https://doi.org/10.17323/jle.2025.24343

Teacher-Student Dynamics in AI-Driven Language Education in the Post-Truth Era

Abdu Al-Kadi

University of Bergen, Bergen, Norway

ABSTRACT

Background: Artificial intelligence (AI) inaugurates a new educational era that compels a rethinking of established pedagogical paradigms. Within the epistemological uncertainty of the post-truth era, it has reconfigured teacher-student dynamics (TSD) in ways that challenge traditional assumptions about agency and authority in the classroom.

Purpose: The article addresses the disruption of TSD under the evolving force of AI, with particular attention to tensions in learner–teacher agency asymmetry in the context of AI-mediated language education.

Conceptual Contribution: Positioned within the genre of conceptual scholarship, the article introduces a model that delineates six interrelated dimensions of TSD disruption in the age of AI. The framework does not merely describe emerging shifts but systematizes them into an interpretive structure that traces the trajectory of TSD evolution. In doing so, it foregrounds the broader implications of these transformations for educational policy, pedagogical design, and research agenda in language education.

Implications: The analysis contends that AI realities not only govern but also reshape the human texture of pedagogical interaction. Preserving the integrity of the language classroom requires learning designs that foreground dialogic engagement and epistemic trust, while constructively integrating AI innovations.

KEYWORDS

Artificial intelligence (AI); ethics, integrity; teacher-student dynamics (TSD)

INTRODUCTION

In an era where machines can simulate instruction, the essence of education lies not in the delivery of information, but in the effective human dynamism between teacher and student. Machine learning and Artificial Intelligence (AI), which have been around for a while, have affected normal relations between teachers and the digital generation – or as some call it, a generation of automated education (Kooli, 2023; Sparrow & Flenady, 2025). This generation is shaped by AI tools, perhaps even more than human dialogue. While generative AI (GenAI) has been praised for enhancing efficiency in language learning (Moorhouse & Wong, 2025), it subtly alters pedagogical relationships in ways that are less visible but impactful. It weakens human-to-human connections and widens the gap in rapport between teachers and students (Ji et al., 2024; Montanucci & Peconi, 2024; Viberg et al., 2024). AI systems reshape the teacher-student dynamics (TSD) through automated systems. Such changes challenge the foundational principles of education, forcing a new way of thinking about what it means to teach and learn in an AI-driven era.

This article uses Paulo Freire's *dialogical pedagogy* and Gert Biesta's *subjectification* as touchstones to contemplate the new logic that AI has introduced into TSD. Biesta (2017) critiques the dominant view of teaching as knowledge transmission. To Biesta, teaching is a transformative and relational act that fosters student autonomy and forms responsible individuals who can maintain their agency. Similarly, Freire's idea of dialogical pedagogy challenges the 'banking model' of

Citation: Al-kadi, A. (2025). Teacher-student dynamics in ai-driven language education in the post-truth era. *Journal of Language and Education, 11*(3), 152-159. https://doi.org/10.17323/jle.2025.24343

Correspondence:
Abdu Al-kadi,
abdu.al-kadi@uib.no

Received: December 31, 2024
Accepted: September 18, 2025
Published: September 30, 2025

education in which the teacher 'deposits' information into students' minds, and students, in return, are expected to memorize the deposited information and retrieve it when they are asked to do so in exams. Freire's pedagogical legacy lays emphasis on mutual trust and critical thinking as a foundation for the co-construction of knowledge. This contrasts with AI-driven automation. The main argument this article advocates is that AI is not merely a pedagogical tool that reduces teaching to content delivery but a disruptive epistemic force that reconfigures TSD as it shifts authority, erodes dialogic trust, and redefines learner and teacher agency, and these shifts challenge Freire's vision of dialogical pedagogy and Biesta's call for subjectification in world-centered education.

Conceptual Tensions

One of the key challenges in AI-mediated education is navigating the post-truth era, where misinformation complicates knowledge validation. The term post-Truth Era denotes an age of doubts and distrust. It was selected as the Oxford Dictionaries Word of the Year 2016, and it has been used in published work to describe a period of uncertainty (Li & Chiu, 2024; Pratschke, 2024). It reflects a difficulty in discerning genuine information from fabricated content (Malcolm, 2021). In such an era, AI applications advance drastically, and so does the prevalence of deep-fake videos, images, and other digital content (Perkins & Roe, 2025). GenAI can be used nowadays to create fake images, videos, and audio recordings, which distort societal awareness and the teaching community. It impacts society and public opinion. Even if some of what we see is realistic, the growing awareness under the influence of AI makes us more skeptical and in want to distinguish truth from fake content (Pratschke, 2024). In this vein, Li and Chiu (2024) argued that 'truth' has evolved from being a static, absolute entity to a more dynamic and context-dependent construct. This shift, driven by AI, can generate multiple competing truths based on different perspectives and contexts.

