Weiming Liu*

Language teacher AI literacy: insights from collaborations with ChatGPT

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Abstract: The transformative potential of generative artificial intelligence (GenAI) in language education highlights the importance of AI literacy among teachers to ensure its ethical and effective integration into teaching practices. Although studies have examined the application of AI in language education, there is a lack of comprehensive reviews focusing on the interaction between language teachers and ChatGPT, a GenAI tool, particularly in fostering human–AI collaboration within educational contexts. This review addresses this gap by synthesising findings from empirical studies. The Scopus database was used as the primary source for this review. A total of 19 journal articles, published between 2023 and 2024, were identified. The review first analyses the research participants and research methods of the selected studies. Key themes are organised into five dimensions: AI foundations and applications, AI ethics, a human-centred mindset, AI pedagogy and AI for professional development, which are derived from the framework proposed by Miao and Cukurova (2024. *AI competency Framework for teachers*. Paris, France: UNESCO). This review adopts their framework as an analytical lens for evaluating both the opportunities and challenges associated with integrating ChatGPT into language education. The findings highlight the importance of a balanced approach to AI integration to safeguard educational integrity. By offering actionable insights for teachers, curriculum designers and policymakers, this review presents a roadmap for the responsible adoption of AI in language education, ensuring that teachers remain central to the learning process.

Keywords: AI literacy; ChatGPT; human–AI collaboration; language education; langauge teacher

1 Introduction

Generative artificial intelligence (GenAI) refers to a form of artificial intelligence (AI) capable of automatically generating content in response to prompts written in natural-language conversational interfaces. It is trained using vast amounts of data

***Corresponding author: Weiming Liu**, Dublin City University, Dublin, Ireland,
E-mail: weiming.liu@dcu.ie. https://orcid.org/0000-0002-2468-6911

collected from webpages, social media conversations and other online media sources (Miao and Holmes 2023). GenAI has emerged as a transformative tool in education, enhancing learning by making it more engaging, personalised and accessible. For instance, Kukulska-Hulme et al. (2024) point out that AI tools like ChatGPT function as 24/7 virtual tutors and can simulate Socratic questioning and foster dialogic learning by providing real-time answers and guidance. Yan et al. (2024) further suggest that GenAI can improve learning experiences by scaling personalised support, diversifying learning materials, enabling timely feedback and innovating assessment methods. In the context of language education, GenAI tools are proving effective. For example, they provide detailed explanations and contextual insights that enhance language proficiency (Kohnke 2024). These tools have demonstrated efficacy in areas such as writing, grammar, vocabulary and reading (Liu et al. 2024) as well as in improving college students' oral proficiency (Guan et al. 2024). Additionally, they enhance foreign language enjoyment, motivation and engagement (Yuan and Liu 2025) while positively impacting students' cognitive, emotional and social engagement (Guo and Wang 2024b).

Despite its transformative potential, GenAI also presents notable challenges. Kukulska-Hulme et al. (2024) caution that GenAI may generate hallucinations that sound plausible but are incorrect or outdated. They also highlight critical concerns such as biases in training data, unequal access to advanced models and privacy issues related to student data storage, all of which require urgent attention. These issues are compounded by GenAI's fundamental inability to replicate human creativity and contextual understanding. According to Miao and Holmes (2023), GenAI lacks the ability to reliably generate original ideas or real-world solutions. Errors often go unnoticed unless users possess substantial subject knowledge. To address these issues, scholars emphasise the importance of human judgement in leveraging AI. UNESCO (2019) advocates for the development of AI that "should be human-controlled and centred on people [and] the deployment of AI should be in the service of people to enhance human capacities" (p. 4). Echoing this sentiment, Cogo et al. (2024) stress the need for "clear guidelines and best practices for the responsible integration of AI in the classroom, ensuring that it enhances rather than replaces human interaction and critical thinking" (p. 373). Similarly, Wang (2021) highlights that "the shortcomings of AI-assisted data-driven decision-making can be overcome by human judgement guided by moral values" (p. 256).

