in the policy document itself, but emerges from the relations through which institutional expectations are interpreted, materialised, circulated, and encountered across different pedagogical contexts. The network produces multiple, and sometimes competing, versions of what responsible AI use means in practice.

**AI as an ambiguity generator** The pattern of AI as an ambiguity generator illustrates how uncertainty emerges through the relations between AI systems and the actors and resources with which they are connected. Participants frequently raised concerns about hallucinations[3], contradictory responses, persuasive but unsubstantiated explanations, and inconsistent outputs. From an ANT perspective, these problems cannot be attributed to the AI system alone. An AI-generated response becomes questionable through its relation to the prompt that produced it (Malaviya et al., 2025), the knowledge available to the user, the disciplinary context in which it is evaluated, and the sources against which its claims are compared. The same output may therefore be regarded as useful in one context and problematic in another. The discussions around prompt writing illustrate this relational character particularly well. Although inaccurate or unhelpful responses were often attributed to limitations of AI systems, participants also recognised that interactions with AI are shaped by how users formulate their prompts. Prompt writing consequently emerged in the AI Chats as a pedagogical practice through which participants attempted to influence the quality and relevance of AI-generated outputs.

The relations surrounding AI outputs also extended to practices of verification. When an AI-generated response could not be readily trusted, other elements of the network were mo-

[3] Huang et al. (2025) define hallucinations as either intrinsic, where the generated output contradicts the source content, or extrinsic, where the generated output cannot be verified from the source.

bilised to establish its credibility. Lecturers, for example, draw on academic sources, disciplinary knowledge, assessment requirements, and evidence of student learning when evaluating AI-related outputs. Although less common, students also compare AI-generated explanations with other sources and question whether AI-generated paraphrases retain their intended meaning. Verification therefore becomes more than a response to an isolated technological error; it is a practice through which the network attempts to stabilise uncertain knowledge. Trust and mistrust as part of learning activities consequently emerge as relational effects of these associations (Figure 1), produced through the interaction of AI systems, users, prompts, knowledge resources, sources, and pedagogical expectations rather than residing inherently within either the technology or its users.

**Pedagogical adaptation and experimentation**
The emergence of generative AI has reconfigured established relationships among lecturers, students, assessment practices, and learning activities. This was evident in discussions about how assessment could provide credible evidence of student learning when students had access to AI, and how teaching and learning activities could accommodate AI without simply reproducing existing practices. Early discussions focused particularly on identifying AI use, with participants considering AI detection tools in ways similar to established approaches to plagiarism detection. The limitations of these tools, however, raised questions about whether attempts to distinguish AI-generated from student-generated work were sustainable. Attention subsequently shifted towards how AI might instead be incorporated into learning, with students describing its use for explanation, summarisation, idea generation, and feedback (Phung et al., 2026, p.853). At the same time, participants continued to negotiate boundaries around acceptable and ethical use, particularly where AI intersected with assessment integrity and AI-enabled search environments.

From an ANT perspective, these developments represent a reconfiguration of the pedagogical network rather than a direct technological effect. AI alters the relations among assessment, teaching, learning, and student practices, while lecturers and students simultaneously modify these relations by adapting assessment designs, learning strategies, and approaches to AI use. The movement from detecting AI towards experimenting with its pedagogical possibilities therefore reflects an ongoing process of negotiation in which both educational practices and the role assigned to AI are being reconfigured.

**The plurality of meanings in AI interpretation**
The plurality of meanings attached to AI reflects the different relations through which it is encountered across the university. Students, lecturers, and library and information science practitioners do not necessarily interact with the same version of AI in practice. Students encounter AI as a tutor, writing assistant, source of explanations, or means of generating ideas and essays, while lecturers encounter it as a potential substitute for student writing and as a challenge to established approaches to assessment and academic integrity. At the same time, lecturers also use AI as a teaching assistant for generating slides, summaries, examples, or other learning materials. Library and information science practitioners encounter AI through questions of information literacy, source credibility, search, and the changing ways in which users access information. ANT helps explain these differences by directing attention to the relations through which AI acquires different roles and meanings. AI does not therefore possess a single, stable identity within the pedagogical network. Instead, its significance is produced through its associations with particular users, practices, disciplinary expectations, and institutional concerns.