In the post-truth era, AI has affected the trust that learners and educators place in knowledge sources. Trust operates on two levels: interpersonal trust, built through human relationships between teachers and students, and technological trust, which concerns confidence in AI systems, their reliability, and transparency. While the former fosters emotional connection and ethical guidance, the latter depends on how AI tools communicate their processes and limitations. Both are essential and intertwined in shaping effective TSD. Pratschke (2024) and Malcolm (2021) described the current era as both constructive and destructive. It has increased concerns about the originality of the content we have today because the latest AI-based technologies have largely dissolved and narrowed the boundary between the human species and machines. However, critics tend to question the trustworthiness of AI outcomes (Viberg et al., 2024), arguing that GenAI does not generate knowledge from scratch and AI's outcome is generally based on humans' knowledge, big data, and massive information fed into such language chatbots, which are trained on such inputs (Montanucci & Peconi, 2024).

TSD Reconfiguration Model

In language education, as in other fields, AI's transformative force has reshaped the nature of TSD, giving way to automated learning (Sparrow & Flenady, 2025) and epistemological uncertainty of the post-truth era (Li & Chiu, 2024; Malcolm, 2021). The new move can be represented as a conceptual model of six dimensions of TSD disruption. These dimensions, if I see it correctly, shape the transformation that this article brings to the fore. The model conceptualizes how TSD evolves under the influence of AI.

Criteria and Analytic Logic

The model theorizes TSD reconfiguration in the context of higher education. It was developed through a focused synthesis of literature, recent empirical studies, and analytical deduction. Systematic search was conducted across Scopus, Web of Science, ERIC, and major publisher platforms, covering the period from 2015 to 2025– a decade during which the post-truth era gained momentum, and the impact of AI tools are evident. The keywords that guided the search are *AI, education, trust, agency, assessment, curriculum, datafication, post-truth, Freire, and Biesta.* Only English-language sources relevant to language education were included. Of the initial records identified, only 42 studies were included after screening. Data extraction focuses on constructs (*trust, agency, assessment, and curriculum*), findings, and theoretical anchors. Evidence from the selected studies was analyzed using a thematic synthesis, combining deductive coding based on Freire's and Biesta's theoretical frameworks with inductive coding drawn from recent empirical findings. A constant-comparative method was used to refine categories and identify tensions across studies. Themes were elevated to dimensions when they appeared consistently across multiple sources as key factors of disruption, demonstrated conceptual clarity, and were supported by illustrative examples. Other dimensions, such as infrastructure or policy, were excluded to maintain focus on relational and epistemic shifts within classroom practice. Each of the six dimensions was defined with clear boundaries. For instance, *Dialogic Trust* was anchored in Freirean pedagogy. The resulting six dimensions, besides revising and extending existing conceptualizations of TSD, offer a critical lens that bridges educational theory and emerging AI realities. For instance, while Viberg et al. (2024) explored trust and demographic factors, and Zhai (2024) emphasized role refashioning, the model synthesizes these strands into a typology that foregrounds dialogic erosion, agency asymmetry, and curriculum flattening. These elements reveal imbalances in digital literacy and agency between teachers and students, both complementing and challenging the optimism expressed in Montanucci

and Peconi (2024). Quality screening and reflexivity were applied throughout, with noted limitations including language scope and variability in grey literature rigor.

Levels of TSD Reconfiguration

Traditionally, a classroom was viewed as a micro-learning community wherein social interaction and tasks with a clear purpose take place (Ji et al., 2024; Kramm & McKenna, 2023; Modhish & Al-Kadi, 2016; Montanucci & Peconi, 2024). In comparison, today's classrooms represent a space for wired and wireless gadgets (Ilic & Sato-Ilic, 2024) and humans (learners and teachers) using these high-tech gizmos as learning companions (Tolstykh & Oshchepkova, 2024). This has transformed the dynamics of traditional classroom settings. Educators are "no longer the sole authority or holder of knowledge, the written assignment is no longer viable as proof of learning, and the classroom is no longer the center of activity" (Pratschke, 2024, p. 2). Teachers, after a long history of 'sage on the stage,' no longer serve as a central source of knowledge and authority in the classroom, and knowledge is no longer defined as a transmission from teachers to learners.

