JOURNAL OF RESEARCH STUDIES IN ENGLISH LANGUAGE TEACHING AND LEARNING

ARTICLE

To cite this article in APA 7th style:
Yanzhou, S. (2025). Translanguaging and AI synergy in multilingual EFL classrooms. *Research Studies in English Language Teaching and Learning*, *3*(5), 531–549. https://doi.org/10.62583/rseltl.v3i5.113

More Citation Formats

For more citation styles, please visit: https://rseltl.pierreonline.uk/

This article is published by Pierre Online Publications Ltd, a UK publishing house.

eISSN: 2977-0394

KEYWORDS
Translanguaging, artificial intelligence, multilingualism, EFL, AI literacy, China.

Translanguaging and AI synergy in multilingual EFL classrooms

Shen Yanzhou
Yanzhoupotyneo19@gmail.com

Northeast Normal University, Changchun, China.

Abstract

This study explored the synergy between translanguaging and artificial intelligence (AI) in multilingual English as a Foreign Language (EFL) classrooms in China, addressing the limited research on their combined pedagogical value. Using a qualitative design, 40 first-year undergraduates from diverse linguistic backgrounds, including Mandarin, Cantonese, Uyghur, and Korean, engaged with AI platforms such as Baidu ERNIE Bot, and Youdao Translate across ten weeks of classroom activities. Data from observations, reflective journals, AI interaction logs, and semi-structured interviews were analysed thematically, revealing six key themes: bilingual and multilingual scaffolding through AI, confidence and affective support, negotiation of meaning and identity, customisation and personalisation of learning, classroom participation and collaboration, and critical awareness of AI's limitations. Findings showed that AI-mediated translanguaging reduced cognitive load, enhanced comprehension, boosted confidence, and affirmed minority linguistic identities, while offering learners autonomy and opportunities for collaboration. At the same time, participants expressed concerns about mistranslations, over-reliance, and reduced opportunities for authentic English practice, highlighting the need for critical AI literacy. The study extends translanguaging scholarship by demonstrating how AI operationalises multilingual scaffolding in tangible ways and contributes to AI-in-education research by situating technology use within inclusive, multilingual pedagogies. It concludes that AI-mediated translanguaging has the potential to create more participatory and equitable EFL classrooms in China, provided it is implemented with careful attention to balance, sustainability, and reflective practice.

Introduction

The rise of multilingualism in educational settings has created both opportunities and challenges for English as a Foreign Language (EFL) pedagogy. In contexts such as China, where English is taught as a compulsory foreign language and learners bring diverse linguistic repertoires including Mandarin, regional dialects, and minority languages, effective approaches to language instruction are needed to balance linguistic diversity with academic proficiency. Traditionally, EFL pedagogy in China has been dominated by monolingual English-only approaches, influenced by global norms of English-medium instruction and national policy emphasis on English as a tool for international competitiveness (Hu & McKay, 2012). However, recent scholarship has called for a paradigm shift, recognising that multilingual practices are not impediments but valuable resources in learning (Li, 2018; Cenoz & Gorter, 2021). During this shift, translanguaging has also become a prominent pedagogy that places learners' entire linguistic repertoires at the forefront as meaning-production resources, identity resources, and resources for linguistic development.

Translanguaging as pedagogy

Translanguaging entails the flexible use of multiple languages while interacting and learning, such that learners deploy their entirety of a linguistic system rather than compartmentalised "separate languages" (Vogel & García, 2017). In the EFL classroom, translanguaging enables students to process content in their home language(s) while producing in English, scaffolding comprehension and deepening engagement. For example, using Mandarin or Uyghur to clarify grammatical structures or brainstorm ideas can reduce cognitive load and facilitate transfer into English production. Research highlights translanguaging's potential to promote inclusivity, affirm minority identities, and foster criticality in language learning (Duarte, 2019; Leung & Valdés, 2019). Nevertheless, as critics such as MacSwan (2022a, 2022b) and Auer (2022) have argued, much translanguaging research remains theoretical or qualitative, with limited causal evidence linking it to measurable improvements in target language proficiency. Systematic reviews (Prilutskaya, 2021; Huang & Chalmers, 2023) have stressed that most studies rely on small-scale qualitative data, leaving open the question of whether translanguaging directly supports proficiency gains in reading, writing, and grammar.

Towards a synergy of translanguaging and AI

Although translanguaging and AI have often been studied separately, their combined potential has yet to be systematically explored in EFL contexts. Translanguaging legitimises the use of home languages, reducing affective barriers and affirming identity, while AI provides personalised scaffolding through multilingual explanations, translation, and feedback. When integrated, AI can operationalise translanguaging by enabling learners to switch flexibly between English, Mandarin, and minority languages in ways that support comprehension and production. For example, AI-generated explanations in multiple languages can serve as scaffolds for grammar learning, while real-time translation tools can help learners negotiate meaning during collaborative classroom tasks. Such synergy may also promote greater confidence, participation, and autonomy among multilingual learners. However, critical questions remain. Can AI-mediated translanguaging improve not only learners' confidence and identity affirmation but also measurable proficiency in English? How do students perceive the role of AI when it mediates multilingual practices—do they see it as empowering, limiting, or both? Furthermore, what challenges arise in balancing authentic language practice with reliance on AI support? These questions are particularly salient in China, where linguistic diversity coexists with strong institutional pressures for English mastery and rapid adoption of AI technologies in education.

