



Digital Applied Linguistics, 4, 103618 (2026)
<https://doi.org/10.29140/dal.2026.103618>



Chatbots as pedagogical co-support: Exploring teachers' practices and perceptions of GenAI in foreign language education

ONEIL MADDEN  

University of Technology, Jamaica

Abstract

The rise of Generative Artificial Intelligence (GenAI) has introduced new pedagogical opportunities and challenges in foreign language (FL) education. This study explored how GenAI platforms function as pedagogical co-support in FL teaching, their perceived benefits and challenges in classroom practice, and the competencies required for effective integration. Guided by a qualitative-dominant mixed-methods design, data were collected through a Google Forms questionnaire administered to 30 FL teachers across the Caribbean and North America. Quantitative data were analyzed using descriptive statistics, while qualitative responses underwent thematic analysis with MAXQDA software. The findings reveal that GenAI is increasingly being used to support core teaching tasks such as lesson planning, materials development, and assessment design, enhancing efficiency and expanding instructional possibilities while reshaping traditional notions of pedagogical work. However, this integration is characterized by an ongoing tension between productivity gains and concerns surrounding teacher agency, creativity, and pedagogical judgement, as well as technical, ethical, and infrastructural constraints. The study further found that AI literacy and technical competence, digital literacy and ICT integration, ethical awareness, pedagogical creativity, and lifelong learning are central competencies for effective GenAI integration. These competencies align with UNESCO's AI Competency Framework for Teachers (AI CFT), underscoring the multidimensional nature of AI readiness across technical, ethical, and pedagogical domains. Overall, the findings highlight the need for teacher education programs and institutional policies that prioritize AI literacy, ethical guidance, and infrastructural support to promote sustainable, human-centered GenAI adoption in FL classrooms.

Keywords: Pedagogical co-support, Generative Artificial Intelligence, foreign language education, Caribbean, cognitive amplification, teacher agency

Introduction

Since the advent of ChatGPT in November 2022, extensive research has examined the opportunities and challenges that Generative Artificial Intelligence (GenAI) introduces to teaching and learning processes (Xia et al., 2024). GenAI continues to reshape educational landscapes by transforming how knowledge is accessed, generated, processed, and communicated (Ahmed et al., 2024; Zhang, 2025). Beyond ChatGPT, tools such as DeepSeek, Claude, and Google Gemini have expanded possibilities for personalized learning, adaptive feedback, multimodal interaction, and creative engagement (Mohammed et al., 2025). In foreign language (FL) education, where communication, intercultural competence, and context-sensitive meaning-making are central, the emergence of GenAI presents both transformative potential and significant pedagogical complexity (Yusuf et al., 2024). As these technologies increasingly enter educational spaces, they challenge conventional pedagogical boundaries and prompt renewed reflection on teachers' roles, instructional practices, and professional identities (Deng et al., 2026; Madden et al., 2025; Teng & Shen, 2026).

Foreign language teaching has historically embraced technological mediation—from language laboratories and Computer-Assisted Language Learning (CALL) to mobile-assisted and AI-supported learning environments (Schmidt & Strasser, 2022; Xerri et al., 2025). Each technological shift has required educators to reconsider issues of authenticity, learner autonomy, communicative interaction, and assessment practices (Susanti et al., 2023). However, GenAI represents a more substantial pedagogical shift because these systems do not merely deliver pre-programmed content; they dynamically generate language, simulate interaction, provide adaptive feedback, and respond contextually to learner input (Chen et al., 2025). Consequently, GenAI is increasingly being conceptualized not simply as a technological tool but as a form of pedagogical co-support or collaborative teaching assistant capable of supporting lesson preparation, material design, feedback generation, differentiated instruction, and communicative practice. Emerging research suggests that teachers often use GenAI to co-construct instructional materials, brainstorm activities, scaffold learning tasks, and personalize support for diverse learners (AbuSa'aleek & Alenizi, 2024; Madden et al., 2025). In this sense, GenAI may function as a pedagogical partner that augments — rather than replaces — teacher expertise and instructional decision-making.

At the same time, the integration of GenAI into FL education raises important pedagogical, cognitive, and ethical concerns. Although AI-powered conversational systems may increase learner engagement and willingness to communicate, scholars caution that excessive reliance on AI-generated responses may contribute to cognitive offloading, reduced critical engagement, and superficial language processing if learners passively consume generated content rather than actively negotiate meaning (Delello et al., 2025). Furthermore, concerns surrounding hallucinations, bias, mistranslations, academic integrity, privacy, and the possible erosion of authentic human interaction continue to shape critical debates surrounding AI integration in language learning contexts (Al-kfairy et al., 2024; Chugh et al., 2025). These tensions suggest that the educational value of GenAI depends less on the technology itself and more on how teachers critically mediate and pedagogically structure its use.

Teachers, as central mediators of educational innovation, therefore, play a pivotal role in determining how GenAI is perceived, adopted, and integrated into classroom practice (Zaimoğlu & Dağtaş, 2025). Their perceptions and practices shape whether these technologies are approached as threats, supplements, co-support systems, or collaborative pedagogical partners in language teaching (Kılıçkaya & Kic-Drgas, 2025). Understanding how teachers interpret the pedagogical affordances, limitations, and ethical implications of GenAI is therefore

essential for guiding responsible and contextually meaningful implementation. Existing studies indicate a mixture of curiosity, cautious optimism, and concern among FL educators, reflecting a complex interplay between technological readiness, institutional support, pedagogical beliefs, and professional identity (López & Cote, 2025).

Against this background, this study explores how FL teachers engage with GenAI tools within their professional contexts. Specifically, it examines the extent to which these technologies are integrated into instruction, the perceived pedagogical benefits and challenges they present, and the broader implications for teacher identity, cognition, and pedagogy in AI-mediated learning environments. By foregrounding teachers' evolving experiences and reflections, the study contributes to ongoing discussions surrounding AI in language education while amplifying perspectives from the Caribbean context, which remains underrepresented in current literature. To achieve this, the study is guided by the following research questions:

- RQ1: How do GenAI platforms serve as pedagogical co-support in foreign language education?
- RQ2: What are the pedagogical benefits and limitations of GenAI adoption in the foreign language classroom?
- RQ3: What competencies do foreign language teachers require to effectively integrate GenAI in their teaching?

Literature Review

GenAI Tools Used in Foreign Language Education

Since the public emergence of large language models (LLMs) and chat-based systems, FL teachers have started using diverse GenAI tools, including ChatGPT, DeepSeek, Claude, and Gemini (Hubbard & Schulze, 2025). In addition, teachers frequently use AI-enhanced writing tools and feedback systems, such as Grammarly, AI grammar/feedback plugins (Mekheimer, 2025) and domain-specific LLM integrations for roleplays, task generation, simplified texts, and formative assessments items (Tan et al., 2025). These tools function both as conversation partners, writing/feedback engines, and content-generation aids (Joo, 2024).

Pedagogical Benefits of GenAI in Foreign Language Education

Recent scholarship has increasingly moved beyond describing GenAI's functional affordances to examining its measurable pedagogical and cognitive impacts within foreign language education. A growing body of empirical research suggests that GenAI can enhance learner engagement, self-efficacy, willingness to communicate (WTC), and opportunities for individualized practice when integrated within pedagogically structured environments (Tang et al., 2026; Wang, 2026). In particular, AI-mediated conversational agents and chatbots have been shown to reduce speaking anxiety and increase learners' confidence to engage in target-language interaction, especially among lower-proficiency learners who may fear judgement in human interactions (Ding et al., 2025; Huang & Kakham, 2026). However, the effectiveness of these AI interlocutors appears to depend heavily on task design, teacher mediation, and the extent to which learners perceive the interaction as authentic and meaningful rather than transactional (Stockwell & Wang, 2025).

Similarly, studies on AI-assisted writing demonstrate that rapid iterative feedback may support revision practices, metalinguistic awareness, and grammatical accuracy (Lu et al., 2026; Tran, 2025). Additionally, GenAI serves as a potentially transformative companion for language

practice, writing support, and intercultural exploration (Hastomo et al., 2025; Lee et al., 2025; Panmei & Shimray, 2025). Yet recent findings also suggest that the pedagogical value of such feedback is strongest when students critically engage with AI-generated suggestions rather than passively accepting corrections (Vu & Vu, 2026; Xie et al., 2025). Consequently, the literature increasingly frames GenAI not simply as a productivity tool but as a potential cognitive scaffold that can either support or weaken deeper language processing depending on instructional conditions (Zaim et al., 2025). Ji et al. (2024) further found that teachers value AI-generated communicative prompts and adaptive learning materials because they can diversify classroom interaction and personalize learning pathways. Additionally, teachers report that GenAI can reduce repetitive administrative and material-development tasks, thereby allowing greater focus on feedback, facilitation, and higher-order pedagogical engagement (AbuSa'aleek & Alenizi, 2024; Madden et al., 2025). Nevertheless, recent literature consistently cautions that pedagogical gains emerge not from AI use itself, but from critically guided and pedagogically purposeful integration (Onbasili, 2026).

Reported Limitations, Risks, and Critical Concerns

Alongside its pedagogical affordances, recent literature increasingly highlights the cognitive, ethical, and pedagogical risks associated with GenAI integration in foreign language education. One of the most significant concerns relates to learner dependency and cognitive offloading. Emerging studies suggest that excessive reliance on AI-generated translations, summaries, and writing support may reduce learners' engagement in critical thinking, problem-solving, and independent language production processes (Abubakar et al., 2025; Delello et al., 2025). Rather than strengthening communicative competence, uncritical dependence on AI tools may encourage surface-level processing, passive consumption of generated content, and reduced metalinguistic reflection (Jinrui & Zhang, 2025; Yavich, 2025). These concerns are particularly salient in writing instruction, where some scholars argue that AI-assisted composition may weaken learners' authorial voice, creativity, and sustained cognitive engagement if not accompanied by reflective pedagogical practices.