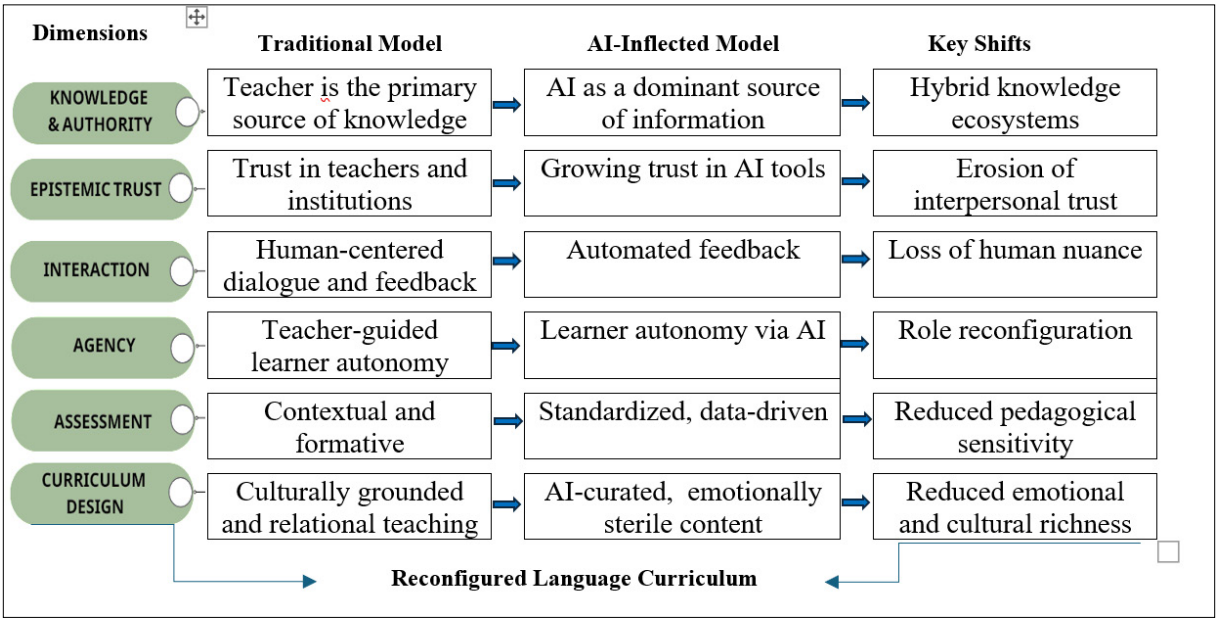
Figure 1 illustrates how AI, as a transformative force, is reshaping fundamental aspects of language education. In the first dimension, AI redefines traditional notions of knowledge creation and authority in education. The rapid advances of AI have blurred the lines between human and machine roles, raising concerns about authenticity and knowledge authority. In the new learning landscape, teachers' roles shift from being the main source of knowledge to minimal or even 'null' roles. Teachers, before GenAI tools and machine learning, used to imbibe knowledge from books and libraries, or they might have inherited it verbally from their ancestors, and students highly valued them as knowledge holders. In this light, teachers were touted as sources of knowledge that they then passed on to their learners. This TSD has been disrupted lately by the "development of machines that are intelligent [and] learn at a much faster rate than we could ever hope to" (Pratschke, 2024, p. 6). This shift decentralizes the teacher's traditional role as the sole authority and introduces AI as a co-instructor. It redistributes agency within the learning process.

AI-generated content sharply challenges the long-held ideas about who creates, owns, and shares knowledge. Recalling Pratschke's (2024) argument about who constructs and owns knowledge in this age of digitally generated content, it is fair to argue that teachers, learners, and smart machines are all agents of knowledge production and dissemination. At present, the new concept, encompassing both tacit and explicit knowledge, involves mutual engagement, negotiation of meaning, and interactions (Freire, 2017). This promotes a more holistic and interactive approach to learning wherein learners and teachers use GenAI tools to construct knowledge collaboratively. GenAI provides an array of tempting tools used for generating content and answering questions (Montanucci & Peconi, 2024) – tasks that were exclusively reserved for teachers. Most students, if not all, have AI systems now as their primary knowledge sources. Such tools shift the locus of authority from teachers to machines.