This multiplicity also produces tensions between competing understandings of AI as either a friend or a foe. The same technology that students may regard as a learning companion is sometimes perceived by lecturers as a threat to authentic student authorship, while some lecturers regard AI as a useful pedagogical assistant when they themselves use it to support teaching. In this way, one may view it in this way, AI is a friend when it supports my work, but a foe when it supports someone else's work in a way that threatens my role.

The AI Chats consequently revealed that the question was not only whether AI should be used, but what participants meant when they referred to "AI" in the first place. Discussions implicitly raised distinctions between generative AI, AI-enabled search, writing assistance, automated feedback, and other forms of algorithmic functionality that have become embedded in educational technologies. From an ANT perspective, these distinctions matter because different technological configurations enter the network through different relations and consequently produce different effects. The AI Chats therefore made visible a network in which there is no singular AI with a fixed role, but multiple situated versions of AI whose meanings and effects are continually negotiated (Heeks and Stanforth, 2015). In other words, the network in Figure 1 does not simply contain different opinions about a single technological object; it produces multiple situated versions of what AI is and what it can do.

## 4.3 Sensemaking Theory

While the previous section explained how concerns surrounding the emergence of AI in the classroom arise through sociotechnical relations, this section examines how participants interpret and respond to those concerns. In other words, the previous section focused on how AI reshapes the pedagogical network, whereas this section explores how actors within that network make sense of those changes through dialogue, reflection, and shared interpretation as they navigate learning and teaching in the AI era.

### 4.3.1 The Construction of Pedagogical Meaning

According to Kaur et al. (2022), sensemaking is grounded in identity as individuals draw on their roles and experiences; it is socially constructed through dialogue with others; it is ongoing as interpretations evolve with new experiences; and it is cue-driven as people attend to events or information that require explanation. Furthermore, people are guided by plausibility rather than accuracy, often settling for explanations that are sufficiently coherent to support action rather than seeking complete certainty (Kaur et al., 2022).

This article draws on Sensemaking Theory to explain how participants interpret and respond to AI-influenced changes in the classroom. As Turner et al. observe, "at the micro level, sensemaking addresses the cracks or gaps in individual cognitions" (Turner et al., 2023, p. 1). The theory explains how individuals and groups construct meaning when confronted with novel, ambiguous, or disruptive situations (Turner et al., 2023; Silvola et al., 2025; Mariani, 2026). Because sensemaking is inherently retrospective, participants interpret events only after they have been experienced (Kaur et al., 2022). Rather than assuming that technologies are encountered with pre-existing understandings[4], Sensemaking Theory emphasises that meaning emerges through interpretation, dialogue, and reflection (Turner et al., 2023; Comes, 2026; Mariani, 2026). This makes the theory well suited to understanding how education stakeholders interpret both the concrete and abstract dimensions of AI in learning and teaching (Engström et al., 2024).

[4]This resonates with ANT's notion of the black box, where technologies are often accepted without questioning their internal workings.