Teachers also remain cautious about the reliability and linguistic accuracy of GenAI systems. LLMs continue to produce hallucinations, mistranslations, inaccurate grammatical explanations, and culturally inappropriate outputs (Ataman et al., 2025; Banerjee et al., 2025), raising concerns about learners' exposure to flawed linguistic input. Consequently, educators increasingly assume the role of critical mediators who must evaluate, verify, and contextualize AI-generated materials before classroom implementation (Muñoz Martínez et al., 2025). This additional verification process may increase teacher workload, despite claims that AI improves efficiency (Alexandrowicz, 2024). Furthermore, concerns surrounding academic integrity have evolved beyond plagiarism alone toward broader questions of authenticity, authorship, and cognitive participation (Qu et al., 2025). Scholars increasingly argue that the issue is not merely whether students use AI, but how AI reshapes the learning process itself and potentially displaces productive struggle, reflection, and language negotiation (Promsiri, 2025; Rivero & Yin, 2025).

The literature also highlights persistent structural and ethical concerns surrounding equity, surveillance, and commercialization. Differential access to devices, stable internet connectivity, and premium AI platforms may exacerbate existing educational inequalities, particularly in under-resourced contexts (Hughes et al., 2025; Madden et al., 2025). Simultaneously, questions surrounding data privacy, algorithmic bias, and the corporatization of educational technologies remain unresolved (Uddagiri & Isunuri, 2024). Although many scholars argue that GenAI should augment rather than replace human expertise (Pérez-Paredes et al., 2025), recent critical perspectives caution against techno-solutionist narratives that position AI as

inherently transformative without sufficient attention to pedagogy, ethics, learner cognition, and contextual realities. Consequently, the literature increasingly advocates for balanced, critically informed, and human-centered approaches to GenAI integration in foreign language education (Toncelli & Kostka, 2024).

Competencies Required for Teachers to Integrate GenAI Effectively

A recent and influential policy framework is the United Nations Educational, Scientific and Cultural Organization's AI Competency Framework for Teachers (AI CFT), which outlines the multidimensional competencies educators need for the ethical and pedagogically effective integration of AI in education (UNESCO, 2024). The framework (see Table 1) consists of five interconnected competency domains — human-centered mindset, AI ethics, AI foundations and applications, AI pedagogy, and AI for professional development — across three progression levels: Acquire, Deepen, and Create. Importantly, the framework positions pedagogy, ethics, and human agency at the center of AI integration rather than focusing solely on technical proficiency. UNESCO also acknowledges that competency development is non-linear and context-dependent, shaped by institutional and technological realities. While the AI CFT provides a comprehensive global model for AI-enhanced teaching and learning, its implementation may remain challenging in under-resourced educational contexts where infrastructure, digital literacy, and sustained professional development opportunities are limited.

In summary, GenAI tools present plausible and varied affordances for foreign language education — personalized practice, feedback, and scalable content creation — while also posing real pedagogical, ethical, and practical challenges. The literature suggests that teachers are cautiously experimental; they see promise but demand competencies, institutional support, and policy safeguards to integrate GenAI responsibly.

Methods

Research Design

The study employed a qualitative-dominant convergent mixed-methods design in which qualitative inquiry constituted the primary strand and was complemented by a smaller quantitative component. This design was deemed appropriate because the study sought not only to identify patterns in FL teachers' perceptions and use of GenAI but also to understand the meanings, experiences, and contextual factors that shape these perceptions within their professional practice. Given the complexity and rapidly evolving nature of AI-mediated educational environments, reliance on a single source of data would have provided only a partial understanding of the phenomenon.

Consistent with a convergent mixed-methods approach, quantitative and qualitative data were collected concurrently through a single structured Google Forms questionnaire comprising both closed-ended and open-ended items. The quantitative strand primarily served a descriptive purpose by identifying trends, frequencies, and patterns relating to teachers' use of GenAI, attitudes towards its integration, and perceived benefits and challenges. Descriptive statistics were therefore employed to summarize these patterns rather than to make inferential or population-level claims. The qualitative strand, which formed the core of the study, generated richer explanatory data by allowing participants to elaborate on their experiences, beliefs, pedagogical adaptations, and concerns regarding GenAI integration.

Participants/Sampling

As summarized in Table 2, the participants in the study comprised 30 FL teachers of English, French, Spanish, and other languages who teach at different levels of the education system in

Table 1. AI competency framework for teachers (UNESCO, 2024, p. 22)

Aspects	Progression		
	Acquire	Deepen	Create
1. Human-centred mindset	Human agency	Human accountability	Social responsibility
2. Ethics of AI	Ethical principles	Safe and responsible use	Co-creating ethical rules
3. AI foundations and applications	Basic AI techniques and applications	Application skills	Creating with AI
4. AI pedagogy	AI-assisted teaching	AI–pedagogy integration	AI-enhanced pedagogical transformation
5. AI for professional development	AI enabling lifelong professional learning	AI to enhance organizational learning	AI to support professional transformation

the Caribbean and North America. Most participants were from Jamaica (36.7%). The majority of them (56.7%) were females, while the others (43.3%) were males. Participants spanned different age groups, with the majority falling between 29 and 36 years. They also had varying years of teaching experience.

Participants were recruited using the snowball sampling technique through social media and professional networks. In principle, snowball sampling entails requesting initial participants to identify or recommend additional individuals who fit the study’s criteria, enabling researchers to broaden their sample through participants’ social connections (Hair et al., 2020). For this study, it was applied by disseminating the questionnaire link via WhatsApp group chats and email, encouraging others to share it with as many FL colleagues as possible.

While the sample size ($N = 30$) may appear modest and does not permit statistical generalization to all Caribbean FL teachers, its adequacy should be interpreted in light of the study’s exploratory, context-sensitive, and theory-building orientation. Positioned as a pilot and feasibility study, the research sought to identify patterns, generate preliminary insights, and refine emerging understandings of GenAI integration in Caribbean FL education rather than make population-level claims. Within exploratory and mixed-methods research, smaller samples are methodologically defensible when the objective is to obtain depth of understanding and illuminate underexplored phenomena rather than achieve statistical representativeness (Creswell & Poth, 2018). Moreover, sample adequacy in qualitative and mixed-methods inquiry is more appropriately evaluated through the concepts of information power and thematic sufficiency than through numerical size alone (Malterud et al., 2016). The consistency observed across participants’ responses—particularly regarding themes of pedagogical efficiency, ethical concerns, and tensions surrounding AI adoption—suggests that the dataset yielded sufficient informational richness to support credible and meaningful interpretations.

Importantly, the findings should be understood in terms of analytical transferability rather than generalizability. The Caribbean higher education context exhibits considerable structural and pedagogical convergence, characterized by shared colonial histories, creolephone language

Table 2. Demographic information of participants

Category	Subcategory	n	%
Gender	Male	13	43.3
	Female	17	56.7
Country	Jamaica	11	36.7
	Haiti	3	10
	Cuba	3	10
	Dominican Republic	2	6.7
	USA	2	6.7
	Aruba	1	3.3
	Bahamas	1	3.3
	Belize	1	3.3
	Curacao	1	3.3
	Guyana	1	3.3
	French Guiana	1	3.3
	Puerto Rico	1	3.3
	Suriname	1	3.3
	Trinidad and Tobago	1	3.3
Age	21–24	1	3.3
	25–28	4	13.3
	29–32	7	23.3
	33–36	7	23.3
	37–40	6	20
	41–44	4	13.3
	53+	1	3.3
Level Taught	Primary	2	6.7
	Secondary	12	40
	Tertiary	16	53.3
Languages Taught	Spanish	19	63.3
	French	11	36.7
	English L1	10	33.3
	English L2	12	40
	Other	3	10
Years of Teaching Experience	1–5	6	20
	6–10	9	30
	11–15	7	23.3
	16–20	5	16.7
	21–25	3	10

ecologies, comparable institutional arrangements, and similar technological opportunities and constraints. These commonalities enhance the potential relevance of the findings to analogous contexts across the region, while acknowledging that meaningful variations exist among territories and institutions. Furthermore, small, focused samples are particularly appropriate in emergent fields such as GenAI in education, where empirical evidence remains limited and conceptual understandings are still evolving. Consequently, this study offers a foundational and contextually grounded evidence base that can inform future large-scale, comparative, and

longitudinal investigations into GenAI adoption in Caribbean FL education. Its contribution lies not in claiming representativeness of the wider regional teaching population, but in providing theoretically informed insights that advance an emerging area of scholarship while maintaining methodological rigor appropriate to its scope.

Instrument

A mixed-methods questionnaire (see Appendix) was developed to collect both quantitative and qualitative data aligned with the study's research questions. The design of the instrument was informed by existing literature on GenAI, technology-enhanced language learning, and teacher perceptions within foreign language (FL) education. The questionnaire included both closed-ended and open-ended items to facilitate the collection of descriptive trends alongside richer explanatory insights. In addition to demographic information, the instrument explored FL teachers' awareness and use of various GenAI platforms, perceptions of GenAI's influence on pedagogy, language learning, assessment, curriculum design, and professional practice, as well as the competencies teachers require to operate effectively in AI-mediated educational environments. The questionnaire consisted of five principal closed-ended items, each followed by open-ended prompts that enabled participants to elaborate on and justify their responses. Most items, however, were qualitative in nature to encourage reflective and detailed responses, as shown in the Appendix.

To enhance the validity of the instrument, the questionnaire items were carefully aligned with the study's objectives and grounded in themes consistently identified in recent literature on AI in education. Content validity was strengthened through expert review, whereby three colleagues with expertise in applied linguistics, educational technology, and research methodology examined the instrument for clarity, relevance, coherence, and alignment with the research questions. Minor revisions were subsequently made to improve wording, reduce ambiguity, and ensure contextual appropriateness. Additionally, the inclusion of both closed-ended and open-ended questions supported methodological robustness by enabling the researcher to compare broad response patterns with participants' explanatory narratives, thereby enhancing interpretive credibility.

Reliability was addressed using clear, consistent, and structured questioning procedures. The questionnaire was piloted with a small group of five FL educators who were not included in the final study to evaluate item clarity, question sequencing, estimated completion time, and overall comprehensibility. Feedback from the pilot phase informed further refinements to improve consistency and reduce the possibility of misinterpretation. The use of standardized online administration through Google Forms also contributed to procedural reliability by ensuring that all participants received the same instructions and questions under similar conditions.

