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Translanguaging Pedagogy in the Age of AI

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Abstract
This article examines how translanguaging pedagogy can be reinterpreted in the age of artificial intelligence, with a particular focus on generative AI, machine translation, multilingual chatbots, and critical digital literacy. The review synthesizes research across K–12, higher education, English-medium, bilingual, multilingual, and EFL settings. The article first reconsiders translanguaging pedagogy as an asset-based, socially situated, and increasingly critical orientation to language education. It then analyzes how AI is reshaping language learning through multilingual explanation, translation, tutoring, feedback, and multimodal composition. The review finds that AI can productively support translanguaging by increasing access to content, scaffolding multilingual writing, enabling crosslinguistic comparison, and broadening participation in multimodal tasks. At the same time, the current evidence base remains methodologically narrow and contextually concentrated, especially in higher education writing studies. Risks include monolingual drift beneath multilingual interfaces, bias against minoritized languages and varieties, hallucination, authorship problems, privacy concerns, and unequal access. The article therefore argues for a human-led, critically literate model of AI-mediated translanguaging pedagogy in which teachers make learning goals, language movement, tool selection, and assessment criteria explicit. It concludes with practical examples, a teacher-education workshop module, and an agenda for future research.

Keywords: translanguaging pedagogy; generative AI; multilingualism; language education; critical digital literacy; teacher education

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Introduction

Translanguaging pedagogy and artificial intelligence have each become major reference points in contemporary language education, but they have often been discussed on separate tracks. Translanguaging scholarship has focused on linguistic repertoires, equity, bilingual meaning-making, and the critique of monolingual ideologies. AI scholarship in language education has focused more on tutoring, feedback, writing support, informal learning, and rapidly changing digital tools. Bringing these two conversations together is now necessary because AI has made crosslinguistic mediation far more immediate and routine: students can prompt in one language, receive an explanation in another, translate, compare, revise, and circulate multimodal products within minutes. That technological shift has pedagogical consequences.

The convergence is not merely technical. Translanguaging pedagogy asks what counts as legitimate language, whose voices matter, and how multilingual learners are positioned in classrooms. AI raises parallel questions about which languages are well represented in training data, which discourses are normalized by platform outputs, and how learners' decisions are shaped by opaque interfaces and infrastructural inequalities. In that sense, the age of AI does not replace longstanding debates in multilingual education; it intensifies them. It also reopens a central pedagogical question: can teachers use AI to widen multilingual participation without reinforcing the very hierarchies translanguaging pedagogy set out to challenge?

The timing of this question is significant. A recent systematic review of empirical generative AI research in language learning and teaching identified 144 peer-reviewed studies from 2023 to 2024 alone, with an exponential rise in publications and a clear shift from exploratory commentary to more empirical work. Yet that same review also found that 86.7% of the studies were located in higher education, 86.1% in EFL contexts, and 42.4% focused primarily on writing. In other words, the field is growing quickly, but its evidentiary center of gravity is still narrow. Any argument about "AI and translanguaging pedagogy" therefore needs to be both forward-looking and cautious.

This article develops that argument in four moves. It first revisits translanguaging pedagogy as a conceptual and pedagogical tradition. It then examines how AI is changing the material conditions of language education. Next, it analyzes the major affordances and risks of AI-mediated translanguaging. Finally, it proposes a human-led model for reimagining pedagogy, followed by practical classroom implications, a concise teacher-education module, and directions for future research. The central claim is not that AI inevitably democratizes multilingual education. Rather, AI becomes pedagogically valuable only when teachers intentionally design tasks that keep multilingual repertoires, learner agency, ethical judgment, and critical interpretive work at the center.

Understanding Translanguaging Pedagogy

Translanguaging pedagogy rests on a theory of language that challenges the idea that multilingual speakers simply switch between neatly bounded autonomous systems. Foundational work in the field has argued instead that multilingual meaning-making draws on an integrated repertoire whose boundaries are socially named and politically enforced more than cognitively fixed. In this view,

translanguaging is not equivalent to code-switching, nor is it reducible to compensatory L1 support. It is a way of understanding how multilinguals select semiotic resources across languages, modalities, registers, and contexts to learn, communicate, and position themselves. That conceptual move is crucial because it shifts classroom attention from language separation to meaning-making, from deficit to resource, and from norm compliance to communicative and epistemic action.