In the second dimension, the notion of 'trust,' traditionally grounded in human relationships, institutional credibility, and pedagogical transparency, leans toward AI more than humans in AI-empowered education. Students tend to rely on GenAI tools like ChatGPT for generating content or feedback, and teachers, likewise, find such tools useful and

Figure 1

A Conceptual Typology of AI-Driven Shifts in TSD



time-saving for scoring students' assignments and providing automatic feedback. When both learners and teachers use AI without acknowledgment, it casts uncertainty over how it is being used. So far, the epistemic foundations of GenAI tools (e.g., training data) are opaque, and this opacity demands a new form of *critical epistemic trust*– one that balances openness to machine-generated insights with skepticism about their provenance, bias, and authority. AI gives ground to cheating (Pikhart & Al-Obaydi, 2025), which contributes to a breakdown in trust between teachers and students. Students may use AI tools such as ChatGPT and its siblings to generate content in the form of essays or other assignments, passing them off as if they were their original work, and this, when it happens, undermines the originality of learning and brings about loss of higher-order thinking skills (Ogurlu & Mossholder, 2023). After the influx of such AI tools, a change in the quality or tone of a student's writing is noticed (Adams et al., 2022). When students use AI to cheat or produce fabricated content, teachers may become skeptical of all student work (Al-Kadi, 2025b), and this skepticism drives TSD transformations (Ogurlu & Mossholder, 2023; Tolstykh & Oshchepkova, 2024; Zhai, 2024). This status quo has led to a growing demand for originality detection tools (Giray et al., 2025), raising questions not only about trust between teachers and their learners (Al-Kadi, 2025b) but also the extent to which AI users trust knowledge generated by AI tools.

In the third dimension, the dialogic process that Freire (2017) identifies as essential for developing critical consciousness is being undermined. Interactions that used to be centered around human connection are now managed by machines. This shift degrades the co-construction model of education that Freire champions. That is, the reconfiguration of TSD through AI is not just a technological shift but a pedagogical rupture. It challenges the conditions under which emancipatory learning can occur. According to Freire (2017), true dialogue cannot exist unless the dialoguers (in this case, *teacher and students*) engage mutually in critical thinking. It is an act of humility and trust. This dialogical approach is an ethical stance toward education and human relationships. A shift of learning from traditional dialogic interaction to the AI-inflected model lacks emotional nuance and pedagogical sensitivity. It risks dehumanizing education (Al-Kadi, 2018) and erodes the relational foundation of education. Freire's pedagogical legacy emphasizes mutual trust and co-construction of meaning, and these two are diminished when AI replaces human interaction.

In the fourth dimension, the idea of learner agency, originated in learner-centered approaches and communicative teaching (Cong-Lem & Daneshfar, 2024), is amplified in AI-inflected education, wherein teachers represent one of the many learning resources that AI has made available at learners' fingertips. The term *agency* builds on, but also complicates, earlier learner-centered models. In AI-based language education, it stands for the ability of teachers and students to make meaningful, autonomous decisions, and this concept is an extension of the premise of learner-centeredness and CALL, wherein learners learn independently (Cong-Lem & Daneshfar, 2024; Pratschke, 2024) with or without formal support from their teachers or institutions (Modhish & Al-Kadi, 2016). In the context of Biesta's *subjectification*, agency involves how learners and educators position themselves in relation to knowledge, authority, and ethical responsibility. It is not just about acquiring skills autonomously but becoming subjects who can act with integrity and responsibility. To Freire, agency is cultivated through dialogue, where both teacher and student are transformed. Both views give ground for a student to be in the position of 'subject' rather than 'object'. Teaching, which has been dominated by the teacher and perceived as an act of control (Biesta, 2017), is shifting, thanks to AI, toward more learner-centered dynamics. Zhai (2024) observed that shifting teacher and learner roles foster greater autonomy, and Ilic and Sato-Ilic (2024) noted that AI enables learners to co-design and create content, often without direct teacher input (Montanucci & Peconi, 2024). The availability of digital tutors and language chatbots around the clock facilitates ongoing language learning beyond the confines of traditional settings (Montanucci & Peconi, 2024).

In the fifth dimension, assessment that Perkins and Roe (2025) viewed as a mechanism of power that shapes the student-teacher relationship, determining who gets to know, how, and under what conditions, is shifted now toward automated assessment. The new direction prioritizes scalability over nuance. It reduces opportunities for dialogic human assessment, which is essential for critical thinking and engagement. Freire's critique of the 'banking model' in which students passively receive knowledge resonates with concerns about AI-driven feedback systems, which deliver pre-structured responses without fostering much dialogue or critical reflection. As Moorhouse and Wong (2025) argue, AI-generated feedback lacks emotional nuance and pedagogical sensitivity. That is, GenAI has brought about "potential collapse of traditional assessments" (Perkins & Roe, 2025, p. 88), and in the post-collapse scenario, skills of analysis, recall, and, above all, writing are delegated to machines (Perkins & Roe, 2025). While the AI-inflected model is tied with consistency and bias reduction, it seems to narrow the scope of what counts as language proficiency, pragmatic competence, intercultural expertise, and critical language awareness.