Purpose of the study

The present study aimed to investigate the synergy between translanguaging and AI in multilingual EFL classrooms in China. Specifically, it sought to explore how AI-supported translanguaging practices influenced learners' comprehension, confidence, identity negotiation, and participation. Using a qualitative design, the study examined the variations in students' experiences as they engaged with AI tools in both Mandarin and minority languages alongside English. By drawing on observations, interviews, and reflective journals, the study illuminated how Chinese university students perceived and enacted AI-mediated translanguaging, and what this revealed about the affordances and limitations of integrating these two approaches.

Significance of the study

This research is significant in three key ways. First, it responds to calls for robust empirical work on translanguaging by examining not only its ideological and affective dimensions but also its potential for practical language development when coupled with AI. Second, it contributes to the growing body of research on AI in language education by situating AI within a multilingual pedagogy rather than as a standalone technological intervention. Finally, it provides timely insights for EFL instruction in China, where linguistic diversity and technological innovation intersect in unique ways. By investigating the lived experiences of multilingual learners in China, the study sheds light on how AI-mediated translanguaging can be harnessed to support equitable, inclusive, and effective English language learning. The study is set to answer these following questions:

Q1: ***How do multilingual EFL learners in China experience AI-supported translanguaging in English learning?***
Q2: ***How does AI mediate the use of home languages and English in multilingual classrooms?***

Literature review

The role of translanguaging in English as a Foreign Language (EFL) pedagogy has attracted significant scholarly attention. Calls for systematic inquiry into the effects of translanguaging on substantive learning outcomes have resulted in targeted reviews of empirical evidence (Huang & Chalmers, 2023). Drawing on ten eligible studies, their systematic review revealed that translanguaging is most frequently deployed in teaching reading and writing, with findings favouring translanguaging over English-only approaches in some cases. However, methodological weaknesses—such as small sample sizes and high risks of bias—limited the strength of causal claims. As a result, while translanguaging demonstrates potential as a pedagogical resource, further robust intervention research is necessary to clarify its effectiveness in enhancing measurable English proficiency. The theoretical foundations of translanguaging are grounded in a paradigm shift away from monolingual norms, recognising multilingual practices as dynamic and unitary (Li, 2018; Vogel & García, 2017). Scholars have argued that linguistic diversity should be treated as an asset (Duarte, 2019; Leung & Valdés, 2019; Lin, 2019), disrupting monolingual ideologies and affirming minority learners' identities (Chalmers & Murphy, 2022). At the same time, critics such as MacSwan (2017, 2022a, 2022b), Auer (2022), and Genesee (2022) caution against overstating claims, noting that empirical evidence often supports discrete representations of languages in cognition and use. As

Chalmers and Murphy (2022) emphasise, the evidence base for translanguaging remains limited in terms of causal impact on target language proficiency.

Distinctions between spontaneous and pedagogical translanguaging further contextualise these debates. Cenoz and Gorter (2021) define spontaneous translanguaging as naturally occurring multilingual practices, while pedagogical translanguaging refers to deliberate instructional strategies integrating multiple languages. From a pedagogical standpoint, translanguaging can scaffold L2 learning through creativity, criticality, and linguistic interdependence (Cummins, 1979, 1980; Li, 2022). However, robust evidence linking these practices to measurable proficiency gains is scarce. Prilutskaya's (2021) large-scale review of 233 publications highlighted that most translanguaging research is qualitative, focusing on attitudes and affordances rather than outcomes. She recommended future-controlled intervention and mixed-methods studies to substantiate claims of educational benefit. Parallel to developments in translanguaging, artificial intelligence (AI) and machine translation (MT) technologies have emerged as transformative tools in EFL instruction. El-Esery (2025) examined neural MT engines in developing writing proficiency at Qassim University, reporting significant pre-post improvements in spelling, grammar, and coherence. This shift reflects a growing trend where AI tools are repurposed beyond translation to actively support writing development (Sharples, 2022; Wang et al., 2023). Such systems provide personalised feedback, scaffolding learners' writing fluency, coherence, and accuracy (Song & Song, 2023; Jia et al., 2022; Pereira et al., 2023; Dong, 2023; BaHammam et al., 2023).