As AI integration accelerates, teachers face challenges in navigating the complexities of GenAI in education and require professional development and support to increase their GenAI competence (Moorhouse and Kohnke 2024). Scholars call for a paradigm shift in how teachers approach their roles and competencies. For example, Miao and Cukurova (2024) emphasise the need to re-examine "teachers' roles and the competencies they need in the AI era" (p. 2). Similarly, Kukulska-Hulme et al. (2024) stress the importance of providing teachers with guidance on AI literacy, particularly in areas such as "how to 'talk' to GenAI to foster productive dialogue and how to critically assess the GenAI's responses" (p. 26). Central to this discourse is the concept

of AI literacy, which Yi (2021) describes as the ability to adapt to technological changes while critically understanding their societal impacts. Holmes et al. (2022) further elaborate on this perspective, defining AI literacy as "having competencies in both the human and technological dimensions of artificial intelligence" (p. 5).

To bridge the gap between conceptual definitions and practical implementation, Miao and Cukurova (2024) have proposed the *AI Competency Framework for Teachers* (AI CFT). The framework identifies five key dimensions for developing AI competency. "A Human-centred mindset" prioritises human rights, needs and flourishing in AI use. It ensures human agency and critical assessment of AI's risks and benefits. "Ethics of AI" focuses on applying ethical principles and equipping teachers with the skills for responsible AI use. "AI foundations and applications" provide teachers with the knowledge to evaluate, customise and apply AI tools effectively in student-centred environments. "AI pedagogy" integrates AI into teaching to support ethical use, inclusive practices and innovative methods. "AI for professional development" empowers teachers to leverage AI for lifelong learning and collaborative growth. Together, these five dimensions form a comprehensive roadmap to help teachers to understand AI and integrate it effectively and responsibly into their educational practices.

In educational contexts, collaboration is increasingly recognised as an essential practice. It involves sustained efforts to develop a shared understanding of teaching and learning challenges (Baker 2015) and focuses on professional growth through collective exploration (Johnston 2009). Given the benefits and challenges of AI tools, a collaborative teacher-AI approach is advocated. For instance, Kukulska-Hulme et al. (2024) suggest that GenAI has the potential to serve as a collaborator for teachers, aiding in the creation of educational resources and activities. This perspective highlights how collaborative human–AI interaction creates opportunities for teachers to explore meaningful roles of AI in education. Williyan et al. (2024) argue that English as a foreign language (EFL) teachers demonstrate adaptability and resourcefulness by integrating traditional methods with AI-powered tools to create dynamic and engaging instructional strategies. Evidence also indicates that integrating GenAI tools can enhance pedagogical competence and critical awareness among language teachers (Moorhouse et al. 2024). Lee and Moore (2024) further point out that GenAI systems can reduce instructor workload by automating routine grading and feedback tasks, allowing teachers to focus on more complex teaching responsibilities with augmented capabilities.

However, while empirical studies on AI integration in education are emerging and interest in human–AI interaction within language education continues to grow, comprehensive reviews that synthesise these findings to provide a broader understanding of the topic remain limited. This is particularly evident in the specific context of language teacher AI literacy. Building on Miao and Cukurova's (2024) five dimensions of the AI CFT and focusing on ChatGPT, this review seeks to address this gap by investigating the following research questions:

RQ 1: What methodologies have been employed by the reviewed studies?

RQ 2: What key components of AI literacy do language teachers demonstrate in their interactions with ChatGPT?

RQ 3: How can the human–AI collaboration be reimagined in the AI era to enhance the transformative potential of AI while emphasising the continued importance of human agency in language education?

RQ 4: What are the broader implications of AI integration in language education?

2 Methodology

Building on the research questions outlined in Section 1, this section provides a comprehensive overview of the search strategy used to identify relevant journal articles for the review. It details the study selection process, explains the data coding approach and describes the analytical techniques employed to extract and synthesise insights from the selected studies.

2.1 Search strategy

This review focused on empirical studies to ensure access to detailed and evidence-based insights relevant to the research topic. Peer-reviewed journals were prioritised, as they typically undergo rigorous quality checks, aligning with the objective of reviewing reliable and impactful studies. To identify relevant studies, a targeted keyword search was conducted, using terms such as “ChatGPT language education”, “ChatGPT language teaching” and “ChatGPT language learning”. These terms were carefully chosen to explore the intersection of ChatGPT and language education, with a particular focus on language teacher AI literacy. The Scopus database was selected due to its extensive collection of high-quality and peer-reviewed academic journals. Only articles published in English were included, based on two considerations: 1) Ensuring a global perspective, given the role of English in academic communication; 2) Avoiding inaccuracies or misinterpretations that may arise from translating non-English publications. The inclusion criteria for this review are as follows:

– Empirical journal articles
– Research focusing on ChatGPT in the context of language education

– Studies addressing teacher AI literacy
– Publications available in English

2.2 Identifying studies

The review involved three rounds of searches. Round 1 focused on a timeframe spanning the initial adoption of ChatGPT in language education up to October 2024. This approach aimed to maximise the search scope and ensure the inclusion of recent developments. The search was restricted to the "Arts and Humanities" domain and included only peer-reviewed journal articles. The process consisted of three phases:

– Phase 1.1: Articles were identified using predefined search terms. The term "ChatGPT language teaching" returned 47 results, "ChatGPT language learning" yielded 81 and "ChatGPT language education" identified 69.
– Phase 1.2: Titles, abstracts and methodologies were screened for relevance. Only empirical studies exploring ChatGPT in language education, with an emphasis on teacher AI literacy, were retained. This process narrowed the results to five articles for "ChatGPT language teaching", three for "ChatGPT language learning" and four for "ChatGPT language education".
– Phase 1.3: Articles were cross-checked for duplicates across the search terms, resulting in six retained articles for further analysis.

Given the limited number of results, Round 2 broadened the scope by including the "Social Sciences" domain alongside the "Arts and Humanities" domain. To manage time constraints and ensure practicality, only the search term "ChatGPT language teaching" was retained. Round 2 consisted of two phases:

– Phase 2.1: This search yielded 152 results.
– Phase 2.2: After screening, 16 relevant articles were selected.

Round 3 involved checking for duplicates between Rounds 1 and 2. After eliminating three duplicates, 19 journal articles, covering the period from 2023 to 2024, remained for final analysis. This timeframe reflects the recent adoption of ChatGPT as a tool to support AI literacy among language teachers. These identified articles formed the core dataset, summarised in Table 1, with full details provided in Appendix A.

2.3 Data coding and analysis

The research data for this review was organised and managed using Microsoft Excel. Data collection centred on language teachers' use of ChatGPT and their perspectives

Table 1: Journal article selection process via Scopus.

Rounds	Phases	Description	Key search terms		
			ChatGPT language teaching	ChatGPT language learning	ChatGPT language education
Round 1	Phase 1.1	Search results via Scopus	47	81	69
	Phase 1.2	Results after screening	5	3	4
	Phase 1.3	Articles identified in Round 1	6		
Round 2	Phase 2.1	Search results via Scopus	152	N/A	N/A
	Phase 2.2	Results after screening	16	N/A	N/A
Round 3		Total articles retained (after removing 3 duplicates)	19		

"N/A" indicates that the search terms were not applicable in Round 2.

on its application. While most selected studies focused exclusively on language teachers, a few included both teachers and students. In these instances, only data pertaining to teachers' perspectives was extracted to align with the review's focus on AI literacy in language education, with a particular emphasis on teacher experiences. A structured analytical process was employed during coding. Data was analysed to identify recurring patterns, subtle variations and potential gaps in the existing literature. Detailed records of coding decisions and consistent criteria for inclusion and interpretation were maintained throughout.

The first research question examines the research participants in the reviewed studies and the research methods employed. The second research question focuses on key themes, which were categorised into five dimensions: AI foundations and applications, AI ethics, a human-centred mindset, AI pedagogy and AI for professional development. Among these dimensions, the "human-centred mindset" was addressed less frequently in the selected studies, though sufficient evidence supported its inclusion. These dimensions were drawn from Miao and Cukurova (2024) and applied to the specific context of this study. The third research question prompts a discussion of three key aspects: ChatGPT as an interactive pedagogical partner, the necessity of human oversight and teacher empowerment in the AI era. The fourth research question addresses the implications of AI integration, including strengthening pedagogical practices, advancing professional development in the AI era,

upholding ethical standards in AI integration, addressing the implications of the AI CFT and the implications for AI researchers in language education. Together, these insights inform strategies for effective and ethical AI integration in language education.

3 Findings

This section begins by establishing the foundational context and methodological grounding for the study, followed by a presentation of the thematic findings. As outlined in Section 2.3, these findings are organised around five key themes that emerged from the analysis.