Within that broader theoretical frame, pedagogical translanguaging refers more specifically to planned instructional designs that activate students' whole linguistic repertoires for pedagogical purposes. The distinction matters. As Cenoz and Gorter argue, pedagogical translanguaging differs from spontaneous translanguaging in that it is intentionally designed by the teacher and can be enacted in stronger or weaker forms. Stronger forms may juxtapose languages in the same lesson to deepen conceptual understanding, compare forms, or foster metalinguistic awareness. Weaker forms may coordinate learning across lessons or curricular spaces where explicit language mixing is institutionally constrained. Either way, the pedagogical core is not random alternation; it is purposeful crosslinguistic design.

That design-based orientation helps explain why translanguaging pedagogy has become more than a classroom technique. Recent theoretical work has reframed translanguaging as a socio-cognitive-political framework that opens inquiry into how language mediates learning under conditions of inequity. Turner and Lin, for example, argue that centering process and symbolic power moves the discussion beyond internal structuralist debates and toward questions of linguistic inequity, habitus, and educational transformation. In parallel, work on critical translingual awareness in teacher education emphasizes that translanguaging pedagogy is inseparable from examining dominant ideologies about standard language, native-speakerism, and institutional gatekeeping. In this sense, translanguaging pedagogy names both a set of pedagogical practices and an ethical-political stance.

The empirical evidence is promising, but it is not unlimited. A 2023 systematic review of pedagogical translanguaging in EFL classrooms found only 10 formally assessed studies and concluded that research was concentrated in reading and writing more than speaking or listening. The review did identify positive outcomes for learning and classroom participation, but it also emphasized how small and uneven the evidence base remains. Likewise, stakeholder-focused work in EFL and EMI contexts has repeatedly shown neutral-to-positive views of translanguaging among students and many teachers, especially when it supports comprehension, rapport, or lower-proficiency learners. At the same time, these studies also report persisting concerns about first-language overuse, policy misalignment, and the durability of English-only ideology. The implication is clear: support for translanguaging is real, but its classroom implementation is still fragile and highly context-dependent.

Another important development is the field's widening attention to assessment and equity. Recent work on emergent multilinguals argues that translanguaging is not only relevant for instruction but also for how schools recognize knowledge, participation, and academic growth. Uysal and Tian note that assessment remains underexplored even as translanguaging has become central to reimagining culturally sustaining classrooms. That point is especially relevant for AI-mediated pedagogy. If AI changes how learners plan, compose, negotiate, and demonstrate understanding

across languages, then assessment must also move beyond monolingual product judgment toward process, mediation, justification, and critical evaluation. Translanguaging pedagogy in the age of AI, therefore, cannot be a matter of classroom method alone; it also requires rethinking what counts as evidence of learning.

AI and the Changing Landscape of Language Education

Artificial intelligence did not begin with the public release of large language models, but generative AI has qualitatively changed the speed, scale, and visibility of AI in language education. Earlier work on chatbots and automated support already suggested value for dialogic rehearsal and writing scaffolding. For instance, chatbot-assisted argumentative writing research showed how AI dialogue could support idea generation and counterargument development in EFL writing instruction. What recent generative AI tools added was not simply better automation, but the ease with which learners and teachers can ask for explanations, examples, translations, reformulations, role-plays, and multimodal outputs in everyday classroom or out-of-class practice.

This shift has altered the temporal and spatial organization of language learning. AI tools operate before class, during class, and after class; they are used for formal assignments and for informal digital learning; and they blur the line between resource, interlocutor, feedback provider, and production assistant. Mixed-method research on AI-mediated informal digital learning of English with 867 Chinese EFL learners and 20 interviewees found that learners increasingly used GPT-based tools as tutors and conversation partners, negotiating usefulness, intention to use, and actual use through experimentation. From a translanguaging perspective, this matters because AI does not simply deliver target-language input. It invites learners to mediate across languages and modes as they test prompts, compare outputs, and adapt suggestions to their needs.