Ethical considerations were prioritized throughout the research process. At the beginning of the questionnaire, participants were informed about the purpose of the study, the voluntary nature of participation, and their right to withdraw at any stage without penalty. To protect confidentiality and anonymity, no directly identifiable information, such as names, institutional affiliations, or email addresses, was collected. Participants were also asked to indicate their consent for their responses to be used for research purposes. Furthermore, all data were collected, stored, and managed in accordance with institutional ethical guidelines and the country's Data Protection Policy.

Data Analysis

Quantitative data obtained from the closed-ended questionnaire items were exported from Google Forms for verification, organization, and cleaning prior to analysis. The data were subsequently analyzed using basic descriptive statistics, including frequencies and percentages, to

identify general trends and patterns in participants' responses. Graphical representations were also used to support the presentation and interpretation of the findings. Consistent with the study's qualitative-dominant convergent mixed-methods design, the quantitative component served a primarily descriptive and contextual function by providing broad perceptual trends regarding teachers' use of GenAI, attitudes towards its integration, and perceived opportunities and challenges. Consequently, inferential statistical analyses were not conducted, as the quantitative data were not intended to support statistical generalization but rather to complement and contextualize the qualitative findings.

The qualitative data generated through the open-ended questionnaire items were analyzed using Reflexive Thematic Analysis (RTA), following the updated framework proposed by Braun and Clarke (2019, 2021). RTA was considered appropriate because it facilitates the systematic identification and interpretation of patterns of meaning across participants' responses while acknowledging the active interpretive role of the researcher in the analytic process. Unlike coding reliability approaches to thematic analysis, RTA emphasizes researcher reflexivity, interpretive depth, and theme development as a meaning-making process rather than a purely procedural exercise.

The qualitative analysis was conducted using MAXQDA (Version 2022). Following data familiarization through repeated reading of participants' responses, initial codes were generated inductively from recurring ideas, perceptions, and experiences concerning GenAI in foreign language education. These codes were subsequently reviewed, refined, and clustered into broader candidate themes that captured shared patterns across the dataset. To enhance analytical rigor and credibility, an external colleague independently reviewed the coding framework and thematic structure. Areas of divergence were discussed until consensus was reached regarding code definitions, categorization, and thematic boundaries. The themes were then critically examined for coherence, distinctiveness, and alignment with the research questions before being defined, named, and integrated into the final analytical narrative. Throughout the process, reflexive memoing and iterative engagement with the data were employed to enhance transparency and interpretive depth.

Following separate analyses of both datasets, integration occurred at the interpretation stage through bolstering and narrative weaving. Specifically, the descriptive quantitative findings established broad patterns in participants' perceptions and experiences, while the qualitative themes were used to explain, contextualize, and elaborate upon these trends. Points of convergence, complementarity, and divergence across the two strands were examined to develop a richer and more nuanced understanding of FL teachers' experiences of GenAI integration. This complementary integration enabled the study to move beyond descriptive accounts of AI use and provide deeper insights into the meanings, motivations, and contextual realities that shape teachers' engagement with GenAI in Caribbean foreign language education (Creswell & Creswell, 2022).

Results

GenAI as Pedagogical Co-support

The findings indicate that FL teachers increasingly perceive GenAI platforms as forms of pedagogical co-support that assist with instructional planning, material development, and professional workflow optimization. As shown in Figure 1, most participants reported using GenAI to generate lesson ideas ($n = 24$, 80%) and plan entire lessons ($n = 21$, 70%), suggesting that AI functions as a collaborative support tool in instructional design rather than merely a supplementary technological resource. More than half of the participants also used GenAI to create exercises and classroom activities ($n = 17$, 56.7%), while a smaller proportion employed it to

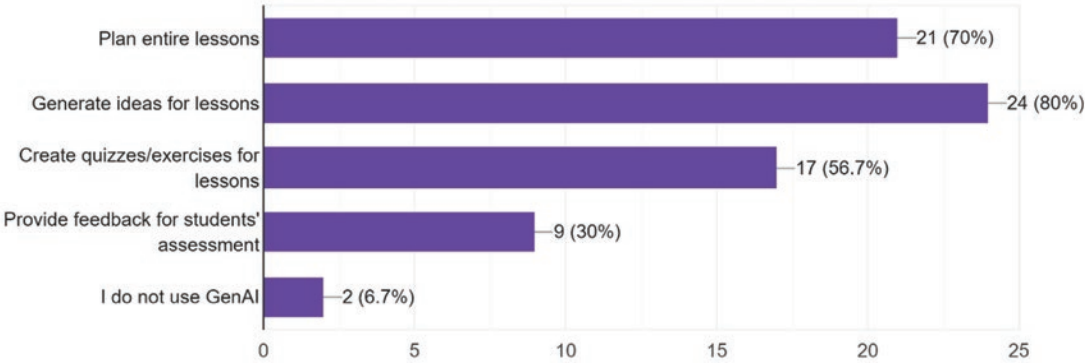


Figure 1. *Ways GenAI acts as pedagogical co-support*

provide feedback on student assessments ($n = 9$, 30%). Qualitative responses further revealed that teachers use GenAI for research, outlining topics, problem-solving, and administrative writing tasks. Collectively, these findings suggest that educators primarily engage with GenAI as a pedagogical assistant that supports efficiency, creativity, and instructional preparation while still requiring teacher oversight and pedagogical mediation.

Pedagogical Benefits and Limitations of AI Adoption

The findings reveal that FL teachers perceive GenAI adoption as offering several pedagogical benefits, particularly in relation to efficiency, creativity, and instructional support. As illustrated in Figure 2, most participants believed that GenAI saves time ($n = 27$, 90%) and makes work easier and smarter ($n = 23$, 76.7%). Participants' qualitative responses reinforced these findings by highlighting how GenAI reduces repetitive workload and supports workflow optimization. Additionally, some teachers perceived GenAI as enhancing their content knowledge ($n = 11$, 36.7%) and fostering creativity and innovation in lesson planning and activity design ($n = 11$, 36.7%).

Despite these positive perceptions, participants also stressed the continued importance of human oversight and pedagogical judgment. Several educators emphasized the need to review, adapt, and verify AI-generated content before implementation to ensure accuracy and suitability for learners' needs and abilities. As Participant 1 explained, *"I am still responsible for vetting the information and ensuring that it is exactly what I want or need for my students and their current abilities,"* while Participant 9 similarly noted that educators *"just have to go through and vet afterwards rather than doing everything from the beginning."*

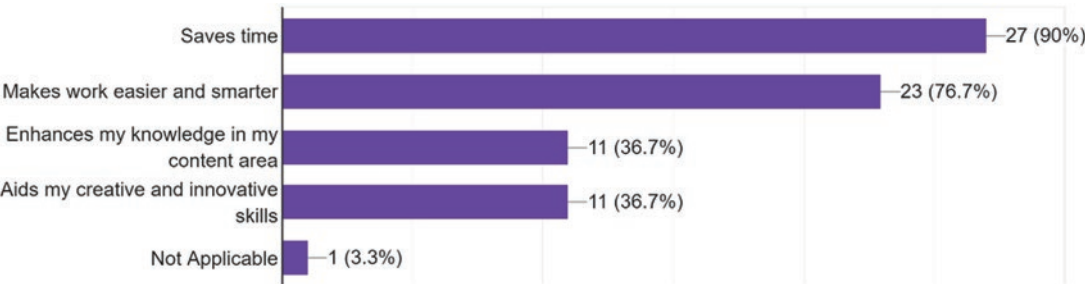


Figure 2. *Pedagogical benefits of GenAI to foreign language teachers*

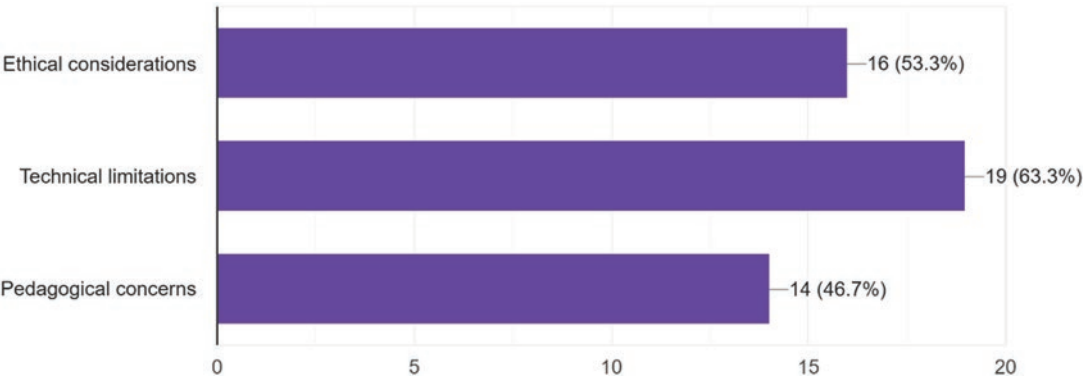


Figure 3. Challenges faced by foreign language teachers concerning GenAI

Figure 3 highlights the major challenges FL teachers foresee or experience in integrating GenAI tools into their teaching. The primary issue concerns technical limitations ($n = 19$, 63.3%), followed by ethical considerations ($n = 16$, 53.3%), and pedagogical concerns ($n = 14$, 46.7%).

The qualitative explanations supporting Figure 4 are categorized in the following themes.