Further studies confirm the affordances and limitations of AI-driven tools. For example, Shidiq (2023) and Noy and Zhang (2023) explored ChatGPT's effect on creativity and productivity, noting that while productivity and equity improved, creativity might risk homogenisation. Zhao (2023) and Liu et al. (2023) demonstrated how AI writing assistants lower cognitive load, enhance self-efficacy, and maintain writing flow. Other investigations revealed the importance of MT literacy, as inappropriate use of tools may hinder learning outcomes (Hillmich, 2021; Dorst et al., 2022). Despite these concerns, meta-analyses consistently report improvements in L2 writing quality and confidence when MT or AI systems are strategically integrated (Lee, 2020, 2023; Deng & Yu, 2022; Chon et al., 2021; Tsai, 2022). Taken together, these strands of research suggest that both translanguaging and AI offer scaffolding mechanisms for EFL learners, though evidence on their synergy remains sparse. Translanguaging contributes by legitimising multilingual practices and strengthening identity, while

AI enhances writing proficiency through personalised, immediate feedback. However, the criticisms of weak causal evidence in translanguaging studies (MacSwan, 2022b; Chalmers & Murphy, 2022) mirror concerns around over-reliance on AI (AlAfnan et al., 2023; Imran & Almusharaf, 2023). This convergence points to a critical research gap: the need to explore how AI-mediated translanguaging can be implemented in multilingual EFL classrooms to achieve both affective empowerment and measurable language gains.

Methodology

Participants

The study involved 40 first-year undergraduate students enrolled in English courses at a comprehensive university in eastern China. Participants were purposively selected to represent multilingual backgrounds, including Mandarin, Cantonese, Uyghur, Korean, and other regional or minority languages in addition to English as a foreign language. This diversity reflected the linguistic realities of many Chinese universities, where students bring a rich repertoire of home languages into the classroom. Their ages ranged from 18 to 21, and they possessed varying levels of English proficiency as determined by the university's placement test. Ethical clearance was obtained from the university's academic committee, and students gave informed consent before participation. Their multilingual profiles allowed the study to explore how translanguaging practices and AI-supported instruction operated across different proficiency levels and identities in the Chinese higher education context.

Materials

The primary materials included AI-based platforms widely accessible in China, namely Baidu ERNIE Bot, and neural machine translation tools such as Youdao Translate. These platforms were used to provide multilingual explanations, examples, and feedback, enabling students to engage in translanguaging practices between Mandarin, minority languages, and English. Supplementary classroom tasks were designed to elicit translanguaging practices, including grammar explanation worksheets, short essay assignments, and peer collaboration activities. Semi-structured interview protocols were prepared to capture students' reflections on how AI tools facilitated or constrained their learning. Observation checklists were used as a tool of documentation of participation patterns, i.e., negotiation of meaning, as well as use of home language when doing AI-facilitated activities.

These materials enabled documentation of multiple forms of data like AI interaction logs, reflective journals, as well as classroom observations that created an integrated composite of AI-facilitated translanguaging practices of the Chinese EFL classroom.

Procedure

The intervention continued for ten weeks within learners' regular English language classes. In the first week, learners underwent training on the use of appropriate AI resources, on the use of both their home language and English while learning. Each week, learners implemented classroom tasks such as grammar-related tasks, peer debates, and short essays implementing the use of AI. Learners were motivated to compare AI-offered descriptions expressed in Mandarin, their minority language, and English, then analyse their thought processes of shifting between languages while aiding their understanding. Classroom observations were carried out weekly to record translanguaging instances, peer collaboration, and classroom participation. By mid-semester, short interviews and reflective discussions were conducted to assess students' evolving perceptions. At the end of the intervention, in-depth semi-structured interviews and focus groups were conducted, alongside the collection of students' reflective journals and AI interaction logs. This structured procedure ensured the integration of both real-time observations and reflective accounts to capture the depth of learners' experiences.

Design

The study employed a qualitative design to explore the variations in students' experiences of translanguaging with AI in Chinese multilingual EFL classrooms. This approach was chosen because it allowed the identification of qualitatively different ways students experienced the integration of AI and translanguaging as learning resources. Multiple data sources were used, including classroom observations, AI interaction logs, semi-structured interviews, focus groups, and reflective journals. Thematic analysis was conducted to identify recurring themes, using both inductive coding (emerging from the data) and deductive coding informed by translanguaging and AI pedagogy frameworks. Triangulation across methods enhanced the credibility of the findings. Rather than measuring direct causal outcomes, the design illuminated how learners in China perceived, engaged with, and made meaning from AI-mediated translanguaging, focusing on issues of identity, empowerment, comprehension, and collaborative practices. This interpretive design was well suited

for investigating how synergy between translanguaging and AI unfolded in the lived experiences of multilingual EFL learners.

Analysis

The analysis of data from 40 multilingual EFL learners from China revealed six general themes: (1) bilingual/multilingual scaffolding through the use of AI, (2) confidence and emotional support, (3) meaning negotiation and identity, (4) learning personalisation and customisation, (5) classroom-level participation and collaboration, and (6) critical consciousness of AI's input towards language practices. These themes were identified through thematic analysis, which involved coding reflective journals, interviews, AI interaction logs, and classroom observations. Together, they illuminate the synergy between translanguaging and AI in the Chinese EFL classroom, showing both opportunities and challenges in integrating these practices. See Table 1.