The sixth dimension is about curriculum design. It has been traditionally a human endeavor grounded in cultural context, pedagogical values, and local relevance. In AI-curated content, learning materials are generated or selected with limited consideration for cultural, ethical, or educational aspects emphasized in traditional formal curriculum (Pikhart & Al-Obaydi, 2025). The force of AI undermines the relational core of education. As AI tools curate content, automate feedback, or suggest pedagogical strategies, they affect the

texture of human communication in the classroom. Such tools limit the space for intentional reflective actions. This shift flattens the multidimensional nature of language learning and reduces students' learning to measurable content. That is, it narrows the scope of formal curriculum, which is a broader pedagogical framework that goes beyond bite-sized content. It results in educational systems that lack pedagogical nuances, emotional and cultural depth. Raitskaya and Tikhonova (2025) contend that GenAI tools influence how students engage in higher-order thinking tasks, which is an overall goal of the curriculum. Apart from curriculum narrowing, automated input, which is emotionally sterile, lacks the nuance of human critique (Kooli, 2023; Luo, 2024). When education is reduced to a process of optimization, it tends to sideline the ethical and relational dimensions that are central to forming individuals capable of engaging with the world (Biesta, 2017) rather than merely adapting to existing systems.

Contextual Variability in TSD

The model contributes a context-sensitive, ethically grounded framework for understanding TSD in the post-truth era. It aligns with Montanucci and Peconi (2024) in recognizing that AI tools reshape TSD. However, the impact of these disruptions varies across educational contexts due to cultural and institutional factors. Each of the six dimensions interacts differently with local pedagogical norms. For instance, in Scandinavian contexts, where transparency and learner independence are embedded in the curriculum, AI tends to reinforce student agency and dialogic trust but may decentralize teacher authority. In East Asian systems, which emphasize hierarchy and standardized testing, AI may intensify automated assessment and surveillance, potentially undermining dialogical pedagogy and epistemic trust. In Arab educational settings, where teacher authority and rote learning are prevalent, AI's shift toward learner-centeredness and automated feedback may disrupt established norms. It requires careful integration to preserve relational trust and ethical guidance. In low-resource environments, limited infrastructure can hinder the adoption of AI technologies. However, the potential benefits, such as scalable assessment and efficient content delivery, may still hold strong appeal for educators and policymakers seeking cost-effective solutions.

Digital Literacy and Critical Thinking

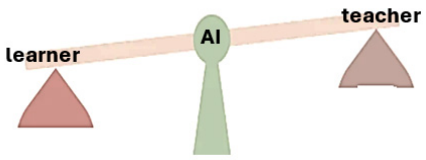
The model proposed in this article is context-sensitive yet implicative for change in the unstable context of the post-truth era. Two major factors shape how each dimension manifests: digital literacy and critical thinking. They should be considered when applying the model across diverse educational landscapes. In teaching contexts where teachers struggle with digital literacy, a disconnect arises between them and their students, affecting the dynamics of interaction between them. Adams et al. (2022) and Lucas et al. (2024) maintain that a lack of digital literacy contributes to teachers' misunderstanding of how learners do things with AI and, hence, assume plagiarism for everything their students do. Hence, teachers' digital literacy plays a key role in shaping their trust in AI tools and in their students' capabilities. Viberg et al. (2024) explored factors that affect teachers' trust in AI, including age, gender, level of education, cultural dimensions, and self-efficacy across six countries. In the study, teachers with higher self-efficacy and a better understanding of AI had more trust in its benefits and fewer concerns. According to the study, trust levels vary by country and culture, but demographic factors like age and gender do not significantly impact trust. These results are echoed in Lucas et al.'s (2024) findings in that teachers' familiarity with GenAI enables them to not only handle AI-related trust issues more capably but also view students' use of AI positively.

AI disproportionately empowers learners more than teachers with limited AI literacy, and this leaves teachers with a feeling of disempowerment. Learners are positioned in AI-based pathways to shape their learning experiences autonomously, construct and share knowledge independently of traditional teacher-led instruction (Lan & Chen, 2024; Yung, 2023). They gain more control over their learning through engagement with AI-powered tools and adaptive learning platforms. For example, ChatGPT and DeepSeek support language learning inside and outside the classroom. The imbalance in AI literacy between teachers and students can be described as a dynamic shift in pedagogical agency. Teachers need to reposition themselves closer to AI to restore balance within the AI-enabled learning spectrum illustrated in Figure 2. The closer teachers align themselves with AI (the key driver of change), the more they can maintain balance with learners in the AI-driven learning environment. This requires effective dialogue in which both sides change their positions on the swing to the extent of maintaining their balance. It also requires school-wide reforms: teaching methods, syllabi, content, assessment, and, above all, the mindsets.