Structural Barriers

One of the major themes emerging from the qualitative findings points to interconnected structural barriers that constrain the effective integration of GenAI across Caribbean contexts, particularly in relation to infrastructure, access, and capacity-building. Participants underscored

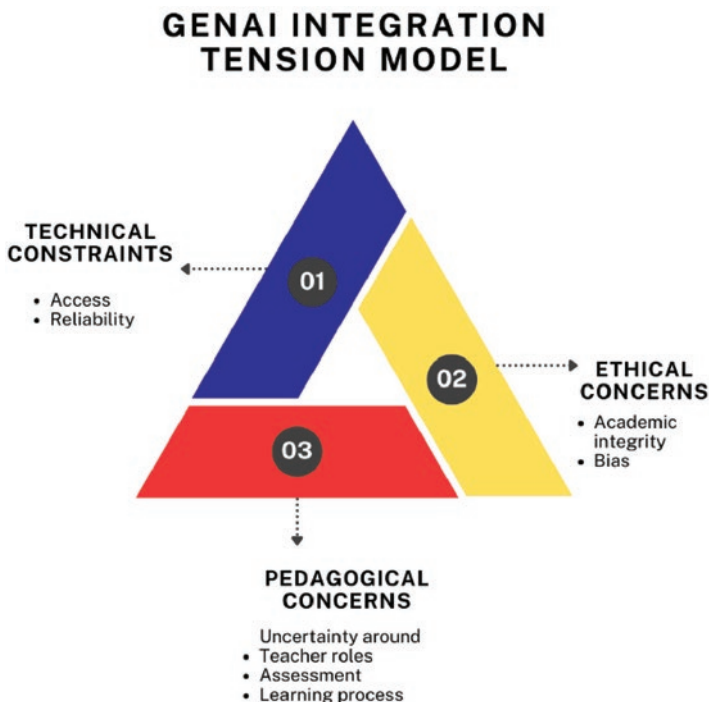


Figure 4. GenAI integration tension model

how infrastructural limitations – including unreliable internet connectivity and state-imposed restrictions – continue to impede meaningful engagement with AI tools, as reflected in one account: *“In Cuba, we have very slow internet... most people have to go to a square to access internet. It’s almost like we are in the 2000s”* (Participant 28). These constraints are compounded by persistent digital inequities, where access to GenAI is unevenly distributed along socio-economic and geographic lines. As one participant cautioned, *“If AI-powered tools become the norm but remain inaccessible... a digital divide could emerge”* (Participant 5), highlighting the risk of further marginalizing already underserved learners. Beyond access, deficits in AI literacy and professional training also emerged as a critical barrier. Even in contexts where technology is available, educators reported feeling underprepared to use GenAI effectively and ethically, noting that *“one of the biggest challenges is training people to use generative AI tools correctly and responsibly”* (Participant 1), and that *“the necessary training would have to be done to equip professionals”* (Participant 26). Collectively, these insights suggest that GenAI adoption is shaped not only by individual willingness but by broader systemic conditions, requiring coordinated infrastructural investment, equitable access policies, and sustained professional development initiatives.

Ethical and Pedagogical Tensions

The data coalesce around a broader theme of ethical–pedagogical tensions in GenAI integration, where concerns about integrity, learning quality, and cultural validity intersect. Participants expressed unease about the ethical reliability of AI outputs and data practices, noting risks related to bias and authenticity, as one educator observed: *“Avoiding bias in AI-generated translations and ensuring fair use of student data”* remains a key issue (Participant 6), while another added that *“there is always concern about whether the information is authentic”* (Participant 23). These ethical concerns are closely tied to pedagogical anxieties about over-reliance and diminished cognitive engagement, with participants warning that AI may undermine language acquisition processes; for instance, *“it could give you a wrong interpretation if you don’t know well the target language”* (Participant 10), and *“over-reliance could lead to students engaging passively rather than actively practicing”* (Participant 28). Compounding these issues is the cultural and linguistic insufficiency of AI tools, particularly in multilingual Caribbean contexts, where nuance and local variation are critical. As one participant highlighted, AI systems *“struggle with regional dialects [and] indigenous languages,”* while another mentioned that *“Cuba has historical and cultural perspectives that AI cannot fully capture”* (Participant 21), raising concerns about their applicability in contexts – such as Belize – where multiple linguistic systems coexist (Participant 28). Taken together, these insights suggest that GenAI is not merely a technical tool but a pedagogically and ethically complex intervention, requiring critical oversight to ensure that its use supports, rather than undermines, authentic, contextually grounded language learning.

Educators’ fears of Obsolescence and de-Skilling

A further emergent theme centers on perceived threats to teacher agency and professional identity, as educators articulate concerns about potential obsolescence and de-skilling in the wake of GenAI adoption. Some participants expressed apprehension that the increasing reliance on AI tools could marginalize the role of the teacher, with one warning that *“teachers won’t be able to teach, and they will lose their jobs”* (Participant 14). Beyond job displacement, others highlighted the more subtle erosion of pedagogical autonomy and creativity, noting that GenAI *“may force away my personal teaching creativity”* (Participant 30). These concerns reflect a broader tension between technological augmentation and professional displacement,

suggesting that while GenAI offers efficiency gains, it also raises critical questions about the preservation of teacher expertise, creativity, and human-centered pedagogy within increasingly automated educational environments.

Competencies Required to Effectively Integrate GenAI

In response to the challenges of lack of training and potential pedagogical disruption identified in participants' qualitative responses above, Table 3 outlines the major competencies FL teachers believe are necessary for the effective and responsible integration of GenAI into teaching practice, which are mapped onto UNESCO's AI CFT (UNESCO, 2024). The competencies identified by participants closely align with the framework's five competency domains and progression levels, particularly within the *Acquire* and *Deepen* stages.

The dominant competency, AI literacy and technical competence ($n = 21$, 70%), corresponds strongly with the *AI Foundations and Applications* domain, particularly the *Acquire* level ("basic AI techniques and applications") and *Deepen* level ("application skills"). Participants' emphasis on understanding how GenAI systems function and how to apply them effectively reflects the need for foundational and applied AI competence in instructional contexts. Similarly, digital literacy and ICT integration skills ($n = 16$, 53.3%) align with the *AI Pedagogy* domain, especially the transition from *AI-assisted teaching* to *AI-pedagogy integration*, as teachers seek to integrate GenAI into evolving digital pedagogies while minimizing classroom disruption.

Participants' concerns regarding critical and ethical AI use ($n = 11$, 36.6%) and the need to critically evaluate AI-generated content ($n = 8$, 26.6%) reflect the *Ethics of AI* and *Human-centered Mindset* domains. These findings suggest that teachers recognize the importance of ethical principles, responsible AI use, human accountability, and maintaining pedagogical judgment when engaging with AI-generated outputs, particularly given concerns surrounding hallucinations, misinformation, and overreliance on AI. Additionally, pedagogical application and creativity ($n = 10$, 33%) correspond with the framework's *AI Pedagogy* progression toward *AI-enhanced pedagogical transformation*, where educators move beyond basic AI use toward more creative and pedagogically meaningful integration.

Finally, participants' emphasis on lifelong learning and continuous professional development ($n = 6$, 20%) directly aligns with the *AI for Professional Development* domain, particularly the progression from *AI enabling lifelong professional learning* to *AI to enhance organizational learning*. This finding reinforces the view that GenAI integration is not a one-time technical adjustment but an ongoing developmental process requiring sustained upskilling, reflective practice, and professional adaptability.

Collectively, the findings demonstrate that FL teachers perceive effective GenAI adoption as multidimensional, requiring not only technical proficiency but also ethical awareness, pedagogical transformation, critical evaluation skills, and continuous professional learning.

Discussion

Findings from RQ1 show that FL teachers largely position GenAI as a pedagogical co-support system that enhances, rather than replaces, instructional practice. Its perceived value lies in improving efficiency, reducing workload, and expanding pedagogical repertoire through faster lesson preparation, content generation, and activity diversification. These benefits align with previously conducted studies on AI-supported teaching and adaptive learning environments (AbuSa'aleek & Alenizi, 2024; Ji et al., 2024). However, this instrumental optimism is tempered by persistent concerns about factual inaccuracies, hallucinations, and the risk of cognitive dependency (Ferrara, 2026). Teachers therefore emphasize the need for sustained human

Table 3. Summary of competencies needed for GenAI integration

Theme	Description	Frequency (out of 30)	Representative Quotes
1. AI Literacy and Technical Competence	Understanding AI systems, their applications, and limitations. Includes prompt engineering, digital navigation, and IT competence	21	“AI literacy: understanding how AI works” (Participant 3) “Technical competence. Awareness of GenAI tools” (Participant 17)
2. Digital Literacy and ICT Integration	Ability to use and integrate technology effectively in classroom instruction	16	“IT and related skills” (Participant 2) “How to effectively use technology in the classroom” (Participant 10)
3. Critical and Ethical AI Use	Emphasis on responsible, transparent, and fair use of AI; understanding issues of plagiarism, data ethics, and authenticity	11	“Ensuring responsible AI integration, including proper citation” (Participant 1) “Ethical data management” (Participant 24)
4. Pedagogical Application and Creativity	Using AI tools to enhance lesson design, personalize learning, and innovate classroom experiences	10	“Using AI for lesson planning, assessments, and interactive exercises” (Participant 1) “Utilizing AI to tailor lessons” (Participant 11)
5. Critical Evaluation of AI-Generated Content	Assessing AI output for accuracy, bias, and contextual relevance; aligning AI content with learning goals	8	“Helping students assess AI-generated material for accuracy and relevance” (Participant 1) “AI literacy to critically assess AI-generated materials” (Participants 21, 22)
6. Lifelong Learning and Professional Development	Continuous training, adaptability, and engagement with new AI trends to stay current	6	“We need to get AI trained on how to use these new tools” (Participant 7) “We need to focus on prompt engineering and to keep up to date” (Participant 18)

oversight and critical appraisal of AI outputs, reinforcing arguments that GenAI integration is contingent on pedagogical judgement rather than automation.

Findings from RQ2 further complicate this picture by highlighting a clear tension between productivity gains and pedagogical risk. While GenAI is seen to free instructional time for higher-order pedagogical work—such as lesson design refinement and creative teaching—its adoption is not perceived as pedagogically neutral. Instead, teachers frame it as a tool that requires constant epistemic vigilance due to risks of misinformation, ethical ambiguity, and contextual misalignment, as previously echoed by Banerjee et al. (2025) and Delello et al. (2025). Importantly, these concerns shift the focus from access to technology toward the conditions of effective use, particularly AI literacy, evaluative competence, and professional training. Collectively, the findings suggest that GenAI's pedagogical value in FL education is not inherent in the technology itself but emerges through critically mediated, teacher-led integration practices.

Consequently, pedagogical co-support may be conceptualized as a reciprocal and complementary relationship in which GenAI functions as a pedagogical assistant that supports, rather than replaces, teachers' professional judgement, instructional decision-making, and disciplinary expertise. Grounded in Vygotsky's (1978) Sociocultural Theory, GenAI operates as a mediating artefact that extends pedagogical capabilities and supports instructional practice. It is further informed by Hutchins' (2000) theory of distributed cognition, which posits that cognitive work is distributed across individuals and the tools they use. From this perspective, pedagogical practice emerges through the dynamic interplay between teachers and AI technologies. Although related to Priestley et al.'s (2015) ecological conception of teacher agency, pedagogical co-support is conceptually distinct in that it foregrounds the relational and complementary interactions between teachers and AI systems. Unlike broader notions of human–AI collaboration, it specifically concerns how GenAI assists pedagogical planning, feedback provision, resource development, and instructional adaptation while preserving teachers as the final arbiters of pedagogical decisions.