The language-education literature also suggests that AI is redistributing agency rather than removing it. Godwin-Jones characterizes generative AI in terms of distributed agency, stressing that learners, teachers, prompts, platforms, and contexts collectively shape outcomes. That framing is especially useful for translanguaging pedagogy because it refuses two simplistic positions: first, that AI is a neutral efficiency tool; and second, that it automatically displaces human learning. Instead, AI becomes one mediational actor among others. What matters pedagogically is how teachers organize task purposes, language movement, checkpoints, and reflection so that learners remain decision-making agents rather than passive recipients of platform output.

Even so, the research landscape remains uneven. The 2025 systematic review by Li and colleagues shows that writing dominates the empirical field and that higher education EFL settings are overrepresented. A further systematic review of AI and extended reality in language education, covering 2017–2024, similarly points to uneven skill coverage, disciplinary clustering, and the need for stronger pedagogical integration. These patterns matter because they caution against making broad claims about AI-mediated translanguaging for all learners, all contexts, or all language pairs. Much of what is currently known concerns university learners, digital writing, and English. The most interesting theoretical questions, however, concern precisely the contexts least well studied: school-age multilingual learners, heritage language settings, low-resource languages, oral interaction, and institutional contexts shaped by stronger monolingual policy pressure.

A particularly important development is the rise of critical digital literacy as a lens for understanding AI-mediated language learning. Darvin argues that generative AI in L2 writing must be approached through critical digital literacies because platform materiality, indexicality, and ideology shape how learners engage with writing and with themselves as writers. Liu and colleagues similarly show that learners using AI for informal English learning need not only technical skill but also dispositions and critical awareness that help them demystify the "black box," recognize power relations embedded in platforms, and negotiate agency. Jiang and Gu extend this argument into classroom practice by documenting how a teacher enabled critical digital literacies through GenAI-assisted multimodal composing over two academic years. Together, these studies suggest that the AI question in language education is not simply, "Which tool works?" but also, "What critical capacities and pedagogical conditions are required for that tool to become educationally justifiable?"

Affordances of Translanguaging Pedagogy in the Age of AI

The strongest pedagogical case for linking translanguaging and AI lies in mediation. AI makes it easier for learners to move deliberately across languages while sustaining attention to content, audience, genre, and revision. For multilingual students, especially those navigating disciplinary content through an additional language, this can reduce the access costs of learning. Translation, explanation, contrastive examples, summarization, and dialogic rehearsal can all function as intermediate supports that keep learners in cognitively demanding work instead of excluding them from it. That claim is consistent with pedagogical translanguaging's emphasis on activating the whole repertoire for learning, and with AI studies showing that learners adopt tools most productively when they can experiment with—and make decisions about—the affordances and constraints of those tools.

A first major affordance is multilingual comprehension scaffolding. Fang and Liu's work in a Chinese university context found that many teachers and students saw translanguaging as useful for deepening understanding and supporting lower-proficiency learners. AI expands that possibility by making crosslinguistic scaffolding more immediate. Instead of waiting for a teacher-provided translation or glossary, learners can request layered explanations at different levels, compare discipline-specific terms across languages, and move between text, image, speech, and summary modes. Evidence from AI-mediated informal digital learning similarly shows that learners use chatbots as tutors or conversational partners when they need help navigating meaning and practice beyond class. In translanguaging terms, AI can widen access to content by lowering linguistic friction while still preserving cognitively rich activity.

A second affordance is multilingual writing support. The clearest empirical evidence for this comes from recent studies that explicitly analyze AI use through a translanguaging lens. Yang and Lin's qualitative study of six lower- to intermediate-proficiency college EFL students found that learners used generative AI by leveraging their native language for problem solving, integrating semiotic resources for idea generation, and iteratively transforming ideas into English for final texts. Related work on AI-powered machine translation in authentic writing settings likewise shows that students use translation tools not as automatic replacements for composing, but as part of a broader repertoire of drafting, comparing, editing, and meaning negotiation. This is pedagogically important because it suggests that multilingual mediation can remain cognitively engaged rather

than merely shortcut-driven—provided the task design requires comparison, judgment, and revision.