Besides digital literacy, critical thinking is essential in an era rife with AI-based tools that facilitate the spread of junk digital content (Li & Chiu, 2024; Pratschke, 2024) and 'AI hallucination' (Crompton & Burke, 2024). Learning cannot simply be a process in which students receive course content as knowledge. It is about students attempting to become conversant with that body of content. Biesta's idea of subjectification helps us to resist AI control. Paulo Freire's critical pedagogy (2017) is inspirational to get into dialogue with learners to create a healthy learning atmosphere for discussing AI-generated content. Likewise, Raitskaya and Tikhonova's (2025) scoping review is insightful for rethinking critical thinking skills in AI-human interaction. It reinforces Sparrow and Flenady's (2025) argument for prioritizing hu-

Figure 2

Learners and Teachers on the AI Swing



man interaction and critical thinking within a more cautious and thoughtful approach to integrating AI into language learning, teaching, and assessment.

CONCLUSION

While AI offers opportunities for more efficient language learning, it challenges the theoretical foundations that underpin human-oriented education. The article brings to the foreground of AI-in-education research a speculation that unchecked influx of GenAI into language education not only reconfigures teacher-student roles but also destabilizes foundational principles of knowledge creation, authority, and trust. It indicates implications for policy, professional practice, and future research.

Policy Implications

The fact that students use AI in their assignments, and teachers, likewise, use it for assessing and evaluating these assignments, implies a necessity for institutional policies for transparent AI disclosure. Mandatory AI disclosure is a must for more transparency and cultivating epistemic trust. Instead of punitive or control-based approaches to managing AI use in education, we should be more open to dialogic use of AI innovations. Students and teachers should disclose how they employ AI tools in their work. International bodies should facilitate cross-cultural dialogue on AI's role in education, recognizing that its impact varies by context. Frameworks, such as the Ethical principles in Kooli (2023), along with the code of practice from Edinburgh University (2023) and the *European Ethical Guidelines for Educators on the Use of Artificial Intelligence (AI) and Data in Teaching and Learning*, can be a reference point for enhancing benefits and addressing the challenges of AI in language education. These resources can be used for lawful mechanisms and strategies. They can readily inform policymakers about upholding ethical standards of AI in today's education. For example, the University of Edinburgh's AI Code provides a model for responsible AI use in higher education, emphasizing transparency, accountability, and human oversight. Such initiatives can serve as springboards for broader adoption and adaptation of AI in the TSD that this paper takes as its primary focus.

Another implication relates to digital literacy training for both teachers and students to foster agency, informed engagement with AI tools, and ethical and philosophical reflection on what it means to 'know' in an AI-mediated interaction. In the post-truth era now, AI drives us to behave like machines if we take its outcomes for granted. This is alarming for learners and teachers using AI. They should imbibe skills for filtering and questioning AI-generated content that they consume and share. Digital literacy should extend beyond technical proficiency to include pedagogical awareness of how AI reshapes classroom dynamics and feedback (Moorhouse & Wong, 2025). GenAI tools constantly improve to perform more complex tasks. This progression implies more teacher training and institutional support (Kamali et al., 2024). Training programs may adopt Li's (2024) strategies for ethical governance in education, for instance, to integrate such strategies for an ethically-aware academia.

When it comes to curriculum, classrooms should evolve into spaces of trustful human dialogue rather than mechanized control. For education to remain human-aligned, educators and policymakers should ensure that AI-driven learning aligns with ethical principles and genuine dialogue. Relational and negotiated agencies require deliberate curriculum design to preserve human discretion and dialogic engagement. Human oversight in AI-assisted assessment should be maintained to preserve dialogical engagement and critical thinking. Curriculum standards should ensure that AI-curated content reflects cultural relevance and pedagogical depth. In low-resource settings, policies should prioritize equitable access to AI tools, infrastructure support, and teacher training to prevent agency asymmetry and curriculum narrowing.

Implications for Teachers

There are implications for teachers to re-think their roles within the evolving educational systems. Teachers are still important for learning design (Lan & Chen, 2024), fostering learners' critical thinking, and the ethical use of AI (Kamali et al., 2024). They need to remain integral within AI-mediated learning. AI has repositioned teachers and learners along the route of learning, so teachers should play transformative roles in alignment with the mindset of today's generation. This study implies that teachers are repositioned as

co-learners in the AI-inflected context in which AI tools (e.g., ChatGPT) and adaptive learning platforms (e.g., Duolingo) offer alternative or additional sources of information. There should be a move beyond surveillance-driven approaches to partnering with AI in education. Students in a low-trust environment feel surveilled rather than supported, and this echoes the voice of Kramm and McKenna (2023) in that the prevalent focus on detecting AI in students' work overlooks the broader purposes of education.