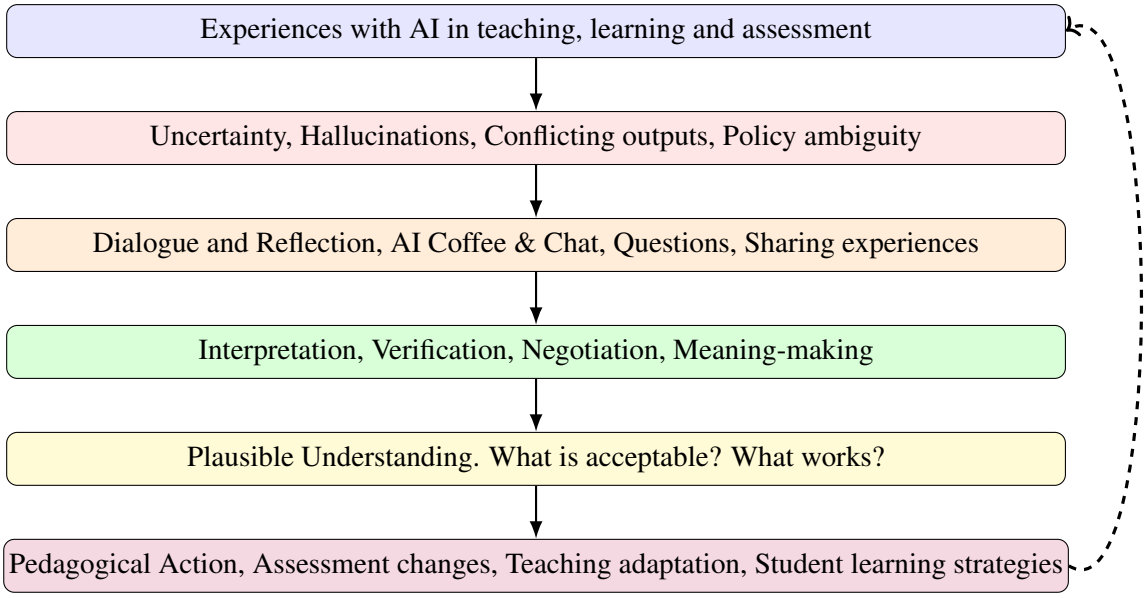


Figure 2: Sensemaking as a recursive process in the AI Coffee and Chat sessions.

#### 4.3.2 Sensemaking and the patterns of concern

Similar to Section 4.2.2, the discussion below is structured into the four patterns of concern introduced in the introduction to Section 4.

**Institutional AI guidelines** The ANT analysis in Section 4.2.2 demonstrates how institutional AI guidelines become translated into different module-level expectations, producing variations in how AI use is permitted, restricted, or regulated across the university. From a Sensemaking perspective, the analytical question shifts from how these differences emerge to how participants interpret and respond to the uncertainty they create. In the AI Coffee and Chat sessions, students and staff compared their experiences, questioned conflicting expectations, and sought to establish what constituted appropriate AI use in their particular contexts. These discussions reflect sensemaking in response to unfamiliar and evolving circumstances, where participants attempt to construct plausible understandings from incomplete and sometimes contradictory information (Kaur et al., 2022).

The sessions provided a space in which participants could test interpretations against the experiences of others and develop provisional understandings of responsible AI use. Rather than necessarily producing a single institutional interpretation, these exchanges enabled participants to arrive at contextually workable understandings of what AI use meant for their teaching, learning, and assessment practices. As Mariani (2026) notes, uncertainty arises from incomplete information; consequently, these understandings remained open to revision as participants encountered new AI-related situations and as institutional expectations developed. The AI Chats therefore functioned as spaces in which participants collectively worked through uncertainty and continually revised their understandings of AI use.

The provisional sense participants made of these discussions was not that a single, universally applicable rule for AI use could be derived from institutional guidance. Rather, participants came to recognise that responsible AI use had to be interpreted in relation to particular disciplinary, pedagogical, and assessment contexts.

**AI as an ambiguity generator** The ANT analysis in Section 4.2.2 above shows how uncertainty surrounding AI emerges through relations among prompts, AI-generated outputs, disciplinary knowledge, academic sources, and users. From a Sensemaking perspective, attention shifts to how participants interpreted and responded to this uncertainty. Hallucinations, contradictory responses, and inconsistent outputs disrupted existing assumptions about knowledge, authority, and credibility, prompting participants to reconsider when and how AI-generated information could be trusted. Through continued discussion, comparison of experiences, source verification, and reflection, participants develop a more cautious understanding of AI as a source of information. The sense made was not that AI could simply be classified as reliable or unreliable, but that its outputs required contextual evaluation and verification. This understanding also extended to prompting, as participants recognised that effective interaction with AI requires users to formulate questions carefully and critically evaluate the responses received. AI therefore came to be understood not simply as a source of answers, but as a system whose outputs require human judgement, verification, and contextual interpretation.