A third affordance lies in metalinguistic awareness. Strong forms of pedagogical translanguaging deliberately put languages next to each other in the same class session so that learners can compare structure, discourse, terminology, and meaning. AI can intensify this contrastive work by quickly generating parallel examples, alternative phrasings, genre shifts, and explanation layers. The empirical evidence here is still emerging, so the claim should remain modest: current studies do not yet show strong causal proof that AI automatically improves metalinguistic awareness. What they do show is that multilingual learners are already using AI to compare options across languages and that carefully designed translanguaging tasks can turn that comparison into explicit linguistic inquiry rather than invisible assistance. The pedagogical opportunity, therefore, is real but design-dependent.

A fourth affordance concerns participation and learner agency. Waluyo and Rouaghe's mixed-method study of 69 Thai undergraduates examined student-initiated translanguaging with AI translation tools and showed that learners were not merely following teacher-led routines; they were integrating AI into their own language-learning practices in ways tied to communicative competence. In a different register, Liu, Darvin, and Ma found that learners' actual use of AI for informal English learning often involved experimentation, negotiation, and appropriation. These findings matter because translanguaging pedagogy has always depended on learners being recognized as active agents rather than deficient approximations of monolingual norms. AI can support that recognition when it is positioned as a tool learners use strategically, not as an authority that replaces their judgment.

A fifth affordance is multimodal and intercultural meaning-making. Tzirides' 2026 study, which examined two higher-education cases involving a GenAI-supported virtual exchange and bilingual multimodal brochure design, found that AI-supported activities fostered advanced digital literacies, dense translanguaging practices, and more inclusive participation. Significantly, the study also showed that these gains occurred when GenAI was embedded in a multiliteracies- and translanguaging-informed design—not when AI was treated as an autonomous solution. This is an important qualification. The pedagogical value did not come from the tool alone but from how the activity organized cultural interpretation, repertoire use, peer collaboration, and critical reflection. That finding aligns closely with the best translanguaging pedagogy, which has always treated meaning-making as social, multimodal, and relational.

In practice, teachers now combine conversational LLMs, machine translation, and platform-based writing support from organizations such as OpenAI, Google, DeepL, and Microsoft. The table below compares representative tools that are already shaping multilingual classroom work.

Table 1. The tools

Tool	Function	Languages supported	Pedagogical affordance	Limitations
ChatGPT	Dialogic prompting, explanation, rewriting, brainstorming, feedback	59 listed interface languages; multilingual text interaction beyond that	Bilingual explanation, role-play, prompt-mediated translanguaging, contrastive analysis, iterative drafting	Output quality is uneven across languages; hallucinations, bias, privacy concerns, and authorship ambiguity remain significant
Google Translate	Text, image, document, website, and speech translation	243+ languages documented by Google's official 2022 and 2024 expansions	Rapid access to meaning, multilingual glossaries, beginner-friendly mediation, multimodal support	Breadth does not guarantee precision; nuance, idiom, register, and discipline-specific terminology may be flattened
DeepL Translator	High-fluency text and document translation	30 core languages, plus Hebrew and Vietnamese in the next-generation model	Strong support for draft translation, contrastive editing, and revision in commonly taught languages	Narrower coverage than Google; usefulness drops sharply outside the supported set
Microsoft Translator	Text/document translation, captioning, and ecosystem integration	More than 100 languages	Useful for multilingual collaboration, captions, and workflow integration in institutional environments	Quality varies by language and task; some live interpreting functions support fewer languages than text translation

Note. Tool-capability information is drawn from current platform documentation, while pedagogical affordances and limitations are synthesized from language-education research. Because these services change quickly, educators should verify local availability, institutional approval, and data practices before classroom use.

Taken together, these affordances suggest that AI does not weaken the pedagogical rationale for translanguaging; it arguably makes that rationale more visible. The issue is no longer whether learners will move across languages with digital tools. They already do. The pedagogical issue is whether teachers will design that movement so it serves comprehension, inquiry, voice, collaboration, and critical judgment rather than convenience alone. The affordance, in other words, lies less in multilingual automation than in the possibility of making multilingual mediation a legitimate, teachable, and assessable part of learning.