The findings also suggest that teachers perceive GenAI as a cognitive amplifier that enhances efficiency and classroom responsiveness by extending, rather than substituting for, human thinking. Functioning as an external “telescope for thought,” GenAI scaffolds ideation, visualization, and iterative exploration while enabling the offloading of routine cognitive tasks. It facilitates knowledge acquisition and synthesis by organizing and analyzing information more efficiently, thereby freeing cognitive resources for higher-order thinking and strengthening metacognitive processes through reflection and self-monitoring.

Conceptually, cognitive amplification refers to the enhancement of human cognitive processes through AI-assisted support that stimulates idea generation, reflection, critical engagement, and problem-solving while preserving human intellectual ownership and agency. This conceptualization aligns with Extended Mind Theory (Clark & Chalmers, 1998), which views technologies as cognitive extensions; Cognitive Tools Theory (Jonassen, 1995), which positions technologies as scaffolds for thinking; Vygotsky's (1978) Sociocultural Theory, which emphasizes the mediating role of tools in higher-order cognition; and Zimmerman's (2000) Self-Regulated Learning Theory, wherein technological tools can support planning, monitoring, evaluation, and reflection. Collectively, these perspectives position GenAI not as an autonomous producer of knowledge but as a mediating cognitive partner that amplifies human reasoning and metacognitive engagement.

Importantly, cognitive amplification reconfigures, rather than diminishes, teacher agency. Teachers remain active orchestrators who selectively deploy GenAI, critically evaluate its outputs, and integrate them into pedagogically appropriate instruction. In this sense, AI expands teachers' cognitive and instructional bandwidth while shifting professional expertise towards

managing distributed human–AI cognition. However, this expanded agency remains conditional. Its benefits are realized only when teachers exercise critical judgement, maintain curricular control, and align AI use with pedagogical goals. Without adequate AI literacy and evaluative competence, cognitive offloading may foster automation bias, uncritical acceptance of AI-generated content, and dependency that subtly constrains professional autonomy (Noorbehhahani & Oyibo, 2026). Thus, the more cognitive work is delegated to AI, the more essential—and potentially vulnerable—teacher judgement becomes.

Another noteworthy finding emerging from the data is that GenAI enables teachers to engage with new cultural, linguistic, and thematic dimensions of their disciplines by providing rapid access to diverse linguistic registers and examples of language use. Such affordances can enrich classroom materials and support more varied learning experiences. However, Lee et al. (2025) caution that these platforms remain pedagogically limited in multilingual contexts because they frequently generate standardized language forms that fail to reflect the sociolinguistic plurality of Caribbean societies. Consequently, GenAI outputs may privilege dominant linguistic norms while overlooking local varieties, dialects, and culturally embedded meanings.

This limitation underscores the continuing importance of teacher agency and cultural expertise. Rather than serving merely as adopters of AI, teachers must act as critical cultural mediators who interrogate, adapt, and, when necessary, reject AI-generated content that does not align with local linguistic realities. The challenge, therefore, lies not in the generative capacity of AI itself but in ensuring its contextual and pedagogical appropriateness. Effective integration ultimately depends on teachers' sociolinguistic awareness, cultural competence, and capacity to exercise critical judgement so that AI-supported instruction remains culturally responsive and authentically representative of learners' lived linguistic experiences.

Another critical point moves beyond technological anxiety to reflect a perceived reconfiguration of professional identity under conditions of automation – explored under RQ3. As the findings indicate, the concern is not only that GenAI may replace aspects of teaching labor, but that it may gradually shift the epistemic foundations of teaching from embodied pedagogical expertise to machine-mediated decision-making. In this sense, fears of obsolescence and de-skilling point to a potential weakening of teacher agency (Teng & Yip, 2025), where professional judgement is displaced by algorithmic suggestion and where creativity is outsourced rather than cultivated. Critically, such perceptions reveal a tension between efficiency and expertise development. While GenAI may streamline instructional tasks, it may also reduce opportunities for cognitive struggle, iterative design, and reflective practice through which pedagogical expertise is traditionally developed. Over time, this could lead to a form of latent de-skilling, where teachers become proficient users of AI systems but are less confident in independently generating, adapting, or evaluating pedagogical content without technological mediation.

The implications for lifelong learning are therefore significant. Rather than rendering teacher development obsolete, GenAI intensifies the need for continuous professional learning focused on adaptive expertise. Teachers must engage in ongoing upskilling not only in technical AI literacy but also in critical pedagogical judgement, ethical reasoning, and creative instructional design. Lifelong learning, in this context, becomes a mechanism for safeguarding professional identity—ensuring that teachers remain intellectually active agents who can interrogate, resist, and reshape AI outputs rather than passively depend on them. Ultimately, the finding reframes lifelong learning as a protective and generative response to automation: it is not simply about keeping pace with technological change but about sustaining the distinctly human dimensions of teaching—creativity, interpretive judgement, and relational pedagogy—within increasingly AI-augmented educational ecosystems.

Furthermore, the challenges identified in the findings by FL teachers in integrating GenAI – technical limitations, ethical concerns, and pedagogical challenges – are consistent with patterns documented in the broader literature on AI adoption in education. The constraints reflect the multidimensional nature of AI integration, which depends not only on technological capacity but also on institutional readiness, teacher competence, and ethical awareness. The predominance of technical issues aligns with findings from numerous studies reporting that inadequate infrastructure, unreliable internet connectivity, limited access to devices, and insufficient institutional support remain major barriers to AI integration, especially in resource-constrained contexts (Hughes et al., 2025; Madden et al., 2025). In Caribbean and Global South contexts, where digital equity remains uneven, these challenges are compounded by systemic gaps in ICT infrastructure and access to updated AI technologies (Madden et al., 2026). The findings indicate, therefore, that despite the pedagogical potential of GenAI, its adoption is still limited by technological readiness and institutional capacity. Addressing these technical setbacks requires investment in infrastructure and capacity building. As such, ministries of education and educational institutions, particularly in Small Island Developing States (SIDS), should prioritize reliable internet access, software update, and training opportunities to enable equitable use of GenAI. Additionally, collaborative initiatives between governments, edtech providers, and teacher-training institutions can reduce the digital divide constraints.

Ethical concerns were identified by more than half of the participants, aligning with the growing body of literature on AI ethics in education. Researchers have highlighted apprehensions about academic integrity, plagiarism, and data privacy (Delello et al., 2025; Uddagiri & Isunuri, 2024). Teachers are increasingly aware that while GenAI can generate language-rich outputs, these contents are not always factual (Banerjee et al., 2025) and may reproduce stereotypes of misinformation and raise questions about academic honesty. The ethical concerns articulated by the teachers affirm the need for AI ethics training as part of professional development and pre-service teacher training. Institutions should develop clear policies and procedures governing AI use, covering academic integrity, data privacy, and citation of AI-generated content. Integrating ethical AI literacy in teacher training will equip educators to guide students responsibly and critically in their own AI use.

Almost half of the participants expressed pedagogical reservations, regarding how to meaningfully integrate GenAI without undermining communicative, human-based learning. This supports research conducted by Zaim et al.'s (2025) that the uncritical use of AI may encourage dependency among students, reduce critical thinking, or diminish authentic language production. Hence, there is need for balanced integration and pedagogical frameworks that integrate AI in ways that preserve learner agency, promote communicative competence, and align with curriculum goals.

The triadic tension elaborated above can be conceptualized into a GenAI integration tension model, as seen in Figure 4. Technical constraints (e.g., access, reliability) align with the digital divide literature, particularly relevant in Caribbean/SIDS contexts where infrastructural disparities persist. Ethical concerns (e.g., academic integrity, bias) echo global debates on algorithmic accountability and AI governance. Pedagogical concerns highlight uncertainty about how GenAI reshapes teacher roles, assessment validity, and language learning processes, aligning with fears of deskilling versus augmentation. The coexistence of strong perceived benefits (Figures 1 and 2) and significant concerns (Figure 3) suggests a state of “productive ambivalence”—teachers recognize value but remain critically cautious.

RQ3 examined the major skills needed by FL teachers to effectively integrate GenAI in their teaching. The competencies indicated by the teachers – AI literacy and technical competence,

digital literacy and ICT integration, critical and ethical AI use, pedagogical application and creativity, critical evaluation of AI-generated content, and lifelong learning and professional development – align closely with the five dimensions outlined in UNESCO's (2024) Artificial Intelligence Competency Framework for Teachers (AI CFT). This demonstrates that FL teachers are cognizant of, and responsive to, the multidimensional nature of AI integration, viewing it not merely as a technical skill but as a holistic professional capacity encompassing knowledge, ethics, pedagogy, and continuous growth. This alignment shows that FL teachers' perspectives are converging with international frameworks that define AI competence as an evolving, multifaceted construct, not merely as tool proficiency but as an integration of technical, ethical, and pedagogical intelligence. The proximity between teachers' perceived competencies and UNESCO's AI CFT highlights the feasibility of embedding this framework into teacher-training programs. Teacher-training institutions should design curricula that explicitly develop or cultivate the five AI competency dimensions through practical applications in language teaching, reflection on ethics, and exposure to GenAI tools. Education ministries and educational institutions can adopt UNESCO's AI CFT as a benchmark for professional standards, ensuring alignment between global policy and local and regional teacher development. Contextualizing the framework for FL education in the Caribbean, for instance, can help address unique linguistic and cultural challenges associated with GenAI use.

Conceptual Framework

Drawing on the results from RQ3, Figure 5 introduces a conceptual framework concerning the competencies needed by teachers to integrate AI in their teaching. AI literacy and technical competence serve as a foundation for all the other skills. This foundational layer underscores the necessity for teachers to possess a basic understanding of how AI systems function, their pedagogical affordances, and their limitations. Without this grounding, higher-order competencies (ethical reasoning, pedagogical innovation, and continuous learning) cannot be meaningfully developed or sustained.