**Pedagogical adaptation and experimentation** The ANT analysis in Section 4.2.2 above demonstrates how the emergence of AI reconfigures relationships among teaching, learning, assessment, and student practices. From a Sensemaking perspective, the focus shifts to how participants interpreted these changes and determined how they might respond to them. Lecturers questioned what could reasonably constitute evidence of learning when students had access to AI, while students explored how AI could be incorporated into learning and content production. [5] As Mariani (2026) argues, uncertainty arises from incomplete information, and participants repeatedly recognised that established answers for responding pedagogically to generative AI were limited. Through the AI Coffee and Chat sessions, they therefore compared experiences, considered alternative approaches, and developed

[5] Some participants also focused on using AI to complete assessments on their behalf, raising important questions about academic integrity and ethical AI use.

| Discussion theme | Questions to ask | Possible practical outcome |
|---|---|---|
| Institutional AI guidelines | Where are the rules clear, contradictory or difficult to apply? | Identify policy ambiguities and questions requiring clarification. |
| AI outputs and verification | How do we establish accuracy, credibility and appropriate reliance on generated content? | Share verification practices and identify gaps in AI literacy. |
| Pedagogical adaptation | Which teaching, learning or assessment practices might benefit from experimentation? | Identify possible teaching experiments and the safeguards they require. |
| Competing interpretations | Why do participants disagree about AI's value, risks or acceptable uses? | Surface assumptions and identify issues for further dialogue. |

Table 1: Using recurring concerns to structure institutional dialogue about AI.

provisional understandings of what effective and responsible teaching and learning might require in an AI-mediated environment.

A significant shift was evident in the movement from initially focusing on detecting and preventing AI use towards considering how AI could be incorporated constructively into learning. The sense participants made was consequently not that a single pedagogical response to AI was available, but that teaching, learning, and assessment would require continued experimentation and adaptation as new experiences and understandings emerged.

**Plural meanings in AI interpretation** The ANT analysis in Section 4.2.2 demonstrates how different relations produce multiple situated versions of AI across the university. From a Sensemaking perspective, the focus shifts to how participants interpreted these competing meanings and reconciled the tensions between them. Students, lecturers, library and information science practitioners view the role and interpretation of AI differently. In the end, these differences required participants to reconsider assumptions about what AI is, what it should be used for, and who should be permitted to use it.

The sense participants are making of these competing interpretations is not that AI can be categorised simply as either beneficial or harmful. Rather, its value and risk are understood as dependent on when, how, by whom, and for what purpose it was used. The same system can therefore be understood as a tutor when supporting a student's learning, a teaching assistant when used by a lecturer to prepare materials, or a threat when used to produce assessed work on a student's behalf.

The AI Coffee and Chat sessions provided a space in which these contrasting interpretations could be articulated and reconsidered through dialogue. Sensemaking in this context therefore has not produced consensus around a single meaning of AI; instead, it enables participants to develop a more conditional understanding in which the role and appropriateness of AI depends on its context of use, its relationship to learning and teaching practices, and the purposes it serves.

# 5 Using the four recurring concerns to structure institutional dialogue about AI

The four recurring concerns presented in this article can be used as a flexible agenda for facilitated discussions, with participants invited to identify additional issues relevant to their institutional settings. While the recurring concerns cannot be assumed to be a fixed framework that can apply to every university, they can be used as prompts to help participants examine how AI is understood, negotiated and incorporated into teaching, learning, and assessment within their own contexts.

Table 1 presents possible questions that can be explored to spark conversations in the discussions as well as the possible practical outcomes. First, discussions of institutional AI guidelines can allow participants to consider where guidance is clear, where uncertainties remain and how inconsistencies affect everyday pedagogical decisions.

Second, discussions of uncertainty surrounding AI outputs can prompt participants to explore how they assess accuracy, identify fabricated information, establish the credibility of sources and decide when human judgement or additional verification is necessary.

Third, discussions of pedagogical adaptation and experimentation can explore practices that warrant experimentation, the educational purposes those practices serve and the limitations that need to be addressed.

Fourth, discussions of competing interpretations of AI can create space for participants to articulate differing assumptions about its educational value, risks, appropriate uses and implications for academic work. Such differences need not be resolved immediately; making them visible can help institutions identify questions requiring further discussion, clarification or policy development. For instance, education stakeholders such as a library practitioner, lecturer and student could each respond to a question like: "*How do we determine whether AI-generated information is reliable?*" The expectation is that they will give different answers. Those answers could then become the focus of a discussion about verification practices, disciplinary expectations, and institutional guidance.