Tensions, Risks, and Challenges

The most obvious risk in AI-mediated translanguaging pedagogy is what might be called monolingual drift beneath multilingual surfaces. Many AI tools appear multilingual because they can process many languages or translate between them, yet the underlying norms that shape their outputs may still privilege dominant English discourses, dominant registers, or standardized forms. Darvin argues that the materiality and ideology of GenAI platforms actively shape writing practices and writer subjectivities. Liu and colleagues similarly emphasize that AI platforms embed invisible power relations that learners need critical literacy to navigate. This means that a classroom can appear translanguaging-friendly while still rewarding convergence toward

dominant monolingual norms. The danger is subtle: multilingual input is permitted, but only because it serves eventual assimilation into a standard output.

A related problem is uneven linguistic justice across languages and varieties. Research on multilingual large language models acknowledges substantial progress in crosslingual transfer, but it also documents persistent challenges related to corpus imbalance, alignment, and bias. Kshetri's discussion of low-resource languages makes the educational stakes especially clear: when generative AI is trained disproportionately on high-resource languages, speakers of underrepresented languages receive weaker service, more errors, and often less culturally grounded interaction. For translanguaging pedagogy, this matters profoundly. A tool that works well for English, Chinese, French, or Spanish may perform much less reliably for minoritized, indigenous, regional, or nonstandard varieties. In that case, classroom use can widen, rather than reduce, linguistic inequality.

Bias is not confined to language coverage alone. New work on critical AI language literacy and raciolinguistic bias shows that the cultural assumptions built into LLMs deserve direct pedagogical scrutiny. Even when coarser forms of prejudice are moderated, platform outputs may still reproduce subtler hierarchies by associating legitimacy, intelligence, or appropriateness with dominant ways of speaking and writing. Jiang and Gu explicitly note that English teachers in linguistically diverse settings must contend with GenAI outputs that often privilege Eurocentric norms. Once AI becomes part of multilingual classroom work, these issues are no longer external ethical concerns; they become curricular concerns. Teachers need to decide whether the goal is to hide these distortions, avoid the tools, or use AI as an object of critique. For translanguaging pedagogy, the third response is usually the more educationally responsible one.

Another major tension concerns epistemic reliability. Generative AI can produce fluent but false information, inappropriate examples, non-existent references, or persuasive simplifications of culturally complex ideas. In writing contexts, this is not just a plagiarism issue; it is a meaning-making issue. Learners may adopt wording that is lexically polished but argumentatively weak, culturally inaccurate, or incompatible with their intended voice. Ou, Tai, and Wang's study of multilingual doctoral writers makes this point especially well by showing how AI-mediated writing can expand repertoires while also producing dilemmas of originality, authorship, and disciplinary voice. Tzirides likewise reports that inclusive multimodal participation can coexist with stereotypes and cultural inaccuracies. The pedagogical implication is straightforward: AI support cannot be evaluated only by surface fluency. It must be assessed in relation to accuracy, register, ownership, and the writer's capacity to justify choices.

Privacy and data governance present a further challenge that review articles too often mention only briefly. AI-mediated translanguaging tasks frequently involve bilingual drafts, personal narratives, screenshots, oral practice, and iterative prompt histories. These materials can contain sensitive data about learners' identities, linguistic backgrounds, or educational records. When tools are used casually, the classroom risks normalizing undisclosed data transfer to third-party platforms. This challenge becomes sharper in multilingual classrooms where learners may already be vulnerable because of migration status, racialization, or institutional surveillance. A pedagogy that claims to value students' full repertoires cannot ignore where those repertoires are stored, processed, and

monetized. That is why local policy, institutional approval, and minimal-data design should be considered part of pedagogical planning rather than legal afterthoughts.

There is also a professional challenge for teachers. Translanguaging pedagogy already requires teachers to interrogate language ideology, design crosslinguistic tasks, and assess learning in more flexible ways. AI adds another layer: teachers need enough technical understanding to choose tools, enough pedagogical judgment to structure their use, and enough critical literacy to expose their biases and blind spots. Studies of teacher education show that this work is demanding but necessary. Cinaglia and De Costa argue that teacher educators should cultivate critical translingual awareness, while Zhang-Wu and Tian show that translanguaging-infused teacher education can raise critical language awareness but also surfaces tensions and uneven uptake. Jiang and Gu similarly show that enabling critical digital literacies is developmental and requires sustained practice rather than one-off training. In short, teachers are not being asked merely to "learn an app"; they are being asked to redesign multilingual pedagogy under changing technological conditions.