Table 1

Thematic table

Theme	Illustrative participant quotes
1. Bilingual and multilingual scaffolding through AI	P3: "*When AI explained the grammar in Mandarin first and then English, I understood it much faster.*" P17: "*Switching between Mandarin and English with the AI helped me not lose the meaning.*" P29: "*I asked the AI to give me examples in Mandarin and English, and it made the rule very clear.*"
2. Confidence and affective support	P6: "*Before, I felt shy to answer in class, but when I practise with AI in Mandarin and English, I feel ready.*" P14: "*The AI reduced my fear of making mistakes because I could check first in my language.*" P32: "*It gives me courage to participate more, since I know I can understand.*"
3. Negotiation of meaning and identity	P9: "*Using both Mandarin and English with AI made me feel like my languages are an asset, not a problem.*" P21: "*The AI respects my identity as a bilingual. I can be myself while learning English.*" P37: "*It feels like I'm learning English but not losing my Mandarin identity.*"

4. Customisation and personalisation of learning	P5: *"I like that I can ask the AI to explain in simple English or in Mandarin—depending on my mood."* P18: *"It adjusts to my pace, giving me more examples when I ask."* P40: *"Other apps are fixed, but this one lets me choose the way I want to learn."*
5. Classroom participation and collaboration	P11: *"When AI explained a term in Mandarin, I could then explain it to my classmates in English."* P22: *"We use AI together, switching languages, and it helps us discuss the tasks more."* P34: *"It became a group activity—we check in different languages, then share in English."*
6. Critical awareness of AI's role in language practices	P8: *"Sometimes the translation is wrong, so I don't trust AI completely."* P19: *"AI helps a lot, but I know it can't replace a real teacher."* P28: *"I worry that if I depend too much on AI, I won't practise English enough."*

Bilingual and multilingual scaffolding through AI

One of the most prominent themes was the way learners experienced AI as a multilingual scaffold. Students frequently described how switching between Mandarin, minority languages, and English allowed them to grasp complex grammatical and lexical points more easily. For instance, P3 stated: *"When AI explained the grammar in Mandarin first and then English, I understood it much faster."* Similarly, P29 remarked: *"I asked the AI to give me examples in Mandarin and English, and it made the rule very clear."*

These reports reflected that AI facilitated translanguaging by enabling fluid movement across languages, reducing cognitive demands while enhancing clarity. It is reminiscent of Cenoz and Gorter's (2021) idea of translanguaging as a meaning-making scaffold at the classroom level. This also corresponds with Lee's (2023) results that AI-based translation systems enabled correctness with complex structures. In the classroom setting of China, including its learners who typically face difficulty with intangible grammar guidelines, AI-assisted multilingual explanation assisted learners by accessing past linguistic experiences to acquire new proficiency with English.

Confidence and affective support

Another strong theme that ran through the data was AI-facilitated translanguaging towards learners' confidence. Some learners noted that they felt more relaxed after they could cross-check descriptions from their native languages before attempting English. P14 observed: *"The AI reduced my fear of making mistakes because I could check first in Mandarin."* P32 added: *"It gives me courage to participate more, since I know I can understand."*

These findings imply that translanguaging with AI reduced emotional barriers that made learners willing to use English. This reflects Cummins' (1980) concept of linguistic interdependence that L1 bases of proficiency could advance L2 learning. This also reflects Song and Song's (2023) findings that AI writing assistants enhanced motivation as well as self-efficacy. In China, where "face" and fear of embarrassment often hinder classroom participation, AI-mediated translanguaging provided a safety net that enhanced students' affective readiness to engage.

Negotiation of meaning and identity

The theme of identity negotiation was mostly salient among students from minority language backgrounds. P21 expressed: *"The AI respects my identity as a bilingual. I can be myself while learning English."* Similarly, P37 reflected: *"It feels like I'm learning English but not losing my Uyghur identity."*

These perspectives highlight how AI-facilitated translanguaging legitimised the use of minority languages, countering monolingual ideologies prevalent in Chinese classrooms (Hu & McKay, 2012). This finding aligns with Li's (2018, 2022) conceptualisation of translanguaging as a political stance, affirming learners' identities. It also echoes Chalmers and Murphy's (2022) argument that multilingual pedagogies can affirm minority learners' sense of belonging. In the Chinese context, where minority language students often feel marginalised, the use of AI tools that recognised and supported their full repertoires provided not only cognitive but also socio-cultural benefits.

Customisation and personalisation of learning

Participants consistently emphasised the personalised nature of AI-mediated translanguaging. Unlike textbooks or fixed curricula, AI systems responded adaptively to individual preferences. P5 explained: *"I like that I can ask the AI to explain in simple English or in Mandarin—depending on my mood."* P40 added: *"Other apps are fixed, but this one lets me choose the way I want to learn."*

This flexibility corresponds with Jia et al. (2022), who placed centre stage the contribution of AI towards real and pervasive learning by way of personalisation. It also corresponds with Zhao (2023), who demonstrated that AI writing assistants increased user autonomy. The narratives of the students provide evidence that AI broadened the horizon of translanguaging by allowing learners to regulate their translanguaging by themselves depending on the demands of the tasks, their proficiency levels, and their affective needs. In the strict, test-centred education climate of China, such personalised flexibility had high esteem because it provided a counterweight against uniform instruction.