Above this base, two interrelated pathways emerge – ethical and critical use and pedagogical and creative integration – representing the application dimensions of AI literacy. The ethical and critical use reflects teachers' ability to engage responsibly with AI tools, acknowledging issues of data privacy, bias, academic integrity, and fairness. It also highlights the importance of critical evaluation of AI-generated content to ensure cultural and linguistic appropriateness in language instruction. The pedagogical and creative integration aspect emphasizes the teacher's capacity to harness AI tools to design engaging, communicative, and student-centered learning experiences. It represents the creative transformation of technical knowledge and pedagogical action.

These two dimensions are further connected upward to digital literacy and ICT skills and lifelong learning and professional growth, depicted in the yellow circles. The former skills represent the enabling competencies that allow teachers to navigate digital environments, manage online resources, and adapt AI tools effectively within broader technology-enhanced learning contexts. The latter skills signal the dynamic and evolving nature of AI competence. As GenAI technologies continue to advance, teachers must engage in ongoing professional development, reflective practice, and peer collaboration to remain current and confident in AI integration, as illustrated by the intersection of the circles.

The arrows illustrate a bidirectional flow between competencies, signifying that AI competency development is nonlinear and interdependent. For example, as teachers strengthen their ethical awareness and pedagogical creativity, their digital proficiency and commitment to continuous learning are also reinforced. Conversely, sustained professional growth and digital mastery further refine teachers' ethical discernment and instructional innovation.

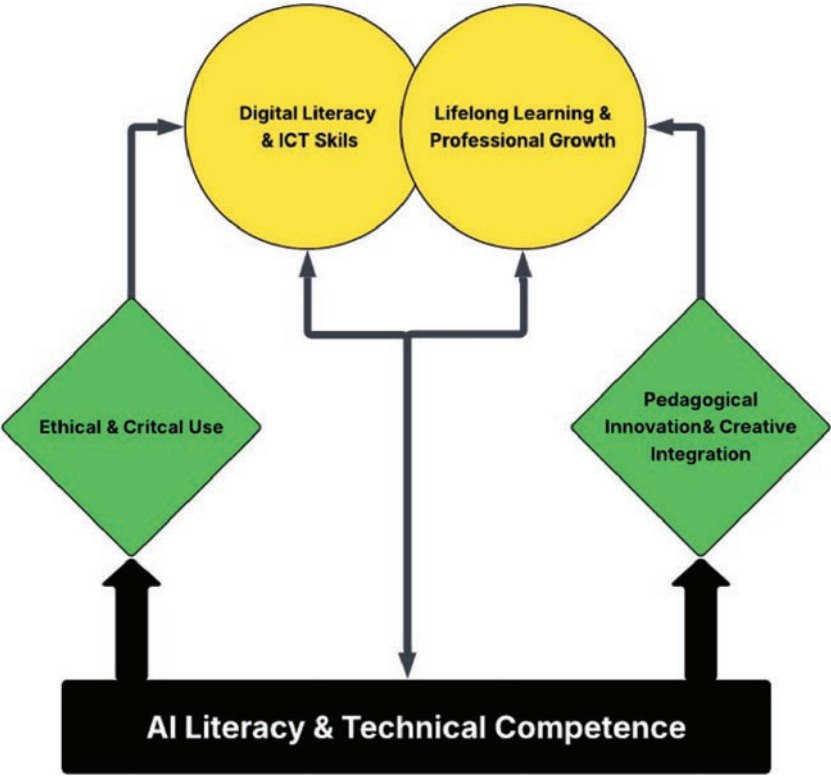


Figure 5. Conceptualized framework of skills required to effectively adopt AI in teaching

Overall, this conceptualized framework encapsulates a holistic model of GenAI readiness for FL teachers, where technical knowledge serves as the foundation, ethical and pedagogical practices form the core of application, and continuous digital and professional growth ensure sustainability. In alignment with UNESCO’s (2024) AI CFT, this framework emphasizes that effective AI integration requires not only technological fluency but also human-centered values, pedagogical insight, and a commitment to lifelong learning. Collectively, these interconnected dimensions culminate in the ultimate outcome of sustainable pedagogical co-support, where GenAI is embedded as a stable, critically mediated partner in foreign language education that enhances teaching capacity while preserving teacher agency, creativity, and professional judgement over time.

Conclusion

The study examined how GenAI platforms function as pedagogical co-support in foreign language education, their pedagogical benefits and limitations in classroom practice, and the competencies required for their effective integration. Overall, the findings show that GenAI is increasingly used to support core teaching tasks such as lesson planning, materials development, and assessment design, where it enhances efficiency and expands instructional possibilities while simultaneously reshaping traditional notions of pedagogical work. However, this integration is marked by a persistent tension between productivity gains and concerns about teacher agency, creativity, and pedagogical judgement, alongside technical, ethical, and infrastructural constraints that are particularly salient in Caribbean and Small Island Developing

States (SIDS) contexts. Importantly, the results highlight that effective GenAI adoption is contingent on teachers' AI literacy, ethical awareness, and pedagogical competence, positioning these capacities as central to sustainable and critically informed practice.

From a digital applied linguistics perspective, these findings reinforce the need to reconceptualize GenAI not as a replacement for pedagogical expertise but as part of a human-centered, communicative language learning ecology in which technology functions as co-support rather than co-authority. In this model, "Chatbots as Pedagogical Co-support" is defined by a negotiated relationship where AI enhances instructional efficiency and creativity, but teacher judgement remains the primary locus of pedagogical control. This framing is essential to counterbalance efficiency-driven narratives that risk undermining communicative, culturally responsive language teaching.

While the study provides contextually grounded insights for teacher education and policy, several limitations warrant consideration. The relatively small sample ($N = 30$) and its uneven distribution across territories and institutions do not permit statistical generalization to the wider population of Caribbean foreign language teachers. Instead, the findings should be interpreted as analytically transferable insights that may resonate with similar educational contexts characterized by shared colonial histories, Creolophone language ecologies, comparable institutional structures, and analogous technological realities. Furthermore, the reliance on self-reported data may have introduced social desirability and perceptual biases, capturing participants' experiences and beliefs rather than directly observing pedagogical practices or measuring actual patterns of GenAI use.

Notwithstanding these limitations, the study contributes an important foundational evidence base in an emergent area of inquiry where empirical scholarship remains limited. Future research should therefore extend beyond descriptive accounts of AI adoption to investigate culturally responsive AI pedagogies in multilingual and Creolophone Caribbean classrooms, where issues of linguistic identity, cultural authenticity, and equitable access remain paramount. There is also a need for large-scale, comparative, and longitudinal studies that examine how sustained engagement with GenAI influences teacher identity, professional agency, pedagogical decision-making, and communicative competence outcomes over time. Such studies would help determine the extent to which the patterns identified here are transferable across diverse Caribbean contexts and provide a more nuanced understanding of the long-term implications of GenAI integration for foreign language education in the region.

Acknowledgement

I would like to thank all the participants who took the time to complete the questionnaire for this study.

Funding

The author did not receive any financial support from any agency or academic institution.

Conflict of interest

The author has no conflict of interest to disclose.

References

- Abubakar, S., Jeilani, A., & Yusuf, M. (2025). The role of over-reliance on AI in the negative consequences of student learning: The moderating effects of ethical concerns and institutional policies. *Cogent Education*, 12(1). <https://doi.org/10.1080/2331186X.2025.2591503>

- AbuSa'aleek, A. O., & Alenizi, A. (2024). Unveiling postgraduates' perspectives on using ChatGPT as a tool for learning in higher education. *Teaching English with Technology*, 24(3), 4–17.
- Ahmed, Z., Shanto, S. S., Rime, H. K., Morol, K., Fahad, N., & Hossen, J. (2024). The generative AI landscape in education: Mapping the terrain of opportunities, challenges, and student perception. *IEEE Access*, 12, 147023–147050. <https://doi.org/10.1109/ACCESS.2024.3461874>
- Alexandrowicz, V. (2024). Artificial intelligence integration in teacher education: Navigating benefits, challenges, and transformative pedagogy. *Journal of Education and Learning*, 13(6), 346–364. <https://doi.org/10.5539/jel.v13n6p346>
- Al-kfairy, M., Mustafa, D., Kshetri, N., Insiew, M., & Alfandi, O. (2024). Ethical challenges and solutions of generative AI: An interdisciplinary perspective. *Informatics*, 11(3), 1–29. <https://doi.org/10.3390/informatics11030058>
- Ataman, D., Birch, A., Habash, N., Federico, M., Koehn, P., & Cho, K. (2025). Machine translation in the era of large language models: A survey of historical and emerging problems. *Information*, 16(9), 723. <https://doi.org/10.3390/info16090723>
- Banerjee, S., Agarwal, A., Singla, S. (2025). LLMs will always hallucinate, and we need to live with this. In Arai, K. (eds) *Intelligent systems and applications. IntelliSys 2025. Lecture notes in networks and Systems*, 1554. Springer, Cham. https://doi.org/10.1007/978-3-031-99965-9_39
- Barnes, M., & Tour, E. (2026). Teachers' use of generative AI: a 'dirty little secret'? *Language and Education*, 40(1), 24–39. <https://doi.org/10.1080/09500782.2025.2485935>
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11, 589–597. <https://doi.org/10.1080/2159676X.2019.1628806>
- Braun, V., & Clarke, V. (2021) *Thematic analysis: A practical guide*. Sage.
- Chen, Z., Wei, W., & Zou, D. (2025). Generative AI technology and language learning: global language learners' responses to ChatGPT videos in social media. *Interactive Learning Environments*, 1–14. <https://doi.org/10.1080/10494820.2025.2511248>
- Choi, K. Y., Wu, C., & Moorhouse, B. L. (2025). Exploring the use of Generative Artificial Intelligence (GenAI) in English language teaching: Voices from in-service teachers at an early-adopting Hong Kong secondary school. *Technology in Language Teaching & Learning*, 7(3), 102516. <https://doi.org/10.29140/ttl.v7n3.102516>
- Chugh, R., Turnbull, D., Kutty, S., Rashid, M. M., Morshed, A., Azad, S., Kaisar, S., & Subramani, S. (2025). Generative AI as a learning assistant in ICT education: Student perspectives and educational implications. *Education and Information Technologies*, 1–36. <https://doi.org/10.1007/s10639-025-13686-3>
- Clark, A., & Chalmers, D. (1998). The extended mind. *Analysis*, 58(1), 7–19. <http://www.jstor.org/stable/3328150>
- Creswell, J. W., & Creswell, J. D. (2022). *Research design: Qualitative, quantitative, and mixed methods approach*. SAGE Publication.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.
- Davis, F. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13, 319–340. <https://doi.org/10.2307/249008>
- Delello, J. A., Sung, W., Mokhtari, K., Hebert, J., Bronson, A., & De Giuseppe, T. (2025). AI in the classroom: Insights from educators on usage, challenges, and mental health. *Education Sciences*, 15(2), 1–27. <https://doi.org/10.3390/educsci15020113>
- Deng, C., Lin, S., Tong, E. K. M., & Ma, J. (2026). Leveraging hybrid intelligence: How teacher agency influences behavioural engagement in human-AI collaborative writing feedback practices. *International Journal of TESOL Studies*, 8(1), 82–107. <https://doi.org/10.58304/ijts.251108>
- Ding, D., Muhyiddin, B., & Yusof, A. (2025). Investigating the role of AI-powered conversation bots in enhancing L2 speaking skills and reducing speaking anxiety: a mixed methods study. *Humanities and Social Sciences Communication*, 12, 1223. <https://doi.org/10.1057/s41599-025-05550-z>
- Ferrara, E. (2026). The generative AI paradox: GenAI and the erosion of trust, the corrosion of information verification, and the demise of truth. *Future Internet*, 18(2), 73. <https://doi.org/10.3390/fi18020073>
- Gazit, L. (2026). Constitutive knowledge sources: an institutional approach to epistemic trust in opaque AI systems. *AI Ethics*, 6, 58. <https://doi.org/10.1007/s43681-025-00930-2>