For these reasons, the central danger is not AI itself but pedagogical substitution: the temptation to mistake tool availability for pedagogical design, or multilingual functionality for multilingual justice. Translanguaging pedagogy in the age of AI becomes weak when it lets the platform decide the direction of language movement, the degree of explanation, the standard of correctness, or the boundaries of acceptable voice. It becomes stronger when teachers use AI to widen access while preserving human judgment, critical comparison, and learner ownership of meaning.

Reimagining Pedagogy for AI-Mediated Classrooms

A defensible model of AI-mediated translanguaging pedagogy begins with a simple reversal: the teacher should start with a learning problem, not with a tool. In strong translanguaging pedagogy, the crucial question is why learners should move across languages at a given moment and what educational work that movement is meant to do. AI should enter only after that question has been answered. If the task goal is concept building, multilingual rehearsal, contrastive genre awareness, or disciplinary access, AI may add value. If the goal is to assess unassisted production or spontaneous oral performance, AI may be inappropriate or should be tightly bounded. The guiding principle is therefore purpose before platform.

A second principle is repertoire-first design. Teachers should explicitly map what languages, varieties, scripts, and modalities learners are likely to draw on, and then decide where AI can support—not erase—those resources. This means asking not only, "Can this tool translate?" but also, "Which language pairings are likely to be reliable?", "Which students may be disadvantaged by the tool's coverage?", and "What forms of voice or cultural reference might be flattened by automated reformulation?" Repertoire-first design also means legitimizing multilingual prompt design rather than requiring students to interact with AI only through English. Emerging research on translanguaging in AI prompting and writing suggests that multilingual prompting is often purposeful and strategically associated with planning, reformulation, and revision.

A third principle is process visibility. If AI use remains invisible, assessment collapses into outcome inspection: teachers see the final product but cannot see how language movement,

revision, and decision-making occurred. In contrast, translanguaging pedagogy becomes stronger when learners are asked to keep prompt logs, compare outputs across languages, annotate accepted and rejected suggestions, and justify why they chose a particular phrasing or translation. This shifts the evaluative center from "Did AI write this?" to "How did the learner use multilingual and AI-mediated resources to construct meaning?" That is a more educationally valuable question and aligns better with how multilingual learning actually occurs.

A fourth principle is critical AI literacy at the point of use. Criticality should not be postponed to a separate ethics lecture after tool use is complete. It should be built into the task itself through checks for hallucination, source confirmation, bias detection, register comparison, and cultural adequacy. Darvin's triad of materiality, indexicality, and ideology is particularly useful here because it directs attention to how platforms work, how outputs point to particular discourses, and how those discourses position learners. Jiang and Gu extend this logic by showing that learners can be guided toward critical awareness, solidarity, and even activism through carefully structured multimodal work. Reimagined pedagogy, then, treats AI not only as a means of production but also as an object of inquiry.

A fifth principle is ethical minimalism: use the least invasive tool configuration that still serves the learning goal. Not every task needs an open web platform, personal account, persistent history, or image generator. In some contexts, teacher-mediated use, projection-based whole-class prompting, or institutionally approved tools may be more appropriate than unrestricted individual use. A translanguaging pedagogy committed to equity should assume that students do not have equal access, equal data rights, or equal confidence in interacting with platforms. Human-led design must therefore include non-AI alternatives, flexible grouping, and transparent disclosure of what tools are optional, required, or prohibited.

The following flowchart synthesizes these principles into a recommended decision-making sequence for AI-mediated translanguaging task design. It draws on research in pedagogical translanguaging, critical digital literacies, and AI-supported language learning.

Practical Implications

If context is left unspecified, the most useful practical implications are generic but principled. The examples below are therefore intentionally adaptable across school and university settings, with the understanding that local policy, learner age, data rules, and language pairings will shape actual implementation.

