

Editorial: Special Issue Section

AI-powered and emerging technologies for multilingual classrooms: Pedagogical innovations in higher education

Artificial intelligence (AI) and other emerging technologies are no longer peripheral to higher education. They are becoming part of the everyday infrastructures through which students access knowledge, lecturers design learning, institutions communicate, and academic support is organised. In multilingual higher education contexts, however, the significance of these technologies cannot be understood only in terms of efficiency, innovation or automation. Their deeper implications lie in how they shape access, participation, language, epistemic justice, and the conditions under which students are recognised as legitimate knowers.

These concerns make governance and pedagogy central to any account of AI-enabled innovation in higher education. Recent scholarship therefore emphasises that AI-enhanced and emerging technologies can reshape pedagogical practice, but that their value depends on responsible design, ethical governance and purposeful educational integration (Bayaga, 2025; Nguyen, et al., 2023).

In multilingual teaching and learning, GenAI offers possibilities for feedback, translation, scaffolding and learner support, but also requires teacher preparedness and responsible use (Kohnke, et al., 2023; Law, 2024).

This special issue, 'AI-powered and emerging technologies for multilingual classrooms: Pedagogical innovations in higher education', responds to this moment by bringing together contributions that treat AI and emerging technologies as pedagogical, linguistic and political questions. The issue is framed by a concern that is both local and global: multilingual classrooms are not exceptions to the higher education project; they are central to it. Yet the digital systems that increasingly mediate teaching and learning are often designed around dominant languages, dominant knowledge systems and assumptions of equal access.

This produces a double bind for multilingual higher education. AI-enabled technologies may widen participation, support translation, scaffold writing, personalise feedback, and create new multimodal forms of expression. At the same time, they may reproduce the very linguistic and epistemic hierarchies they appear to disrupt by intensifying surveillance of student writing, normalising English dominance, and obscuring the uneven material conditions under which students and educators engage with technology.

The articles in this issue do not offer a celebratory account of AI as a neutral solution to long-standing educational challenges. Instead, they ask what it would mean to integrate AI critically, ethically



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and pedagogically in multilingual higher education. They examine language policy, African-language digital futures, translanguaging, academic literacy assessment, classroom practice, ethical awareness, writing support and human-AI collaboration. Read together, they insist that the future of AI in higher education must be judged not by technological sophistication alone, but by whether it advances more inclusive, contextually responsive and intellectually just forms of teaching and learning.

Collectively, the contributions argue that multilingual higher education provides a particularly productive lens through which to examine AI. Rather than treating language as a technical problem to be solved through translation and automation, the articles position language as a site of identity, knowledge production, participation and justice. This perspective aligns with the view that language is a social justice issue (Mdzanga & Moeng, 2021). In doing so, the articles contribute to an African and Global South perspective to emerging international debates on AI in education.

This framing is grounded in translanguaging scholarship that treats multilingualism not as the movement between fixed and separate languages, but as a dynamic pedagogical and meaning-making practice. García and Li Wei (2014) show how translanguaging enables learners to draw on their full linguistic repertoires in knowledge construction, while Makalela (2017) foregrounds the importance of moving beyond rigid linguistic boundaries in multilingual classrooms. This matters for the special issue because AI systems often organise language as standardised and separately bounded, whereas multilingual higher education classrooms are lived as fluid, relational, and epistemically generative spaces.

The intellectual arc of the special issue

The sequencing of the articles has been deliberately structured to create a coherent intellectual progression. The issue begins at the macro level, with questions of language, policy, access, and participation in the digital AI era. It then moves to multilingual pedagogy and the affordances of AI in Ghanaian higher education, before turning to academic literacy assessment through GenAI, Sustainable Development Goals, and multilingual narratives. The final three contributions bring the discussion closer to practice and educational purpose: The first examines the use of ChatGPT in teaching to support critical thinking and ethical awareness. The second considers how a writing centre may use GenAI through consultant-mediated collaboration. The third, 'The Feedback Box', extends the discussion conceptually by asking when AI-mediated feedback can be considered genuinely educational, rather than merely automated or behaviour-shaping.

This progression matters because it avoids treating AI as merely a classroom tool. The issue first establishes the broader linguistic and policy terrain, then considers how AI may mediate multilingual pedagogy, and only thereafter examines assessment, teaching practice and writing support. In this way, the issue moves from system and structure to pedagogy and practice, while keeping language justice, ethical use and human judgement at the centre.

The contributions

Ibrahim Harun: African languages in the digital AI era

The opening article by Ibrahim Harun, 'African languages in the digital AI era: Reimagining communication, access, policy, and participation', provides the conceptual and policy foundation for the issue. Harun situates African languages within South Africa's digital and AI-mediated landscape, showing that language remains a marker of identity, culture and power even as communication increasingly shifts into digital spaces. The article draws on a systematic literature review, document analysis, and a Virtual Linguistic Landscape approach to examine how African languages are represented, supported and transformed across policy, education, governance and public communication.