# 6 Conclusion

This article set out to identify recurring pedagogical concerns emerging from the AI Coffee and Chat sessions involving students and staff, and to interpret these concerns through the combined lenses of Actor–Network Theory (ANT) and Sensemaking Theory. Four recurring patterns were identified: the negotiation of institutional AI guidelines, AI as an ambiguity generator, pedagogical adaptation and experimentation, and the plurality of meanings attached to AI. These concerns indicate that the emergence of generative AI in the classroom generates uncertainty, competing expectations, and ongoing questions about teaching, learning, assessment, authorship, information, and the appropriate role of AI.

In response to RQ1, the AI Coffee and Chat sessions revealed that participants were concerned not only with whether AI should be used, but with how its presence changes established pedagogical practices. Concerns about unreliable outputs generated practices of verification; differences between institutional and module-level guidelines produced uncertainty about acceptable AI use; changing relationships between AI, assessment, teaching and learning encouraged pedagogical experimentation; and different experiences of AI produced competing understandings of its role. Importantly, the discussions also revealed a persistent tension in which AI could be understood as both friend and foe. These tensions demonstrate that the pedagogical significance of AI cannot be reduced to either its benefits or its risks.

In response to RQ2, ANT and Sensemaking Theory provide complementary but distinct ways of interpreting these concerns. ANT makes visible how pedagogical relations are

being reconfigured as AI becomes associated with students, lecturers, module guides, assessment practices, learning activities, information resources, and institutional expectations. It shows, in particular, that AI does not enter the classroom as a fixed and uniform object. Instead, its roles and effects emerge through different relations and become multiple across pedagogical contexts and actors. Sensemaking, in turn, draws attention to how participants respond to the uncertainty produced by these changing relations. The AI Coffee and Chat sessions provide a space in which participants compare experiences, question assumptions, verify information, negotiate interpretations, and develop provisional understandings of how AI might be used. Within the network, the AI Chats function as an obligatory passage point through which diverse actors negotiate the pedagogical significance of AI (Callon, 1986; Sele, 2021). Overall, the process of Sensemaking does not necessarily produce consensus; rather, it enables participants to arrive at plausible and contextually appropriate understandings that remain open to revision through continued conversations.

The combination of these perspectives is therefore useful for Digital Humanities and humanities education because it shifts attention away from treating AI primarily as a technical object and towards the socio-technical and interpretive relations through which it acquires meaning. This is particularly relevant to the theme, *Building the Methodological Commons: Plural Digital Humanities, AI, and Socio-Technical Futures in Southern Africa*. The AI Coffee and Chat sessions illustrate how informal and recurring dialogue can become a space for developing shared, although not necessarily uniform, understandings of emerging technologies like AI. They bring together different epistemic positions, including those of students, academic staff, and library and information science practitioners, and demonstrate the value of plural perspectives when responding to AI in humanities contexts.

Future research could build on these insights by examining how particular AI practices develop within specific disciplines and by collecting participants' accounts through dedicated qualitative methods such as interviews, focus groups, or longitudinal observation. Further research could also investigate how module-level AI expectations interact with institutional policy, how students navigate conflicting requirements across modules, and how understandings of responsible AI use change as technologies and institutional responses evolve. Such work would provide an opportunity to move from identifying recurring concerns towards examining how particular pedagogical practices and institutional responses emerge from them.

## Limitations

The article has three major limitations. First, the themes discussed in this article are based on a single institutional context and draw on the reflective notes and institutional reports of the researcher. As such, the findings are interpretive and situated, and are not intended to be generalisable across contexts. Second, the dual role of the researcher as both facilitator and analyst introduces a level of subjectivity that is inherent to reflective methodological approaches, but nonetheless shapes the scope of interpretation.

Finally, it is acknowledged in this article that ANT has attracted criticism for its principle of symmetry between human and non-human actors (Nopas, 2025), with concerns that it may obscure distinctions relating to intentionality, responsibility, and power, particularly in contexts marked by social inequality (Blok and Jensen, 2025). Similarly, its emphasis on networks and associations has been criticised for underplaying the enduring influence of institutions, history, and political economy in shaping social relations (Blok and Jensen, 2025). Despite these limitations, ANT remains useful for tracing the socio-technical relations through which trust, uncertainty, interpretation, and pedagogical responses emerge.