Example one

A teacher in a CLIL, EMI, or EAP context assigns a short disciplinary text and organizes a pre-reading task in which students first generate concept explanations in their stronger languages, then ask AI for simplified explanations and contrasting examples in English, and finally produce a bilingual glossary with student-written usage notes. The AI does not replace reading; it mediates entry into it. The translanguaging value lies in building conceptual access through multiple linguistic routes, while the critical component lies in comparing whether the AI explanation distorts key disciplinary meanings. Assessment can focus on the accuracy and usefulness of the glossary, plus a brief reflection on which explanation was most trustworthy and why. This kind of

design aligns closely with strong pedagogical translanguaging while making AI a scaffold rather than a shortcut.

Example two
In an EFL or L2 writing course, students brainstorm in any language, draft a paragraph in English, and then use AI to propose alternative wording, sentence organization, or lexical choices. The crucial requirement is that students annotate each AI suggestion as accepted, modified, or rejected, and explain the reason for the decision. A short oral debrief or writer's memo then asks where the student relied on L1 thinking, where AI helped, and where AI threatened the intended voice or meaning. This is an especially strong fit for AI-mediated translanguaging pedagogy because it values multilingual planning and conscious mediation rather than policing all non-English thinking as off-task. The pedagogical benefit is not merely a better paragraph. It is a more explicit understanding of voice, register, and linguistic choice.

Example three
In a multilingual literacy or intercultural communication module, students work in pairs to create a bilingual multimodal artifact such as a brochure, infographic, or short narrated video on a local issue. AI may be used for translation, visual brainstorming, caption drafting, or comparative slogan generation, but students must also conduct a bias check: which cultural assumptions appear in the generated materials, which local references are misrepresented, and how should the artifact be revised to remain authentic and community-appropriate? Here, translanguaging and multimodality are inseparable. The task uses students' repertoires not only to "support English" but also to produce public-facing meaning across languages and modes. The critical layer prevents the task from becoming mere aesthetic automation.

Example four
Assessment in AI-mediated translanguaging tasks should move away from single-output judgment and toward evidencing mediation. In practice, this means placing greater weight on prompt histories, bilingual notes, translation comparisons, revision trails, peer discussion, and brief metacommentaries. Such assessment recognizes that multilingual learners are not only producing language but also coordinating repertoires, tools, and discourses under conditions of uncertainty. When teachers assess only the final polished product, they risk rewarding hidden automation or punishing legitimate multilingual mediation. When they assess process alongside product, they make room for ownership, accountability, and critical judgment.

Suggested workshop module for teacher education

This short teacher-education module operationalizes recurrent recommendations from translanguaging pedagogy, critical translingual awareness, and critical AI literacy research. It is designed for pre-service or in-service language teachers and can be delivered over four 90-minute sessions.

Workshop title: Designing AI-mediated translanguaging tasks for multilingual classrooms

Audience: Language teachers, literacy teachers, TESOL practitioners, bilingual/EMI/CLIL educators

Learning outcomes: By the end of the module, participants should be able to define pedagogical translanguaging, distinguish it from unplanned language mixing, analyze the affordances and limitations of common AI tools for multilingual learning, design an AI-mediated translanguaging task with ethical safeguards, and develop an assessment plan that captures process as well as product.

Session one: Conceptual grounding. Participants examine the shift from named-language ideologies to repertoire-based views of multilingual learning, then discuss how translanguaging pedagogy connects to equity, participation, and power. They analyze a conventional "English-only" task and redesign it as a translanguaging task without using AI yet.

Session two: Tool ecology and repertoire mapping. Participants compare representative AI tools and map where translation, explanation, role-play, feedback, or multimodal generation may support or distort multilingual learning. They also identify local constraints such as school policy, data rules, device access, and language coverage.

Session three: Critical AI literacy in practice. Participants analyze sample AI outputs for hallucination, cultural stereotyping, standard-language bias, and voice distortion. They then create prompts and checkpoints that require learners to compare outputs across languages, justify revisions, and verify claims.