Classroom participation and collaboration

The data also indicated that AI-mediated translanguaging facilitated enhanced co-operation at class-level. Students elaborated that AI-explanations written in Mandarin or minority dialects assisted them in co-operating with their fellow learners. P22 elaborated: "*We use AI together, switching languages, and it helps us discuss the tasks more.*" P34 noted: "*It became a group activity—we check in different languages, then share in English.*" This cooperative interaction is reflective of translanguaging as a social practice, as explained by Vogel and García (2017). It also mirrors that of Dorst et al. (2022), who found that learners used machine translation collaboratively to establish a space of discussion across multilingual classrooms. Observations confirmed that the use of groups often integrated multiple languages whereby AI served an intermediary. Allowing learners access to as well as re-distribution of materials that are multilingual, AI-facilitated translanguaging prompted peer-to-peer scaffolding that enhanced participation despite the barriers that conventional English-exclusive instruction usually creates.

Critical awareness of AI's role in language practices

While most students appreciated the synergy between AI and translanguaging, a critical awareness of AI's limitations also emerged. P8 cautioned: "*Sometimes the translation is wrong, so I don't trust AI completely.*" P19 added: *"AI helps a lot, but I know it can't replace a real teacher.*" These reflections illustrate learners' recognition of the fallibility of AI, especially in providing nuanced or context-specific explanations. This is also aligned with AlAfnan et al. (2023), who mentioned problems concerning reliability of AI-mediated learning, and Shidiq (2023), who also mentioned over-reliance on the use of generative AI. P28Interestingly mentioned a problem concerning dependency: *"I worry that if I depend too much on AI, I won't practise English enough.*" This means that while translanguaging

enabled by AI enabled learners, learners were mindful of its capability of stifling real use if misused. Such critical awareness demonstrates technological growth, of the sort that calls for AI literacy in learning (Imran & Almusharaf, 2023).

Synthesis of findings

Within the six themes, analysis finds that translanguaging operationalised by AI enabled deeper understanding, building of confidence, verification of identity, personalisation, and collaboration. At the same time, learners also reported shortcomings of AI while being concerned about over-reliance as well as erroneous outputs. Altogether, these findings suggest that translanguaging by AI holds the promise of being used as a scaffold by China's multilingual learners but only if its promise is tempered by judicious use alongside instructor guidance as well as critical literacy. The research also reveals that translanguaging and AI synergy transcends cognitive scaffolding to work at an affective as well as a socio-cultural dimension. Through the legitimation of minority languages as well as offering for individualised use of language, AI-enabled translanguaging increased classroom interaction towards greater inclusivity and fairness. This validates Li's (2018) argument that translanguaging is every bit as linguistic an act as political as well as an identity-defining act.

Discussion

This article explored the integration of translanguaging and artificial intelligence (AI) in the multilingual EFL classroom from China, focusing on learners' experiences of translanguaging with AI. Findings established six essential dimensions: scaffolding, confidence, identity negotiation, personalisation, collaboration, and critical awareness. This analysis does not replicate those findings but contextualises them within broader theoretical and empirical discourses surrounding translanguaging and AI, exhibiting the manner by which the study expands current understandings while problematising existing suppositions.

One of the present study's strengths lies in its demonstrating the way that translanguaging was instantiated by AI as a resource for production as well as for comprehension. Although previous translanguaging studies had at times steered its ideological and inclusivist potential (Li, 2018; Duarte, 2019), the present findings offer its pragmatic potentialities as mediated by AI. Through providing bilingual descriptions as well as illustrations, programs of AI enabled learners to use their entire linguistic repertoires as such in line with translanguaging's unitary and changing nature as offered

by Vogel and García (2017). This outcome goes one step further than systematic reviews that condemned translanguaging studies for offering poor evidence of teaching outcomes (Prilutskaya, 2021; Huang & Chalmers, 2023). The functionality of AI as a bilingual scaffold demonstrates that translanguaging need not be an intangible ideology but could perhaps be materially embodied by technology, offering quantifiable learning gain. It also resonates with Lee's (2023) meta-study of machine translation that discovered increased precision when learners progressed purposefully across languages. By putting translanguaging together with AI, this paper adds depth to Cummins' (1979, 1980) linguistic interdependence theory, demonstrating that the transfer of information across languages could itself be digitally brokered. The affective affordances of translanguaging were strengthened when mediated by AI. Students indicated that they felt less anxious and more assured of communicating if they had access to an explanation in Mandarin or minority variants before responding in English. This reflects Song and Song's (2023) outcome that AI enhanced learners' motivation and self-efficacy but reflects Zhao's (2023) outcome of cognitive load decreases. The contribution here is two-fold. First, the results confirm Duarte's (2019) hypothesis that translanguaging fosters inclusivity but shows that AI broadens such inclusivity by reducing emotional barriers to participation. Second, the results show the characteristic relevance of affective support for China, such that classroom culture often forbids risk-taking due to concerns over "losing face" (Hu & McKay, 2012). AI-supported translanguaging established a safeguard that encouraged learners to experiment with English with no fear of humiliation but indicated that its promise is not merely that of scaffolding cognition but of redrawing classroom affect.