3.1 Participants involved

The reviewed studies demonstrate diversity in educational contexts, participant roles and geographical regions, reflecting a global interest in ChatGPT. The studies featured a range of participant sizes. The largest study involved 234 Iranian EFL teachers (Dehghani and Mashhadi 2024) while the smallest-scale studies focused on five graduate student instructors in the USA (Bao and Li 2023) and five Chinese EFL teachers (Guo and Wang 2024a). Most studies included English teachers as participants, although a few featured both teachers and students. For instance, one study involved 24 EFL instructors and 135 students (Almanea 2024) while another included 12 Iranian EFL teachers and 48 learners (Ghafouri et al. 2024). Similarly, one study examined 14 EFL instructors and 13 students in Türkiye (Hınız 2024) while another investigated five lecturers alongside 19 South African distance-learning students (Sevnarayan 2024). Although most studies concentrated on in-service language teachers, preservice and student teachers were also represented. For example, a study in Indonesia involved eight preservice teachers (Kusuma et al. 2024) while another in Türkiye included 12 student teachers (Kartal 2024), showcasing how future educators engage with AI technologies like ChatGPT. Studies featuring mixed participant groups provided valuable insights into how teachers interact with AI tools in diverse educational settings.

Studies on AI integration in education have been conducted across a variety of educational settings. While many studies focused on single universities, others explored collaborations between universities and institutions. For example, research was conducted on various state universities in Tehran (Derakhshan and Ghiasvand 2024) while two Vietnamese institutions were examined (Hieu and Thao 2024). Similarly, research across multiple universities in Thailand explored the integration of ChatGPT in different academic environments (Ulla et al. 2023).

Additionally, various institutions in Vietnam (Cong-Lem et al. 2024) and Iran (Kamali et al. 2024) were investigated. Research into secondary schools has highlighted how AI technologies are being introduced to younger learners. For instance, one study examined the use of AI in Malaysian high schools (Annamalai 2024) while another focused on a secondary school in Iran (Arefian et al. 2024). The exploration was extended to ten elementary schools in South Korea (Jeon and Lee 2023). Other studies examined private institutions and online classes. For example, a private language learning institute in Tehran was explored (Dehghani and Mashhadi 2024) while teachers conducting online classes recruited through Telegram were the focus of another study (Ghafouri et al. 2024). Broader demographics included global perspectives, such as insights gathered from 46 teachers across multiple countries (Al-khresheh 2024). These studies reflect the growing interest in exploring how AI technologies like ChatGPT are being integrated into various educational contexts worldwide.

3.2 Research methods

The reviewed studies employed diverse research methodologies, broadly categorised into qualitative, quantitative and mixed methods approaches. This diversity reflects the range of perspectives used to explore the integration of AI in education. A significant number of studies adopted general qualitative methods (Al-khresheh 2024; Annamalai 2024; Bao and Li 2023; Hieu and Thao 2024; Kamali et al. 2024; Kusuma et al. 2024). Other studies used specialised qualitative frameworks, including phenomenological research (Sevnarayan 2024), transcendental phenomenology (Arefian et al. 2024), phenomenographic research (Derakhshan and Ghiasvand 2024), narrative inquiry (Kartal 2024), exploratory approaches (Jeon and Lee 2023), case studies (Hınız 2024; Korucu-Kış 2024) and qualitative descriptive research (Ulla et al. 2023). The prevalence of qualitative research reflects the current state of research, indicating that, despite the widespread attention AI has received in language education, a deep understanding of its impacts and implementation largely remains in a context-specific phase. It also underscores the importance of qualitative methods in gaining in-depth insights into teachers' experiences, perceptions and interactions with AI tools in language education.

The reviewed studies also highlight the diversity of qualitative data collection methods. Interviews were a central tool for gathering in-depth insights. Some studies relied exclusively on interviews to explore teachers' perceptions of ChatGPT (Annamalai 2024; Derakhshan and Ghiasvand 2024; Hieu and Thao 2024; Kusuma et al. 2024). Others combined interviews with additional methods such as online questionnaires (Ulla et al. 2023), questionnaires, screenshots of interactions with ChatGPT and participants' lesson plans (Bao and Li 2023), weekly written narratives

(Kartal 2024), teacher interaction logs with ChatGPT (Jeon and Lee 2023), focus groups (Hınız 2024), narrative frames (Kamali et al. 2024) and field notes, observations and additional notes (Arefian et al. 2024). Some studies opted not to use interviews, instead employing open-ended questionnaires (Al-khresheh 2024) or ChatGPT inquiry threads, combined with lesson plans, written reflections and an open-ended survey (Korucu-Kış 2024).