- Gligorea, I., Cioca, M., Oancea, R., Gorski, A.-T., Gorski, H., & Tudorache, P. (2023). Adaptive learning using artificial intelligence in e-Learning: A literature review. *Education Sciences*, 13(12), 1–27. <https://doi.org/10.3390/educsci13121216>
- Hair Jr., J., Page, M., & Brunsveld, N. (2019). *Essentials of business research methods (4th ed.)*. Routledge. <https://doi.org/10.4324/9780429203374>
- Hastomo, T., Widiati, U., Ivone, F. M., Zen, E. L., Hasbi, M., & Khulel, B. (2025). AI-powered conversational agents and intercultural learning: Insights from Indonesian EFL students. *Intercultural Communication Education*, 8(1), 1–20. <https://doi.org/10.29140/ice.v8n1.103127>
- Huang, Y., & Kakham, P. (2026). The impacts of AI conversational agents on EFL learners' oral proficiency and foreign language speaking anxiety. *Frontiers in Education*, 11, 1799269. <https://doi.org/10.3389/feduc.2026.1799269>
- Hubbard, P. & Schulze, M. (2025). AI and the future of language teaching: Motivating sustained integrated professional development. *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT)*, 15(1), 1–17. <https://doi.org/10.4018/IJCALLT.378304>
- Hughes, L., Malik, T., Dettmer, S., Al-Busaidi, A. S., & Dwivedi, Y. K. (2025). Reimagining higher education: Navigating the challenges of generative AI adoption. *Information Systems Frontier*, 1–23. <https://doi.org/10.1007/s10796-025-10582-6>
- Hutchins, E. (2000). Distributed cognition. *International Encyclopedia of the Social and Behavioral Sciences*, 2068–2072. <https://doi.org/10.1016/B0-08-043076-7/01636-3>
- Ji, H., Han, I., & Park, S. (2024). Teaching foreign language with conversational AI: Teacher-student-AI interaction. *Language Learning & Technology*, 28(2), 91–108. <https://doi.org/10.64152/10125/73573>
- Jinrui, T., & Zhang, R. (2025). Learners' AI dependence and critical thinking: The psychological mechanism of fatigue and the social buffering role of AI literacy. *Acta Psychologica*, 260, 105725. <https://doi.org/10.1016/j.actpsy.2025.105725>
- Jonassen, D. H. (1995). Computers as cognitive tools: Learning with technology, not from technology. *Journal of Computing in Higher Education*, 6, 40–73. <https://doi.org/10.1007/BF02941038>
- Joo, S. H. (2024). Generative AI as writing or speaking partners in L2 Learning: Implications for learning-oriented assessments. *Studies in Applied Linguistics & TESOL*, 24(1), 54–59. <https://doi.org/10.52214/salt.v24i1.12865>
- Kılıçkaya, F., Kic-Drgas, J. (2025). Pre-service language teachers' experiences and perceptions of integrating generative AI in practicum-based lesson study. *Humanities & Social Sciences Communications*, 12, 1–11. <https://doi.org/10.1057/s41599-025-05715-w>
- Küçükuncular, A. (2025). Learning with, rather than through, AI: co-designing science education for critical AI literacy. *Frontiers in Education*, 10:1716353. <https://doi.org/10.3389/feduc.2025.1716353>
- Lee, S., Choe, H., Zou, D., & Jeon, J. (2025). Generative AI (GenAI) in the language classroom: A systematic review. *Interactive Learning Environments*, 1–25. <https://doi.org/10.1080/10494820.2025.2498537>
- Lee, S., Jeon, J., McKinley, J., & Rose, H. (2025). Generative AI and English language teaching: A global Englishes perspective. *Annual Review of Applied Linguistics*, 45, 85–108. <https://doi.org/10.1017/S0267190525100184>
- López, A. A., & Cote Parra, G. (2025). Foreign language teachers' perceptions of the use of a generative AI application in designing reading classroom assessments. *Lenguaje*, 53(1S), 1–32. <https://doi.org/10.25100/lenguaje.v53i1S.14386>
- Lu, Q., Yao, Y., Xiao, L., Zhu, X., & Yin, H. (2026). Exploring the impact of a GenAI-supported feedback practice on student feedback literacy in L2 writing. *Computer Assisted Language Learning*, 1–30. <https://doi.org/10.1080/09588221.2025.2605541>
- Lukešová, A., & Jennings, P. J. (2026). Clue before correction: ChatGPT-enhanced strategy for promoting autonomous and reflective language learning. *Innovation in Language Learning and Teaching*, 1–29. <https://doi.org/10.1080/17501229.2025.2612532>
- Madden, O. N., Gordon, S., Chambers, R., Daley, J.-L., Foster, D., & Ewan, M. (2025). Teachers' practices and perceptions of technology and ChatGPT in foreign language teaching in Jamaica. *International Journal of Language Instruction*, 4(2), 1–32. <https://doi.org/10.54855/ijli.25421>
- Madden, O. N., Paiva, J., Edwards, K., Daley, J.-L., & Prince, A. (2026). From augmentation to transformation: Foreign language teachers' perceptions of GenAI's role in redefining teaching, learning, and assessment. *Artificial Intelligence in Language Education*, 2, 104107. <https://doi.org/10.29140/aile.2026.104107>

- Malterud, K. (2016). Sample size in qualitative interview studies: Guided by information power. *Qualitative Health Research*, 26, 1753–1760. <https://doi.org/10.1177/1049732315617444>
- Mekheimer, M. (2025). Generative AI-assisted feedback and EFL writing: A study on proficiency, revision frequency and writing quality. *Discover Education*, 4, 1–20. <https://doi.org/10.1007/s44217-025-00602-7>
- Mohammed, A. A. Q., Mudhsh, B. A., Bin-Hady, W. R. A., & Al-Tamimi, A. S. (2025). DeepSeek and Grok in the spotlight after ChatGPT in English education: A review study. *Journal of English Studies in Arabia Felix*, 4(1), 13–22. <https://doi.org/10.56540/jesaf.v4i1.114>
- Moorhouse, B. L., & Wong, K. M. (2025). *Generative artificial intelligence and language teaching*. Cambridge University Press. <https://doi.org/10.1017/9781009618823>
- Muñoz Martínez, C., Roger-Monzo, V., & Castelló Sirvent, F. (2025). IA generativa y pensamiento crítico en la educación universitaria a distancia: desafíos y oportunidades. *RIED-Revista Iberoamericana de Educación a Distancia*, 28(2), 233–273. <https://doi.org/10.5944/ried.28.2.43556>
- Noorbehhani, F., & Oyibo, K. (2026). AI over-dependence and human cognitive decline: Hazards, evidence, and mitigation strategies. *Computers in Human Behavior Reports*, 101102. <https://doi.org/10.1016/j.chbr.2026.101102>
- Onbasili, Ü.I. (2026). Empowering pre-service teachers with generative AI: a GenAI-TPACK-based approach to digital storytelling. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-026-13991-5>
- Panmei, B., & Shimray, YP. (2025). GenAI as a toolkit for English academic writing among international business students. *TESL-EJ*, 29(2), 1–21. <https://doi.org/10.55593/ej.29114int>
- Pérez-Paredes, P., Curry, N., & Ordoñana-Guillamón, C. (2025). Critical AI literacy for applied linguistics and language education students. *Journal of China Computer-Assisted Language Learning*, 1–40. <https://doi.org/10.1515/jccall-2025-0005>
- Poh, S. K. & Lee, I. (2026). Generative artificial intelligence (GenAI) for feedback in school writing: Friend or foe? *TESL-EJ*, 29(4). <https://doi.org/10.55593/ej.29116int>
- Priestley, M., Biesta, G., & Robinson, S. (2015). *Teacher Agency: An ecological approach*. Routledge.
- Promsiri, T. (2025). AI and the psychology of educational disruption: Historical patterns and cognitive implications. *Acta Psychologica*, 260, 105637. <https://doi.org/10.1016/j.actpsy.2025.105637>
- Qu, Y., Loo, H. E., & Wang, J. (2025). Generative artificial intelligence in higher education: Emotional tensions and ethical declaration. *British Journal of Educational Technology*, 00, 1–20. <https://doi.org/10.1111/bjet.70029>
- Rivero, E., & Yin, P. (2025). Navigating the contradictions of AI: critiquing AI's standardized English and developing creative bilingual possibilities. *Frontiers in Education*, 10, 1616458. <https://doi.org/10.3389/educ.2025.1616458>
- Sánchez Muñoz, J. A., Flores-Eraña, G., Silva-Campos, J. M., Chavira-Quintero, R., & Olais-Govea, J. M. (2025). GenAI as a cognitive mediator: a critical-constructivist inquiry into computational thinking in pre-university education. *Frontiers in Education*, 10, 1597249. <https://doi.org/10.3389/educ.2025.1597249>
- Schmidt, T., & Strasser, T. (2022). Artificial intelligence in foreign language learning and teaching: A CALL for intelligent practice. *Anglistik*, 33(1), 165–184. <https://doi.org/10.33675/ANGL/2022/1/14>
- Stockwell, G., & Wang, Y. (2025). Framing human–AI collaboration in language education. *Technology in Language Teaching & Learning*, 7(4), 103824. <https://doi.org/10.29140/tltl.v7n4.103824>
- Susanti, A., Rachmajanti, S., & Mustofa, A. (2023). Between teacher' roles and students' social: Learner autonomy in online learning for EFL students during the pandemic. *Cogent Education*, 10(1), 1–16. <https://doi.org/10.1080/2331186X.2023.2204698>
- Sy, M., Siongco, K. L., Pineda, R. C., Canalita, R., & Xyrichis, A. (2024). Sociomaterial perspective as applied in interprofessional education and collaborative practice: A scoping review. *Advances in Health Sciences Education: Theory and Practice*, 29(3), 753–781. <https://doi.org/10.1007/s10459-023-10278-z>
- Tan, B., Armoush, N., Mazzullo, E., Bulut, O., & Gierl, M. (2025). A review of automatic item generation techniques leveraging large language models. *International Journal of Assessment Tools in Education*, 12(2), 317–340. <https://doi.org/10.21449/ijate.1602294>