Harun's contribution is important because it frames AI and digital transformation as questions of linguistic justice. The article recognises growth in digitisation efforts, language technology projects, and institutional attention to linguistic diversity, but it also demonstrates that progress remains uneven. Funding, standardisation, technological capacity, and implementation gaps continue to limit the digital functionality and visibility of African languages. By placing policy, infrastructure and participation at the centre, Harun establishes a key argument for the special issue: African languages cannot be treated as supplementary to digital transformation; they must be foundational to equitable participation in the AI era.

Joyce Senya Ama Anku, Prince Edem Dzakpasu, and Stella Afi Makafui Yegblemenawo: AI-enabled multilingual pedagogies

The second article, Joyce Senya Ama Anku, Prince Edem Dzakpasu and Stella Afi Makafui Yegblemenawo's 'AI-enabled multilingual pedagogies in Ghanaian higher education: A conceptual analysis of emerging affordances', extends the discussion from language policy and digital visibility into pedagogical possibility. Located in Ghanaian higher education, the article addresses the dominance of English as the language of instruction, assessment and academic legitimacy, while recognising the rich multilingual repertoires students bring into university spaces.

Drawing on affordance theory and translanguaging, Anku, Dzakpasu, and Yegblemenawo distinguish between visible and non-visible AI affordances. Visible affordances include translation, writing support, feedback and access to academic content. Non-visible affordances include confidence-building, reduced language anxiety, identity affirmation and the possibility of using AI as a mediating layer between students' indigenous-language resources and formal academic registers. The article therefore shifts the discussion from what AI can technically do to what AI can pedagogically enable when it is used deliberately to support multilingual participation. Its conceptual contribution lies in arguing that AI-mediated multilingual pedagogies can help transform English-dominant classrooms into more linguistically responsive spaces, provided that policy, curriculum design, lecturer practice, and assessment are aligned with this aim.

Oscar Eybers: Academic literacy assessment, GenAI and multilingual narratives

Oscar Eybers' article, 'Redefining academic literacy assessment with SDG Goals, GenAI, and multilingual narratives', moves the special issue into the domain of assessment. Eybers argues that academic literacy assessment has historically been shaped by colonial and apartheid logics that privilege monolingual, text-centred and culturally disembodied forms of knowledge demonstration. Against this background, the article explores how GenAI image generation, multilingual narratives and translanguaging can support more inclusive academic literacy assessment for first-year humanities students.

The article's significance lies in its effort to connect GenAI with decolonial, multimodal and socially sustainable assessment practice. By analysing AI-generated images, reflective writing, and translanguaging practices, Eybers shows how students can use visual, written and linguistic resources to narrate pre-university journeys, disciplinary identities and lived experiences. The article explicitly links these practices to SDG 4, SDG 10, and SDG 16, positioning assessment reform as part of broader commitments to quality education, reduced inequalities and more just institutions. It also cautions against uncritical adoption by highlighting Western bias in AI systems, institutional resistance and the need for teacher readiness. In doing so, the article offers a bridge between technological innovation and epistemic justice: GenAI becomes valuable not because it is novel, but because it can be designed into assessment practices that recognise multiple ways of knowing and expressing knowledge.

Vusumzi Funda and Roxanne Piderit: ChatGPT, critical thinking and ethical awareness

The fourth article, Vusumzi Funda and Roxanne Piderit's 'Integrating ChatGPT in teaching: Enhancing critical thinking and ethical awareness in South African students', brings the discussion into undergraduate classroom practice. Set within two Bachelor of Commerce modules at a South African Historically Disadvantaged Institution, the study is located in an English-dominant teaching and learning environment where students bring multilingual repertoires to their academic work. This context is important because the predominantly English orientation of tools such as ChatGPT raises questions about access, language dominance and epistemic participation. Using an autoethnographic approach and Connectivism Theory, the authors examine how ChatGPT was integrated into teaching to support student engagement, critical thinking, and ethical awareness.

Funda and Piderit's contribution is particularly valuable because it resists simplistic claims that AI either enhances or undermines learning. Their findings suggest that ChatGPT can function as a useful knowledge node when students are required to interrogate, verify, and contextualise AI-generated responses. At the same time, the article shows that ethical awareness does not develop automatically through exposure to AI. Students require explicit scaffolding to understand issues of accuracy, authorship, bias, over-reliance and academic integrity. The article also foregrounds the material realities of Historically Disadvantaged Institutions, where digital access, infrastructure, and literacy cannot be assumed. It therefore contributes a grounded account of AI integration in resource-constrained, multilingual higher education contexts and reminds readers that pedagogical design, not technological access alone, determines educational value.

Alan Muller and Avasha Rambiritch: Writing centre collaboration with GenAI

The fifth article, Alan Muller and Avasha Rambiritch's 'Writing centre 2.0: Towards improving student writing through consultant and GenAI collaboration', focuses on academic writing development and human-AI collaboration. The article introduces the HWC-CollaboWriter, a custom GPT designed for use in a faculty-specific writing centre. Its purpose is deliberately constrained: to support writing consultants by identifying and explaining lower-order concerns such as grammar, punctuation, and sentence-level issues, while enabling consultants to focus more fully on higher-order concerns such as argument, structure, coherence, and content development.