Quantitative methods were less common but present. Dehghani and Mashhadi (2024) employed a general quantitative method, using a survey questionnaire to explore factors influencing the acceptance of ChatGPT for English language teaching among Iranian EFL teachers. Similarly, Ghafouri et al. (2024) used a quantitative research approach, incorporating a teachers' self-efficacy scale to examine the impact of a ChatGPT-based writing instruction protocol on both EFL teacher self-efficacy and learners' writing skills. Some studies adopted mixed methods, recognising the need to bridge qualitative depth and quantitative breadth. For instance, Almanea (2024) integrated questionnaires and semi-structured interviews while Cong-Lem et al. (2024) employed thematic analysis alongside descriptive statistics. An exploratory study by Guo and Wang (2024a) involved comparative analysis and questionnaires to provide a more comprehensive understanding of ChatGPT's role in teacher feedback.

3.3 AI foundations and applications

A key strength of ChatGPT lies in its ability to deliver personalised learning experiences tailored to students' specific needs (Al-khresheh 2024) and their interests, abilities and learning pace (Hieu and Thao 2024). Its integration into language education has demonstrated significant potential to enhance learning outcomes. Research highlights ChatGPT's diverse applications, particularly in L2 writing instruction, where it improves writing quality and accuracy, facilitates self-regulation and metacognition and increases motivation and engagement while supporting data-driven decision-making (Ghafouri et al. 2024). Beyond writing, ChatGPT serves as a powerful tool for teaching English grammar and sentence construction (Ulla et al. 2023) and fosters cultural understanding by providing insights into diverse cultural perspectives (Kamali et al. 2024). A notable advantage of ChatGPT is its ability to offer immediate and detailed feedback. For instance, it helps learners to identify and correct errors in grammar, vocabulary and sentence structure (Annamalai 2024; Ulla et al. 2023). Additionally, it can target specific aspects of writing and deliver feedback in students' native languages, making it especially beneficial for learners with limited English proficiency (Hınız 2024). Compared to human teachers, ChatGPT provides more frequent praise and more extensive feedback, including revision suggestions and explanations of underlying principles (Guo and Wang 2024a).

ChatGPT fosters learner autonomy and engagement by creating interactive learning experiences (Derakhshan and Ghiasvand 2024) and increasing overall learner satisfaction (Kamali et al. 2024). Furthermore, it enhances digital literacy and autonomy for both teachers and students by exposing them to the latest AI technologies (Ghafouri et al. 2024). Beyond engagement, ChatGPT stimulates critical thinking and promotes creativity (Kartal 2024). Its role in facilitating brainstorming sessions and generating ideas sparks a wealth of further creative insights (Korucu-Kış 2024). For teachers, ChatGPT offers significant benefits by reducing administrative burdens and enhancing efficiency. It streamlines material preparation (Korucu-Kış 2024), lesson planning and activity creation (Kamali et al. 2024), allowing teachers to save time and energy while becoming more focused and organised (Ghafouri et al. 2024). Additionally, it alleviates the feedback burden and reduces workload (Guo and Wang 2024a), enabling them to concentrate more on creative and interactive pedagogy (Hieu and Thao 2024). ChatGPT's applications also extend to assessments, assisting EFL teachers in designing rubrics, delivering objective and adaptive testing and providing immediate feedback on assignments (Derakhshan and Ghiasvand 2024).

3.4 Ethics of AI

The integration of ChatGPT into language education has raised significant ethical concerns, particularly regarding the reliability and relevance of its responses. As the reviewed studies highlight, ChatGPT's outputs are not always accurate or trustworthy (Annamalai 2024; Kamali et al. 2024; Ulla et al. 2023), requiring verification for accuracy (Hınız 2024). In some cases, responses lack relevance and precision (Kusuma et al. 2024) or are overly simplified (Al-khresheh 2024). Furthermore, ChatGPT has been observed to provide off-task or misaligned feedback (Guo and Wang 2024a). Another concern is its difficulty in addressing cultural and contextual nuances. Researchers have expressed concerns about its ability to capture and integrate cultural subtleties or specific contextual elements into language teaching (Al-khresheh 2024), reflecting broader concerns about AI in education (Hieu and Thao 2024). Additionally, the increasing reliance on ChatGPT in language learning has raised questions about its impact on students' critical thinking and creativity.