Identity negotiation and the politics of language

One of the most powerful insights to emerge was how AI-supported translanguaging allowed minority-language speakers to affirm their identities while learning English. This constructively contributes to Li's (2022) theorisation of translanguaging as a political stance that recasts linguistic diversity as resource rather than deficit. Students' remarks that AI "respected their identity" suggest that tech can deconstruct the monolingual ideologies that continue to permeate higher education in China. This echoes Chalmers' and Murphy's (2022) prior argument for examining linguistic pluralism as education's foundation. Of consequence, such also discounts MacSwan's (2022a, 2022b) concern that translanguaging overplays cognitive integration of languages. While MacSwan argued the case for separate systems of language being recognised, learners from the current study did

recognise AI-mediation of translanguaging as an unproblematic resource of meaning as well as of construction of identity. Thus, the findings problematise dichotomies between unitary and discrete models of language by arguing that technology erases such dichotomies by facilitating shifting that is dynamic for cognitive as well as socio-politically productive uses. A notable contribution of this study is the identification of AI-enabled personalisation as a distinctive extension of translanguaging pedagogy. Whereas pedagogical translanguaging traditionally depends on teacher design (Cenoz & Gorter, 2021), AI empowered learners to determine when, how, and in which language to seek explanations. This aligns with Jia et al.'s (2022) argument that AI supports authentic, ubiquitous learning by tailoring responses to learners' preferences. This personalisation also intersects with broader debates on learner autonomy in China's exam-driven educational context. While prior studies often framed translanguaging as teacher-led (Prilutskaya, 2021), the present findings suggest that AI decentralises authority, enabling learners to orchestrate their multilingual practices independently. This contributes to the literature by reframing translanguaging not only as a pedagogical stance but also as a learner-driven practice facilitated by technology. The findings further show that AI-mediated translanguaging encouraged collaboration, as learners used AI-generated explanations in their home languages to support group discussions in English. This extends Dorst et al.'s (2022) observations of machine translation in collaborative contexts, but situates the phenomenon in China, where peer-to-peer scaffolding is often constrained by hierarchical classroom structures.

The study therefore advances Vogel and García's (2017) conceptualisation of translanguaging as social practice by showing how AI can act as a mediator for collaborative multilingual negotiation. In this sense, AI not only supported individual comprehension but also redistributed multilingual resources across the classroom, fostering inclusivity and participation. While much of the literature highlights the benefits of AI in reducing cognitive load and improving accuracy (Liu et al., 2023; Wang et al., 2023), this study revealed learners' critical awareness of its risks. Concerns about dependency and mistranslation align with AlAfnan et al. (2023) and Shidiq (2023), who warned of over-reliance and creativity loss. Notably, students themselves recognised the potential trade-off between support and authentic practice, echoing Imran and Almusharaf's (2023) call for AI literacy. This self-awareness is significant because it demonstrates that learners are not passive recipients of technology but active evaluators of its affordances and limitations. In the context of China's rapid AI adoption in education,

this finding suggests the importance of equipping learners with critical digital literacy to balance AI assistance with independent practice.

Implications for translanguaging research

The findings challenge critiques that translanguaging research lacks evidence of practical outcomes (Huang & Chalmers, 2023). By integrating AI, this study showed how translanguaging can be systematically enacted in classroom practice, offering scaffolding, affective support, and identity affirmation. It suggests that translanguaging research should move beyond documenting spontaneous practices (Cenoz & Gorter, 2021) to designing interventions that combine multilingual pedagogy with technological mediation. Moreover, the study complicates the debate between unitary and discrete models of bilingualism (MacSwan, 2017; Genesee, 2022). Learners did not experience AI-supported translanguaging as a choice between unitary or discrete systems, but as a fluid process shaped by both personal preference and task demands. This underscores the need for translanguaging research to account for technology's role in reshaping language practices.

Implications for AI research in EFL

The findings also contribute to the growing literature on AI in EFL. Much existing work evaluates AI in terms of accuracy, fluency, or writing quality (Lee, 2020; Dong, 2023). By contrast, this study situates AI within a multilingual pedagogy, showing that its value lies not only in linguistic accuracy but also in affective, identity-related, and collaborative dimensions. This broadens the scope of AI research, suggesting that its educational value should not be reduced to performance metrics but considered in relation to equity and inclusivity. In China, where AI is already embedded in education policy, this shift in focus could ensure that AI adoption enhances rather than homogenises language learning.