Muller and Rambiritch make a careful and important intervention in debates about whether AI will replace human support in writing centres. Their answer is not to reject GenAI, but to embed it within consultant-mediated, dialogic and ethically constrained practice. In multilingual South African higher education, where students' writing challenges are often shaped by cross-linguistic transfer and tacit academic English conventions, the HWC-CollaboWriter is positioned as a tool for making those conventions visible and teachable. The article's strength lies in its insistence that language justice is not inherent in technology. It emerges from design choices, constraints, mediation, and the preservation of student agency. Ending the special issue with this contribution is therefore fitting:

As the penultimate article, this contribution is fitting; it brings the larger themes of the issue into a concrete academic support setting and shows how human judgement, care and pedagogical dialogue remain indispensable.

Wayne Hugo: The Feedback Box: What is educational in the age of artificial intelligence

The special issue closes with 'The Feedback Box: What is educational in the age of artificial intelligence?', a conceptually ambitious paper that returns the discussion to a foundational question in educational research. Rather than asking only whether AI can generate feedback, the paper asks when feedback can properly be called educational. Drawing on Peters (2010), the article distinguishes feedback as a neutral mechanism from feedback as a morally and pedagogically defensible educational practice. It argues that feedback becomes educational only when it engages learners intentionally, provides reasons rather than mere signals, supports knowledge and understanding, transforms judgement, contributes to all-round development, and enables autonomy. This distinction is especially important in the age of AI, where feedback systems can be configured either to support learning or to condition attention, compliance, and dependency. The paper's contrast between the school classroom as a more visible and publicly accountable feedback environment, and higher education as a thinner and more exposed shell, offers a powerful closing provocation for the special issue. It reminds us that the central question is not whether AI should be adopted or rejected, but how AI-mediated systems can be configured so that they remain answerable to educational purposes, human judgement and learner autonomy.

What the issue collectively shows

The special issue also shows that AI literacy must be understood broadly. It is not only the capacity to prompt a tool or evaluate an output, but the ability to recognise bias, question language dominance, understand authorship, and assessment implications, and preserve human judgement in learning (Chiu, et al., 2024; Perkins, et al., 2024; UNESCO, 2024a, 2024b). This broader view of AI literacy is essential for multilingual higher education because students and educators must be able to use AI critically while also asking what kinds of language, knowledge and identity such systems privilege or marginalise.

A further contribution to the issue is its insistence on contextual specificity. The articles are located in South African and Ghanaian higher education, with sustained attention to African languages, Historically Disadvantaged Institutions, student multilingual repertoires and local pedagogical realities. At the same time, their relevance extends beyond these contexts. Higher education systems globally are grappling with how to govern AI, protect academic integrity, support multilingual learners, and ensure that technological change does not reproduce older exclusions in new forms. This issue offers an African and Global South-centred contribution to those debates, not as a peripheral case, but as a source of theoretical and practical insight.

Methodologically, the issue is deliberately diverse. The contributions include a systematic literature review, document analysis and Virtual Linguistic Landscape approach; conceptual analysis; multimodal qualitative analysis of AI-generated images, reflective writing and translanguaging; reflective autoethnography; exploratory design-oriented writing centre work; and philosophical-conceptual argument. This range matters because AI in multilingual higher education cannot be understood through a single method: it requires policy review, conceptual theorisation, classroom-based reflection, design experimentation, and close attention to student meaning-making.

The special issue also shows that AI literacy must be understood broadly. It is not only the capacity to prompt a tool or evaluate an output. It includes understanding bias, language dominance, authorship, access, assessment design, feedback practices, data infrastructures, and the relationship between technological systems and power. This broader view of AI literacy is essential for multilingual higher education because students and educators must be able to use AI critically while also asking what kinds of language, knowledge and identity such systems privilege or marginalise.

Closing

The emergence of AI and related technologies has intensified urgent questions that higher education has long needed to confront: whose languages count, whose knowledge is recognised, whose participation is enabled, and whose learning is constrained by institutional and technological design. This special issue does not present AI as an answer to these questions. Rather, it uses AI as a lens through which to examine them more sharply.

Taken together, the articles call for a multilingual, ethical and pedagogically grounded approach to AI in higher education. Such an approach requires policy commitment, infrastructural investment, teacher readiness, curriculum imagination, assessment reform and the careful design of human-AI

collaboration. It also requires universities to recognise students' linguistic and cultural repertoires as intellectual resources rather than obstacles to be corrected.

The future of AI-powered and emerging technologies in multilingual classrooms will not be determined by the tools themselves. It will be determined by the values, designs and pedagogies through which those tools are adopted. The future of AI-powered and emerging technologies in multilingual classrooms will not be determined by the tools themselves. It will be determined by the values, designs and pedagogies through which those tools are adopted.

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