Session four: Task design, microteaching, and assessment. Participants design a classroom task, pilot it in a short microteaching cycle, and revise the task using peer feedback. Final deliverables include a lesson plan, a learner-facing prompt protocol, a privacy statement, and a rubric that assesses mediation, justification, and critical evaluation rather than product alone.

Suggested final artifact: One AI-mediated translanguaging lesson or mini-unit with teacher rationale, assessment rubric, and a short reflection on what kinds of multilingual agency the design permits, constrains, or redistributes. This final artifact is important because teacher development in this area is not only about technical familiarity but about reframing pedagogical values under changing sociotechnical conditions.

Future Research

The first priority for future research is contextual diversification. Current evidence on AI-mediated translanguaging is still disproportionately drawn from higher education, EFL, writing, and East Asian settings. More work is needed in K–12 classrooms, early literacy, oral interaction, bilingual programs, heritage language education, refugee education, and contexts where underrepresented or low-resource languages are central rather than peripheral. Meta-synthesis work in U.S. K–12 STEM already suggests that translanguaging research itself has disciplinary and contextual gaps; AI-focused research compounds these gaps because the available tool ecosystem is even more uneven across languages and settings. Without broader contextual evidence, the field risks building theory on a narrow slice of multilingual experience.

A second priority is methodological depth. The field needs more longitudinal, classroom-based, and design-based studies that trace how multilingual learners actually use AI over time—not just how they report feeling about it. Review evidence shows a heavy concentration of short-term and writing-focused studies. More work is needed on oral interaction, listening, reading, multimodal composing, collaborative problem solving, and disciplinary learning. Comparative studies of different tool types would also help clarify when multilingual chatbots, machine translation, captions, or multimodal generators are pedagogically distinct rather than functionally interchangeable. Such studies should examine not just linguistic outcomes but also identity, agency, collaboration, and the distribution of cognitive labor between learner, teacher, peer, and platform.

A third priority is assessment research. Translanguaging scholars have already noted that assessment remains underdeveloped relative to instruction, and AI makes that challenge more urgent. Future studies should explore rubrics and portfolio models that can validly capture mediation, source evaluation, multilingual decision-making, and voice preservation. They should also investigate whether AI-rich environments change what counts as "independent" performance and how institutions might draw principled lines between acceptable mediation and unacceptable substitution. These are not merely technical testing issues; they concern fairness, legitimacy, and the future of multilingual academic work.

A fourth priority is teacher learning and institutional governance. The existing literature strongly suggests that teachers need more than procedural training. They need sustained opportunities to examine language ideology, prompt design, bias, data ethics, and assessment consequences together. Future research should therefore investigate professional development models that integrate critical translingual awareness with critical AI literacy, and that measure not only confidence but actual pedagogical change. Institutions, for their part, need research-informed policy frameworks that specify approved tools, data practices, disclosure norms, and learner rights in multilingual AI use. Without this organizational layer, even strong classroom designs will remain vulnerable to incoherence and inequity.

Conclusion

Translanguaging pedagogy in the age of AI is not best understood as a fusion of two trends, one conceptual and one technological. It is better understood as a test case for whether language education can remain pedagogically and ethically serious under intensified technological mediation. Translanguaging pedagogy contributes a repertoire-based, equity-oriented, and power-attuned account of multilingual learning. AI contributes new forms of mediation that make crosslinguistic explanation, translation, rehearsal, and multimodal production more accessible than before. The pedagogical opportunity emerges when these are combined through intentional design. The pedagogical danger emerges when AI's convenience obscures the ideological, linguistic, and epistemic conditions under which its outputs are produced.

The most persuasive conclusion from the current literature is therefore a conditional one. AI can indeed support translanguaging pedagogy by widening access, sustaining multilingual drafting, fostering comparison, and enabling richer multimodal participation. But it does so well only when teachers keep human judgment central, make language movement explicit, require justification

and checking, and treat platform outputs as revisable resources rather than authoritative answers. As long as the empirical base remains concentrated in a limited set of contexts, claims about transformation should remain measured. What can be said with confidence is that translanguaging pedagogy offers one of the most useful frameworks currently available for ensuring that AI in language education serves learning, equity, and voice rather than efficiency alone.

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