Besides fostering a supportive learning environment in lieu of dictating outcomes, teachers should cultivate a dialogical space where students can think critically, pose questions, and participate in knowledge production. They may use AI to initiate human-led dialogue. They may also use structured protocols to help students engage with AI responses critically. While AI can assist with formative feedback, teacher-led assessments remain essential for evaluating creativity, critical thinking, and interpersonal skills. Reflective activities should also invite students to explain how they used AI and what they learned from it.

Implications for Research

The article gives way to empirical research into TSD under the influence of GenAI to illustrate, through case studies, how AI-mediated TSD unfolds in real-world educational settings. Also, inconsistent application of AI is particularly exacerbated by a lack of (a) a dichotomy of what is ethical and unethical, and (b) policies that govern these issues, which stimulates more critical reflection and suggests uncharted areas for further research. To test and refine the conceptual TSD model, empirical studies are needed to validate its six dimensions and explore their contextual variability. For example, cross-cultural case studies could examine how these dimensions manifest in different educational settings. Also, survey research could assess trust in AI-generated feedback, while experimental studies could compare student agency and learning outcomes in AI-mediated versus teacher-led environments.

In closing, this paper problematizes the shifting educational goals and roles resulting from AI's reconfiguration of TSD. AI shifts epistemic authority alters dialogic human-human pedagogy, and challenges traditional roles, and these shifts require a rethinking of educational frameworks. It penetrates the fabric of education, and the question is no longer about whether TSD will change, but how far the change will take education. In an era of uncertainty, the future of education is uncertain. We should dare to ask about the real purpose of today's education. When AI becomes a learning companion that outperforms students on exams, and teachers attend to AI for feedback and instructional support, what kinds of learners, citizens, and human beings do educational systems aim to cultivate? Freire's dialogical model and Biesta's concept of subjectification, which function as conceptual signposts, challenge us to ask whether we design AI tools to support genuine educational encounters or merely efficient delivery systems. How can we ensure that learners remain active participants in shaping their learning, rather than being shaped by invisible algorithms?

DECLARATION OF COMPETING INTEREST

None declared.

REFERENCES

Adams, C., Pente, P., Lemermeyer, G., Turville, J., & Rockwell, G. (2022). Artificial intelligence and teachers' new ethical obligations. *The International Review of Information Ethics, 31*(1). https://doi.org/10.29173/irie483

Al-Kadi, A. (2025b). Probing language teachers' complaints about ChatGPT and GenAI tools: A social media dataset study. *Issues in Educational Research, 35*(2).

Al-Kadi, A. (2018). Towards humanizing ELT: Revisiting the need for English in the medical context in Yemen. *Language Teaching and Educational Research, 1*(2), 121-138. https://dergipark.org.tr/en/download/article-file/612983

Biesta, G. J. J. (2017). *The rediscovery of teaching (1st ed)*. Routledge. https://doi.org/10.4324/9781315617497

Cong-Lem, N., & Daneshfar, S. (2024). Generative AI and second/foreign language education from Vygotsky's cultural-historical perspective. In H. P. Bui & E. Namaziandost (Eds.), *Innovations in technologies for language teaching and learning* (pp. 175-188). Springer. https://doi.org/10.1007/978-3-031-63447-5_10

Crompton, H. & Burke, D. (2024). The educational affordances and challenges of ChatGPT: State of the field. *TechTrends*, 68, 380–392. https://doi.org/10.1007/s11528-024-00939-0

Freire, P. (2017). *Pedagogy of the oppressed*. Penguin Classics.

Giray, L., Sevnarayan, K., & Ranjbaran Madiseh, F. (2025). Beyond policing: AI writing detection tools, trust, academic integrity, and their implications for college writing. *Internet Reference Services Quarterly, 1*(1), 1-34. https://doi.org/10.1080/10875301.2024.2437174

Ji, H., Han, I., & Park, S. (2024). Teaching foreign language with conversational AI: Teacher-student-AI interaction. *Language Learning & Technology, 28*(2), 91-108. https://hdl.handle.net/10125/73573

Kamali, J., Alpat, M.F. & Bozkurt, A. (2024). AI ethics as a complex and multifaceted challenge: decoding educators' AI ethics alignment through the lens of activity theory. *International Journal of Educational Technology in Higher Education, 21*(62). https://doi.org/10.1186/s41239-024-00496-9

Kramm, N., & McKenna, S. (2023). AI amplifies the tough question: What is higher education *really* for? *Teaching in Higher Education*, *28*(8), 2173-2178. https://doi.org/10.1080/13562517.2023.2263839

Kooli, C. (2023). Chatbots in education and research: A critical examination of ethical implications and solutions. *Sustainability, 15*(7), 5614-5614. https://doi.org/10.3390/su15075614