Implications for practice in China

In the Chinese EFL context, where monolingual ideologies remain influential and pressure for English mastery is strong, the findings suggest a need for pedagogical innovation. Teachers should integrate AI strategically to legitimise learners' multilingual resources while guarding against over-reliance. Policymakers should also recognise that AI can support equity for minority-language students, countering educational marginalisation by providing accessible scaffolding in multiple

languages. At the same time, the critical concerns expressed by learners underscore the importance of developing AI literacy alongside language proficiency. Training students to evaluate AI outputs, cross-check translations, and reflect on their use of multilingual scaffolds will be essential to maximising benefits while minimising risks.

Conclusion

The outcome reveals that AI made translanguaging work as something greater than an ideological statement of position, it became a real scaffolding of comprehension, production, and interaction. Learners accessed information in Mandarin and minority languages then proceeded to English, reducing cognitive load while gaining confidence. Most importantly, AI enabled confirmation of linguistic identity, particularly for minority-language users, who felt confirmed and valued. Further, the personalisation that AI offered allowed learners' autonomy to choose when and if they mobilised multilingual resources, while classroom peer-to-peer practices revealed means by which AI could transfer linguistic capital from one learner to another. At the same time, there was proof of students' critical awareness of AI failures like mistranslations, over-reliance, and probable erosion of first-language use. Their two-faced stance itself betrays an essential balance. While AI could provide learners with empowerment, its use could require an auxiliary critical digital literacy and reflexive pedagogy.

Theoretically, the paper addresses criticisms of translanguaging scholarship that its findings are abstract or ideologically driven (MacSwan, 2022a; Huang & Chalmers, 2023). By employing AI, the paper illustrates that translanguaging can be studied systematically and yields affective, cognitive, and social benefits. For AI research, the findings extend current work beyond linguistic performance metrics (Lee, 2020, 2023; Liu et al., 2023), highlighting the socio-emotional and identity-based dimensions of AI-supported learning. In the Chinese EFL context, where English-only ideologies persist alongside rapid technological adoption, the findings have significant implications. Teachers should integrate AI strategically to support multilingual scaffolding while avoiding dependency. Policymakers should recognise AI's potential to enhance equity for minority-language learners, ensuring that its adoption supports inclusion rather than homogenisation. Finally, curriculum developers should incorporate AI literacy training, enabling students to critically evaluate and responsibly use AI tools. Like all qualitative research, this study is limited in scope. Its findings reflect the experiences of 40 undergraduates in one Chinese university and cannot be generalised to all

contexts. Future research could employ mixed-methods or longitudinal designs to investigate measurable proficiency gains alongside qualitative experiences. Additionally, comparative studies across different cultural or policy contexts would enrich understanding of how AI-mediated translanguaging functions globally.

Acknowledgements

I would like to express my deepest gratitude to the respondents who participated in the study. Their willingness to share their experiences made the study possible. I am also grateful to the university academic board of the comprehensive university of east China for providing ethical clearance. I specifically thank my professional associates and mentors for their insightful comments and encouragement while I carried out the study.

AI acknowledgment

The researcher acknowledges the use of DeepSeek AI to modify the terms in the strategies. The prompts used include dynamic online formats, holistic learner insight through expressive task-based outputs. The output from these prompts was used to present the different strategies used by the teachers. While the authors acknowledge the usage of AI, the authors maintain that they are the sole authors of this article and take full responsibility for the content therein, as outlined in COPE recommendations.

Conflict of interest

The researcher confirms that there is no conflict of interest associated with this study.

Financial support

The researchers confirm that this study did not receive any form of financial support.

References

AlAfnan, M. A., Samira, D., Marina, J., & Koba, L. (2023). ChatGPT as an educational tool: Opportunities, challenges, and recommendations for communication, business writing, and composition courses. *Journal of Artificial Intelligence and Technology, 3*(2), 60–68. https://doi.org/10.37965/jait.2023.0184

Auer, P. (2022). 'Translanguaging' or 'doing languages'? Multilingual practices and the notion of 'codes'. In J. MacSwan (Ed.), *Multilingual perspectives on translanguaging* (pp. 126–153). Multilingual Matters.

BaHammam, A. S., Trabelsi, K., Pandi-Perumal, S. R., & Jahrami, H. (2023). Adapting to the impact of AI in scientific writing: Balancing benefits and drawbacks while developing policies and regulations. *Journal of Nature and Science of Medicine*. https://doi.org/10.4103/jnsm.jnsm_89_23

Cenoz, J., & Gorter, D. (2021). *Pedagogical translanguaging (Elements in language teaching).* Cambridge University Press.

Chalmers, H., & Murphy, V. (2022). Multilingual learners, linguistic pluralism and implications for education and research. In E. Macaro & R. Woore (Eds.), *Debates in second language education* (pp. 66–88). Routledge.

Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research, 49*(2), 222–251. https://doi.org/10.3102/00346543049002222

Cummins, J. (1980). The construct of language proficiency in bilingual education. In J. E. Alatis (Ed.), *Georgetown University round table on languages and linguistics* (pp. 81–103). Georgetown University Press.