Over-reliance on AI generated responses may undermine cognitive development, as the tool could take over tasks that require critical thinking, creativity and research skills (Hınız 2024). It may also hinder students' ability to develop writing and language skills, affecting critical thinking development (Ulla et al. 2023). Furthermore, excessive dependence on ChatGPT might stifle creativity, promote fabricated information and discourage students' critical thinking (Derakhshan and

Ghiasvand 2024). Frequent reliance on AI-generated content in language learning also risks bypassing intrinsic creative processes and discouraging independent language learning, reducing students' initiative and inquisitiveness (Al-khresheh 2024). This dependence extends beyond students and may also impact teachers. Excessive reliance on AI-generated materials could reduce enjoyment in teaching and hinder professional development (Hınız 2024). Equity and accessibility issues further compound these challenges. Limited or unequal access to ChatGPT across regions or socio-economic groups may prevent some students and teachers from benefiting from the tool (Al-khresheh 2024; Guo and Wang 2024a; Kamali et al. 2024). Moreover, concerns about fairness in assessment have emerged, as evaluation methods may need to evolve to address the risk of ChatGPT-related cheating (Sevnarayan 2024).

Academic integrity and plagiarism have become key concerns with the integration of ChatGPT in education. Researchers emphasise the importance of transparent and ethical use of AI technology (Jeon and Lee 2023) and advocate for maintaining academic integrity when using ChatGPT or similar AI technologies (Annamalai 2024). ChatGPT poses risks to L2 assessment by enabling cheating, disregarding paralinguistic features in aural tests and providing an inaccurate picture of students' language competence (Derakhshan and Ghiasvand 2024). Its ability to generate precise and assignment-specific responses and unique outputs may tempt learners to misuse it (Almanea 2024) and favour shortcuts over genuine learning outcomes (Sevnarayan 2024). Furthermore, the ease of using ChatGPT to complete assignments increases the risk of plagiarism (Kamali et al. 2024), making detection and prevention a significant challenge for teachers (Hınız 2024). Given these risks, teachers play a crucial role in mitigating the negative impact of ChatGPT by implementing proactive measures to uphold academic integrity (Sevnarayan 2024).

3.5 A human-centred mindset

The findings underscore the indispensable role of language teachers in an AI-assisted educational environment, even though the concept of a human-centred mindset was not extensively addressed in the reviewed studies. ChatGPT is not a replacement for human teachers but rather a tool that amplifies their professional expertise (Jeon and Lee 2023). It is framed as a means to improve teaching effectiveness while maintaining the irreplaceable contributions of teachers. These include providing valuable guidance, emotional support and feedback that technology cannot currently replicate (Hınız 2024). Kartal (2024) reinforced this perspective, stressing the critical role of teachers in refining AI-generated outputs to ensure that they retain informational accuracy, pedagogical depth and contextual relevance.

While ChatGPT offers opportunities to enhance teaching practices, its limitations emphasise the essential role of teachers in maintaining quality and ethical standards. As discussed in Section 3.4, teachers have expressed concerns about the reliability and accuracy of ChatGPT's outputs, including issues related to relevance, precision, cultural nuances and inappropriate feedback. These shortcomings highlight the necessity of vigilant teacher oversight to adapt and refine AI-generated materials for authenticity, reliability and alignment with student needs (Hınız 2024). Teachers, including preservice teachers, are encouraged to critically evaluate AI outputs by cross-referencing them with reputable sources and verifying their consistency with learning objectives (Kusuma et al. 2024; Ulla et al. 2023).

The integration of ChatGPT has also brought academic integrity and plagiarism to the forefront, as outlined in Section 3.4. Misuse of AI-generated responses and over-reliance on the tool pose threats to genuine learning and ethical standards. Proposed mitigating strategies include incorporating personalised elements into assignments, comparing classwork with homework to detect over-reliance, updating definitions of plagiarism, clarifying ethical AI usage and implementing institutional policies to promote responsible AI interaction (Almanea 2024). These strategies not only address ethical challenges but also exemplify the human-centred mindset by modelling ethical practices and critically managing AI's limitations. Through this process, language teachers demonstrate their unique ability to address challenges that AI cannot independently resolve.

3.6 AI pedagogy

The integration of ChatGPT into language education has catalysed transformative pedagogical practices. Positioned as an innovative pedagogical tool, ChatGPT enriches personalised and interactive language education (Al-khresheh 2024). It plays multiple roles, serving as an interlocutor, content provider, teaching assistant and evaluator (Jeon and Lee 2023). Additionally, it supports teachers' academic endeavours by providing valuable resources and tools (Ulla et al. 2023) and offering comprehensive and well-structured teaching information (Kusuma et al. 2024). Its applications include assisting in the design of tasks and activities, creating lesson plans, producing reading texts and comprehension questions and designing tests for classroom quizzes (Kamali et al. 2024).