The version of ANT adopted in this article draws primarily on Latour's relational understanding of socio-technical networks, in which agency emerges through associations between human and non-human actors (Latour, 1996; Blok and Jensen, 2025). Rather than applying Callon's moments of translation as an analytical framework (Callon, 1986), ANT is used here as a sensitising lens for tracing the relations through which pedagogical concerns surrounding AI emerge. One limitation of this approach is that ANT provides relatively little insight into how actors interpret these concerns or negotiate their meaning. For this reason, the analysis is complemented by Sensemaking Theory, which foregrounds the interpretive processes through which participants collectively understand and respond to AI in the classroom.

## Ethics Statement

This article constitutes a reflective institutional account arising from the author's ongoing facilitation and reflection on the AI Coffee and Chat sessions at Nelson Mandela University. The account draws on reflective materials and observations of recurring issues discussed during these sessions rather than on data collected from participants for the purposes of this research. No identifiable personal information, individual participant profiles, quotations attributable to specific participants, or personally identifiable records are collected, analysed, or reported in the article.

As the article does not involve the collection or analysis of identifiable participant data, formal institutional research ethics approval was not required for the reflective account presented here.

The AI Coffee and Chat sessions are situated within Nelson Mandela University and provide the institutional context for the reflections presented. However, the article does not represent an official position of the University, its faculties, or any institutional body. The views, interpretations, and arguments presented are those of the author and should not be understood as representative of Nelson Mandela University or its students, staff, policies, or practices.

## Declaration of AI use

Generative AI tools were used to support language editing and drawing the figures in the manuscript. AI-generated editorial suggestions were reviewed critically, and the author takes full responsibility for the accuracy, integrity and final content of the manuscript.

## References


Stuart Aitken and Gill Valentine, editors. 2006. *Approaches to human geography*. SAGE Publications, London.

Andreas Birkbak. 2025. Actor-Network Theory and how to 'do ant' with qualitative or digital methods. In Neil Stephens, Hauke Riesch, and Sandra P González-Santos, editors, *The Research Handbook on the Sociology of Science and Technology*. Edward Elgar.

Anders Blok and Casper Bruun Jensen. 2025. What next for actor network theory? inventing around latour on a planet in distress. *Dialogues in Sociology*, 1(1):63–74.

Fernando J Bosco. 2006. Actor-Network Theory, networks, and relational geographies. In Stuart Aitken and Gill Valentine, editors, *Approaches to human geography*, pages 134–146. SAGE Publications, London.

Rosabelle Boswell and Ryan Pillay. 2022. Changing heritage, changing the world? the case of a south african university. *Journal of Contemporary African Studies*, 40(1):113–131.

Michel Callon. 1986. The sociology of an actor-network: The case of the electric vehicle. In *Mapping the dynamics of science and technology: Sociology of science in the real world*, pages 19–34. Springer.

Kristen. Carlson. 2026. Preparing teachers for an AI future: Integrating generative AI into graduate coursework and teacher preparation programs. In *INTED2026 Proceedings*, 20th International Technology, Education and Development Conference, page 0155. IATED.

Chiranjib Chakraborty, Manojit Bhattacharya, Md Aminul Islam, and Govindasamy Agoramoorthy. 2023. Chatgpt indicates the path and initiates the research to open up the black box of artificial intelligence. *International Journal of Surgery (London, England)*, 109(12):4367.

Tina Comes. 2026. Sensemaking AI: Introducing a research and design agenda for human–AI networks. *EPJ Data Science*, 15(1):42.

Kamaluddeen Usman Danyaro, Shamsu Abdullahi, Abdallah Saleh Abdallah, and Haruna Chiroma. 2025. Hallucinations in large language models for education: Challenges and mitigation. *International Journal of Teaching, Learning and Education*, 4(6):639993.