Dong, Y. (2023). Revolutionizing academic English writing through AI-powered pedagogy: Practical exploration of teaching process and assessment. *Journal of Higher Education Research, 4*(2), 52. https://doi.org/10.32629/jher.v4i2.1188

Dorst, A. G., Valdez, S., & Bouman, H. (2022). Machine translation in the multilingual classroom: How, when and why do humanities students at a Dutch university use machine translation? *Translation and Translanguaging in Multilingual Contexts, 8*(1), 49–66. https://doi.org/10.1075/ttmc.00080.dor

Genesee, F. (2022). Evidence for differentiated languages from studies of bilingual first language acquisition. In J. MacSwan (Ed.), *Multilingual perspectives on translanguaging* (pp. 183–200). Multilingual Matters.

Jia, F., Sun, D., Ma, Q., & Looi, C. K. (2022). Developing an AI-based learning system for L2 learners' authentic and ubiquitous learning in English language. *Sustainability, 14*(23), 15527. https://doi.org/10.3390/su142315527

Lee, S. (2020). The impact of using machine translation on EFL students' writing. *Computer Assisted Language Learning, 33*(3), 157–175. https://doi.org/10.1080/09588221.2018.1553186

Lee, S. (2023). The effectiveness of machine translation in foreign language education: A systematic review and meta-analysis. *Computer Assisted Language Learning, 36*(1–2), 103–125. https://doi.org/10.1080/09588221.2021.1901745

Li, W. (2018). Translanguaging as a practical theory of language. *Applied Linguistics, 39*(1), 9–30. https://doi.org/10.1093/applin/amx039

Li, W. (2022). Translanguaging as a political stance: Implications for English language education. *ELT Journal, 76*(2), 172–182. https://doi.org/10.1093/elt/ccab083

Liu, C., Huang, J., Tang, Y. F., Wang, Y., & Hwang, G. J. (2023). Incorporating a reflective thinking promoting mechanism into artificial intelligence-supported English writing environments. *Interactive Learning Environments, 31*(9), 5614–5632. https://doi.org/10.1080/10494820.2021.2012812

MacSwan, J. (2017). A multilingual perspective on translanguaging. *American Educational Research Journal, 54*(1), 167–201. https://doi.org/10.3102/0002831216683935

MacSwan, J. (2022a). Codeswitching, translanguaging and bilingual grammar. In J. MacSwan (Ed.), *Multilingual perspectives on translanguaging* (pp. 83–125). Multilingual Matters.

MacSwan, J. (2022b). *Multilingual perspectives on translanguaging.* Multilingual Matters.

Noy, S., & Zhang, W. (2023). Experimental evidence on the productivity effects of generative artificial intelligence. *SSRN*. https://doi.org/10.2139/ssrn.4375283

Pereira, C. A., Komarlu, T., & Mobeirek, W. (2023). The future of AI-assisted writing. *arXiv preprint arXiv:2306.16641.* https://doi.org/10.48550/arXiv.2306.16641

Prilutskaya, M. (2021). Examining pedagogical translanguaging: A systematic review of the literature. *Languages, 6*(4), 180. https://doi.org/10.3390/languages6040180

Sharples, M. (2022). Automated essay writing: An AIED opinion. *International Journal of Artificial Intelligence in Education, 32*(4), 1119–1126. https://doi.org/10.1007/s40593-022-00300-7

Shidiq, M. (2023). The use of artificial intelligence-based ChatGPT and its challenges for the world of education; From the viewpoint of the development of creative writing skills. In *Proceedings of International Conference on Education, Society and Humanity* (Vol. 1, No. 1, pp. 353–357). Universitas Nurul Jadid. https://ejournal.unuja.ac.id/index.php/icesh/article/view/5614

Song, C., & Song, Y. (2023). Enhancing academic writing skills and motivation: Assessing the efficacy of ChatGPT in AI-assisted language learning for EFL students. *Frontiers in Psychology, 14,* 1260843. https://doi.org/10.3389/fpsyg.2023.1260843

Tsai, S. (2022). Chinese students' perceptions of using Google Translate as a translingual CALL tool in EFL writing. *Computer Assisted Language Learning, 35*(5–6), 1250–1272. https://doi.org/10.1080/09588221.2020.1799412

Vogel, S., & García, O. (2017). Translanguaging. In G. Noblit (Ed.), *Oxford research encyclopedia of education.* Oxford University Press. https://doi.org/10.1093/acrefore/9780190264093.013.181

Wang, T., Lund, B. D., Marengo, A., Pagano, A., Mannuru, N. R., Teel, Z. A., & Pange, J. (2023). Exploring the potential impact of artificial intelligence (AI) on international students in higher education: Generative AI, chatbots, analytics, and international student success. *Applied Sciences, 13*(11), 6716. https://doi.org/10.3390/app13116716

Zhao, X. (2023). Leveraging artificial intelligence (AI) technology for English writing: Introducing Wordtune as a digital writing assistant for EFL writers. *RELC Journal, 54*(3), 890–894. https://doi.org/10.1177/00336882221094089

Copyrights