- Tan, X., Cheng, G., & Ling, M.H. (2025). Artificial intelligence in teaching and teacher professional development: A systematic review. *Computers and Education: Artificial Intelligence*, 8, 1–19. <https://doi.org/10.1016/j.caeai.2024.100355>
- Tang, J., Zhang, A., Sun, M., Leng, X., & Luo, L. (2026). Drivers of willingness to communicate with generative AI: the roles of self-efficacy, grit, speaking enjoyment, and anxiety from a self-determination theory perspective. *Frontiers in Psychology*, 17, 1754495. <https://doi.org/10.3389/fpsyg.2026.1754495>
- Teng, M. F., & Yip, J. C. (2025). A narrative inquiry into language teacher identity construction in the global GenAI context. *International Journal of TESOL Studies*, 7(4) 90–110. <https://doi.org/10.58304/ijts.250901>
- Teng, M. F., & Shen, X. (2026). Digital applied linguistics: What is it and where are we in the GenAI era? *Digital Applied Linguistics*, 4, 103594. <https://doi.org/10.29140/dal.v4.103594>
- Toncelli, R., & Kostka, I. (2024). A love-hate relationship: Exploring faculty attitudes towards GenAI and its integration into teaching. *International Journal of TESOL Studies*, 6(3), 77–94. <https://doi.org/10.58304/ijts.20240306>
- Tran, T. T. T. (2025). Enhancing EFL writing revision practices: The impact of AI- and teacher-generated feedback and their sequences. *Education Sciences*, 15(2), 1–22. <https://doi.org/10.3390/educsci15020232>
- Uddagiri, C., Isunuri, B.V. (2024). Ethical and privacy challenges of generative AI. In: Raza, K., Ahmad, N., Singh, D. (eds) Generative AI: Current Trends and Applications. *Studies in Computational Intelligence*, 1177. Springer, Singapore. https://doi.org/10.1007/978-981-97-8460-8_11
- UNESCO. (2024). *AI competency framework for teachers*. <https://doi.org/10.54675/ZJTE2084>
- Vu, P., & Vu, L. (2026). Enhancing collaborative writing with AI-enhanced feedback in graduate-level action research courses. *Artificial Intelligence in Education*, 2(2), 43–58. <https://doi.org/10.1108/AIIE-03-2025-0042>
- Vygotsky, L. S. (1978). *Mind in society: Development of higher psychological processes* (M. Cole, V. Jolm-Steiner, S. Scribner, & E. Souberman, Eds.). Harvard University Press. <https://doi.org/10.2307/j.ctvjf9vz4>
- Wang, Y. (2026). Exploring student engagement with multimodal generative AI in task-based Chinese language learning. *Computer Assisted Language Learning*, 1–26. <https://doi.org/10.1080/09588221.2026.2645428>
- Xerri, D., Kamali, J., & Mohebbi, H. (2025). Technology-enhanced language teacher education: Opportunities, challenges, and futures. *Technology in Language Teaching & Learning*, 7(2), 1–9. <https://doi.org/10.29140/tltl.v7n2.103213>
- Xia, Q., Weng, X., Ouyang, F., Lin, T.J., & Chiu, T. K. F. (2024). A scoping review on how generative artificial intelligence transforms assessment in higher education. *International Journal of Educational Technology in Higher Education*, 21(40), 1–22. <https://doi.org/10.1186/s41239-024-00468-z>
- Xie, X., Zhang, L. J., & Wilson, A. J. (2025). Comparing ChatGPT feedback and peer feedback in shaping students' evaluative judgement of statistical analysis: A case study. *Behavioral Sciences*, 15(7), 884. <https://doi.org/10.3390/bs15070884>
- Yang, M., Jeyaraj, J. J., Ahmad, N. K., & Yang, W. (2026). Examining English as a foreign language teachers' technological pedagogical content knowledge framework in higher education in Guizhou, China. *Asian-Pacific Journal of Second and Foreign Language Education*, 11(1), 1–18. <https://doi.org/10.1186/s40862-025-00374-5>
- Yavich, R. (2025). Will the use of AI undermine students independent thinking? *Education Sciences*, 15(6), 669. <https://doi.org/10.3390/educsci15060669>
- Yusuf, A., Pervin, N., & Román-González, M. (2024). Generative AI and the future of higher education: a threat to academic integrity or reformation? Evidence from multicultural perspectives. *International Journal of Educational Technology in Higher Education*, 21, 1–29. <https://doi.org/10.1186/s41239-024-00453-6>
- Zaim, M., Arsyad, S., Waluyo, B., Ardi, H., Al Hafizh, M., Zakiyah, M., Syafitri, W., Nusi, A., & Hardiah, M. (2025). Generative AI as a cognitive co-pilot in English language learning in higher education. *Education Sciences*, 15(6), 1–25. <https://doi.org/10.3390/educsci15060686>

- Zaimoğlu, S., & Dağtaş, A. (2025). Teacher cognition and practices in using generative AI tools to support student engagement in EFL higher-education contexts. *Behavioral Sciences*, 15(9), 1–19. <https://doi.org/10.3390/bs15091202>
- Zhang, J. (2025). ChatGPT or “CheatGPT”? EFL teachers' perceptions of scoring AI-assisted English writing through the lens of assessment literacy. *Digital Applied Linguistics*, 2, 102486. <https://doi.org/10.29140/dal.v2.102486>
- Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13–39). Academic Press. <https://doi.org/10.1016/B978-012109890-2/50031-7>

Author Biography

Oneil Madden is a lecturer and applied linguist with 12 years of experience in higher education. He has taught courses in English, French, Spanish, and Francophone literature at the local, regional, and international levels. He is a well-established researcher in the Caribbean, with interests in areas such as gamification in language education, artificial intelligence in language learning, innovative pedagogy, and intercultural communication. He has authored some 30 research publications. In addition to his academic work, he is a journalist and public intellectual who writes a weekly column in the Jamaica Observer, addressing topics related to education, current affairs, social issues, and politics. To date, he has published more than 500 newspaper articles.

Appendix

Gender

Country/Zone

Age range

Language(s) taught: English as L1, English as L2, French, Spanish, Portuguese, Mandarin, German, Other

Main level taught: Primary, Secondary, Tertiary

Years of teaching experience

1. Which (Gen)AI platform(s) do you use? (More than one option possible)

ChatGPT, DeepSeek, Gemini, QuillBot, Grammarly, Translation sites, Other, I do not use AI

2a. Select the option(s) that best suit(s) your situation. I use GenAI to

Plan entire lessons, Generate ideas for lessons, Create quizzes/exercises for lessons, Provide feedback for students' assessment, I do not use GenAI

2b. Do you use GenAI for any other reason? If yes, please state.

3a. Select the response(s) that appl(y)ies to you. GenAI

Saves time, Makes work easier and smarter, Enhances my knowledge in my content area, Aids my creative and innovative skills, Not applicable

3b. Expound on your answer in 3a.

4a. On a scale of 1-5, with 1 being the lowest and 5 the highest, to what extent do you anticipate GenAI tools (e.g. translation software, AI tutors, chatbots) replacing traditional teaching methods in your classroom in the next five years?

4b. Explain your choice in 4a.

5. Do you believe GenAI tools will enhance or diminish the importance of human interaction in foreign language teaching/learning? Explain your reasoning.

6. Which specific tasks in your current teaching workload could be most efficiently automated or augmented by GenAI?

7a. What are the biggest challenges you foresee/experience in integrating GenAI tools into your foreign language teaching?

Ethical considerations, Technical limitations, Pedagogical concerns

7b. Explain your choice(s) in 7a.

8. How could GenAI tools be used to personalise learning experiences for students with diverse learning styles and needs? Provide concrete examples.
9. How important do you consider it to teach students critical evaluation skills related to AI-generated content in a foreign language? Explain your answer.
10. What new skills or competencies do you think foreign language teachers will need to acquire to effectively integrate GenAI into their teaching? Explain your answer.
11. What kind of professional development opportunities would be most helpful in preparing you to utilise GenAI tools effectively in your teaching?
12. Do you feel adequately prepared to address the ethical implications of using GenAI in your classroom? What additional training or support would be helpful?
13. How can teacher education programmes best prepare future foreign language teachers for the era of GenAI?
14. Do you think the role of the foreign language teacher will become more or less important in the age of GenAI? Justify your answer.
15. How might GenAI reshape the curriculum and assessment methods in foreign language education?
16. What are the potential long-term implications of widespread GenAI use on foreign language proficiency levels among students?
17. Do you believe GenAI will make foreign language learning more accessible or less accessible to students? Explain your reasoning.
18. What are your biggest concerns regarding the potential misuse or ethical challenges associated with GenAI in foreign language education?