Annika Engström, Daniel Pittino, Alice Mohlin, Anette Johansson, and Nina Edh Mirzaei. 2024. Artificial Intelligence and work transformations: integrating sensemaking and workplace learning perspectives. *Information Technology & People*, 37(7):2441–2461.

Norm Friesen and Hanno Su. 2023. What is pedagogy? discovering the hidden pedagogical dimension. *Educational Theory*, 73(1):6–28.

Paul Fyfe. 2011. Digital pedagogy unplugged. *Digital Humanities Quarterly*, 5(3).

Jorge Luis Morton Gutiérrez. 2024. On Actor-Network Theory and algorithms: ChatGPT and the new power relationships in the age of AI. *AI and Ethics*, 4(4):1071–1084.

Alexandra Hay. 2025. What may be: Policy enactment in education, a new conceptual framework with Actor-Network Theory. *Journal of Education Policy*, 40(2):179–198.

Cristyne Hébert. 2015. Knowing and/or experiencing: A critical examination of the reflective models of john dewey and donald schön. *Reflective Practice*, 16(3):361–371.

Richard Heeks and Carolyne Stanforth. 2015. Technological change in developing countries: opening the black box of process using actor–network theory. *Development Studies Research*, 2(1):33–50.

Lei Huang, Weijiang Yu, Weitao Ma, Weihong Zhong, Zhangyin Feng, Haotian Wang, Qianglong Chen, Weihua Peng, Xiaocheng Feng, Bing Qin, and 1 others. 2025. A survey on hallucination in large language models: Principles, taxonomy, challenges, and open questions. *ACM transactions on information systems*, 43(2):1–55.

Firmansyah Ibrahim. 2026. Pedagogical integrity and hallucination risks in Bloom's taxonomy-aligned AQG. *Preprint available at SSRN 6541198*.

Olimpius Istrate. 2022. Digital pedagogy. definition and conceptual area. *Journal of Digital Pedagogy*, 1(1):3–10.

Hend Kamel. 2024. Understanding the impact of AI hallucinations on the university community. *Cybrarians Journal*, (73):111–134.

Harmanpreet Kaur, Eytan Adar, Eric Gilbert, and Cliff Lampe. 2022. Sensible AI: Re-imagining interpretability and explainability using sensemaking theory. In *Proceedings of the 2022 ACM Conference on Fairness, Accountability, and Transparency*, pages 702–714, New York, United States. Association for Computing Machinery.

Elizabeth Anne Kinsella. 2010. The art of reflective practice in health and social care: Reflections on the legacy of donald schön. *Reflective Practice*, 11(4):565–575.

Bruno Latour. 1996. On actor-network theory: A few clarifications. *Soziale welt*, pages 369–381.

John Law. 1992. Notes on the theory of the actor-network: Ordering, strategy, and heterogeneity. *Systems practice*, 5(4):379–393.

India Lawton. 2026. Learning in one place at a time: A personal perspective on block teaching, neurodiversity, and belonging in foundation education. *Journal of Block and Intensive Learning and Teaching*, 4(1):1–15.

Brenda Leibowitz. 2016. In pursuit of socially just pedagogies in differently positioned south african higher education institutions. *South African Journal of Higher Education*, 30(3):219–234.

Chaitanya Malaviya, Joseph Chee Chang, Dan Roth, Mohit Iyyer, Mark Yatskar, and Kyle Lo. 2025. Contextualized evaluations: Judging language model responses to underspecified queries. *Transactions of the Association for Computational Linguistics*, 13:878–900.

Costanza Mariani. 2026. From AI to value: the role of sensemaking in project environments. *International Journal of Project Management*, 44(2026):1–7.

Patricia Murphy. 2003. Defining pedagogy. In Patricia Murphy and Caroline V. Gipps, editors, *Equity in the classroom: Towards Effective Pedagogy for Girls and Boys*, pages 17–30. Routledge, London.

Murimo Bethel Mutanga, Zvinodashe Revesai, Samuel Chikasha, and Tarirai Chani. 2025. Why generative AI will not replace university lecturers: A human-centred perspective. *The Indonesian Journal of Computer Science*, 14(6).