Lan, Y.-J., & Chen, N.-S. (2024). Teachers' agency in the era of LLM and generative AI: Designing pedagogical AI agents. *Educational Technology & Society*, *27*(1), 1-18. https://www.jstor.org/stable/48754837

Li, Y., & Chiu, C. Y. (2024). Redefining truth in the context of the AI-truth era: A practice-led research of "From post-truth to AI-truth". In P. L. P. Rau (Ed.), *Cross-cultural design. HCII 2024. Lecture Notes in Computer Science* (pp. 245-257). Springer. https://doi.org/10.1007/978-3-031-60913-8_17

Ilic, P., & Sato-Ilic, M. (2024). AI-enhanced ecological learning spaces. In P. Ilic., I. Casebourne, & R. Wegerif (Eds.), *Artificial intelligence in education: The intersection of technology and pedagogy* (pp.17-37). Springer. https://doi.org/10.1007/978-3-031-71232-6_2

Lucas, M., Zhang, Y., Bem-haja, P. *et al.* (2024). The interplay between teachers' trust in artificial intelligence and digital competence. *Education and Information Technologies,* 29, 22991-23010. https://doi.org/10.1007/s10639-024-12772-2

Luo (Jess), J. (2024). How does GenAI affect trust in teacher-student relationships? Insights from students' assessment experiences. *Teaching in Higher Education,* 1-16. https://doi.org/10.1080/13562517.2024.2341005

Malcolm, D. (2021). Post-truth society? An Eliasian sociological analysis of knowledge in the 21st century. *Sociology*, *55*(6), 1063-1079. https://doi.org/10.1177/0038038521994039

Modhish, A. & Al-Kadi, A. (2016). Internet integration in EFL college instruction: Attitudes and perspectives. *International Journal on Studies in English Language and Literature, 4*(6), 52-62. https://doi.org/10.20431/2347-3134.0406008

Montanucci, G., & Peconi, A. (2024). Unlocking the potential of chatbots and intelligent tutors for language learning in online courses. In G. De Cristofaro, F. Silva, & B. Samu (Eds.), *Language MOOCs and OERs: New trends and challenges* (pp. 476-497). Perugia Stranieri University Press.

Moorhouse, B. L., & Wong, K. M. (2025). *Generative artificial intelligence and language teaching*. Cambridge University Press. https://doi.org/10.1017/9781009618823

Ogurlu, U., & Mossholder, J. (2023). The perception of ChatGPT among educators: Preliminary findings. *Research in Social Sciences and Technology, 8*(4), 196-215. https://doi.org/10.46303/ressat.2023.39

Perkins, M., & Roe, J. (2025). The end of assessment as we know it: GenAI, inequality and the future of knowing. In *AI and the future of education: Disruptions, dilemmas and directions: AI pedagogies, assessment and emerging educational futures*. Durham University Repository. https://durham-repository.worktribe.com/OutputFile/4512330

Pikhart, M., & Al-Obaydi, L. H. (2025). Reporting the potential risk of using AI in higher education: Subjective perspectives of educators. *Computers in Human Behavior Reports, 18*, 100693. https://doi.org/10.1016/j.chbr.2025.100693

Pratschke, B. M. (2024). *Generative AI and education digital pedagogies, teaching innovation, and learning design*. Springer

Raitskaya, L. & Tikhonova, E. (2025). Enhancing critical thinking skills in ChatGPT-human interaction: A scoping review. *Journal of Language and Education*, *11*(2), 5-19. https://doi.org/10.17323/jle.2025.27387

Sparrow, R., & Flenady, G. (2025). Bullshit universities: The future of automated education. *AI & Society*. https://doi.org/10.1007/s00146-025-02340-8

Tolstykh, O., & Oshchepkova, T. (2024). Beyond ChatGPT: Roles that artificial intelligence tools can play in an English language classroom. *Discover Artificial Intelligence, 4*(1)60. https://doi.org/10.1007/s44163-024-00158-9

Viberg, O., Cukurova, M., Feldman-Maggor, Y. et al. (2024). What explains teachers' trust in AI in education across six countries? *International Journal of Artificial Intelligence in Education*. https://doi.org/10.1007/s40593-024-00433-x

Yung, K. W. H. (2023). Theorizing agency from a complex dynamic systems theory perspective: Evidence from language learner narratives in online shadow education. *The Modern Language Journal*. https://doi.org/10.1111/modl.12988

Zhai, X. (2024). Transforming teachers' roles and agencies in the era of generative AI: Perceptions, acceptance, knowledge, and practices. *Journal of Science Education and Technology*. https://doi.org/10.1007/s10956-024-10174-0