Dech-siri Nopas. 2025. Decentring the human: Actor-Network Theory and AI in Thai online learning communities. *Asian Education and Development Studies*, 14(5):1052–1067.

Ángela Novoa-Echaurren, Isabel Pavez, and Marco Esteban Anabalón. 2025. Reflective practice and digital technology use in a university context: A qualitative approach to transformative teaching. *Education Sciences*, 15(6):643.

Seyeon Park and Xiaoli Nan. 2026. Generative AI and misinformation: a scoping review of the role of generative AI in the generation, detection, mitigation, and impact of misinformation. *AI & SOCIETY*, 41(2):1501–1515.

Elitsa Peltekova, Dafinka Miteva, and Ioannis Patias. 2026. Hallucination in LLM-based educational tools: Risks and solutions for reliable learning. *Journal of Business Innovation and Governance*, 9(1).

Tung Phung, Heeryung Choi, Mengyan Wu, Christopher Brooks, Sumit Gulwani, and Adish Singla. 2026. Closing the loop: An instructor-in-the-loop AI assistance system for supporting student help-seeking in programming education. In *Proceedings of the 57th ACM Technical Symposium on Computer Science Education V.1*, pages 852–858.

Roshini Pillay. 2024. Educator narratives on student success through enacting a humanising pedagogy and care: A transformative approach. *African Sun Media eBooks*.

Charmaine Roche. 2022. Decolonising reflective practice and supervision. *Philosophy of Coaching: An International Journal*, 7(1):30–49.

Tadhg Ryan, Nuala Ryan, and Briga Hynes. 2024. The integration of human and non-human actors to advance healthcare delivery: Unpacking the role of Actor-Network Theory, a systematic literature review. *BMC Health Services Research*, 24(1):1342.

Orana Sandri. 2022. What do we mean by 'pedagogy'in sustainability education? *Teaching in Higher Education*, 27(1):114–129.

Donald A Schön. 1987. *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. Jossey-Bass, San Francisco, CA.

Donald A Schön. 1995. Knowing-in-action: The new scholarship requires a new epistemology. *Change: The Magazine of Higher Learning*, 27(6):27–34.

Donald A Schön. 2017. *The reflective practitioner: How professionals think in action*, 1 edition. Routledge, London.

Kathrin Sele. 2021. Actor-network theory and routine dynamics. *Cambridge handbook of routine dynamics*, 73:73–84.

Neil Selwyn. 2019. *Should robots replace teachers?: AI and the future of education*. Polity Press, Cambridge, UK.

Rajendra Kumar Shah. 2021. Conceptualizing and defining pedagogy. *IOSR Journal of Research & Method in Education (IOSR-JRME)*.

Anni Silvola, Anu Kajamaa, Joonas Merikko, and Hanni Muukkonen. 2025. AI-mediated sensemaking in higher education students' learning processes: Tensions, sensemaking practices, and AI-assigned purposes. *British Journal of Educational Technology*, 56(5):2001–2018.

Timm Teubner, Christoph M Flath, Christof Weinhardt, Wil MP van der Aalst, and Oliver Hinz. 2023. Welcome to the era of chatgpt et al. *Business & information systems engineering*, 65(2):95–101.

John R Turner, Jeff Allen, Suliman Hawamdeh, and Gujjula Mastanamma. 2023. The multifaceted sensemaking theory: A systematic literature review and content analysis on sensemaking. *Systems*, 11(3):145.

Andrew Witt. 2018. Grayboxing. *Log*, Summer 2018(43):69–77.

Tianyu Wu, Shizhu He, Jingping Liu, Siqi Sun, Kang Liu, Qing-Long Han, and Yang Tang. 2023. A brief overview of chatgpt: The history, status quo and potential future development. *IEEE/CAA Journal of Automatica Sinica*, 10(5):1122–1136.

Michalinos Zembylas. 2018. Decolonial possibilities in South African higher education: Reconfiguring humanising pedagogies as/with decolonising pedagogies. *South African Journal of Education*, 38(4):1–11.

Denise Zinn, Kimberley Proteus, and Andre Keet. 2009. Mutual vulnerability: A key principle in a humanising pedagogy in post-conflict societies. *Perspectives in Education*, 27(2):109–119.