Beyond these practical applications, ChatGPT bridges conventional pedagogical knowledge with contemporary technological capabilities, reinforcing the idea that digital tools can enhance individualised instruction (Al-khresheh 2024). Its adaptability allows teachers to refine, modify or restructure the suggestions it provides, enabling them to incorporate their distinctive teaching styles and preferences into

their instructional practices (Korucu-Kış 2024). The collaboration between teachers and ChatGPT highlights the value and importance of collaborative efforts between humans and AI in educational settings (Kartal 2024). The synergy between human facilitators and AI has the potential to produce more effective learning experiences than either humans or AI alone (Korucu-Kış 2024). ChatGPT's support amplifies teachers' pedagogical expertise (Jeon and Lee 2023), strengthening the complementary roles of human teachers and AI in language education.

Preservice teachers also benefit from the integration of ChatGPT. When faced with challenges, they may seek guidance from ChatGPT instead of consulting their teacher educators or school supervisors (Kusuma et al. 2024). Even in the absence of direct mentorship, the responsive mediation offered by ChatGPT empowers novice EFL teachers to reflect on and refine their teaching practices within a sociocultural perspective (Arefian et al. 2024). The evolving role of teachers in the AI era highlights the necessity for adaptability and innovation. Teachers take on a dual role as co-facilitators of learning alongside AI chatbots and as technical trainers responsible for developing students' AI literacy (Cong-Lem et al. 2024). Moreover, they should be capable of adapting their lesson plans and instructional methods to accommodate students' individual learning needs and preferences (Annamalai 2024).

3.7 AI for professional development

Effectively harnessing ChatGPT in language education requires teachers to enhance their digital literacy and refine their pedagogical strategies. Successful integration of ChatGPT requires additional skills that many teachers currently lack (Ulla et al. 2023). Equipping teachers with the necessary knowledge and competencies to maximise AI's potential is therefore essential (Al-khresheh 2024). To address these challenges, teachers should adapt their teaching and assessment methods to align with advancements in AI (Almanea 2024). Professional development programmes should thus encompass both the opportunities and challenges posed by AI integration. Teachers need to develop a clear understanding of ChatGPT's merits and limitations while receiving adequate training to manage academic integrity concerns in AI-enhanced learning environments (Cong-Lem et al. 2024).

Effective AI integration in education requires more than technical proficiency. It also demands pedagogical innovation and institutional support. Teachers must be well-prepared before introducing tools like ChatGPT into English language learning (Annamalai 2024) and L2 classrooms to ensure their effective and ethical use (Ghafouri et al. 2024). Even experienced teachers can benefit from engaging with emerging technologies. Exploring AI tools allows them to discover new opportunities for professional growth, expand their pedagogical repertoire and enhance their

instructional strategies (Hieu and Thao 2024). Additionally, interacting with AI enables teachers to reconstruct conceptual knowledge, rethink their teaching approaches and challenge established beliefs and routines (Arefian et al. 2024). The evolving role of AI in education underscores the need for ongoing dialogue and adaptation. Continuous discussions are essential to address the dynamic nature of online education and the integration of AI (Sevnarayan 2024). ChatGPT, in particular, has the potential to redefine teaching by empowering teachers to curate diverse resources, make informed pedagogical decisions, encourage active student enquiry and foster ethical awareness regarding AI use (Jeon and Lee 2023).

However, resistance to adopting AI tools like ChatGPT remains a significant challenge in professional teaching contexts. Several factors contribute to this reluctance, including apprehension about technological change, opposition from traditional teachers, the time-intensive nature of AI adoption and outdated systems that struggle to integrate AI effectively (Kamali et al. 2024). A major concern is the fear of diminished authority, as some teachers and supervisors worry that adopting ChatGPT may undermine their roles or lead to AI replacing them (Kamali et al. 2024). Graduate student instructors face additional difficulties, particularly in determining how to incorporate more advanced technologies into their teaching (Bao and Li 2023). Addressing these fears and challenges requires systemic efforts and targeted support. Teachers' self-efficacy in their ability to use ChatGPT positively influences its perceived usefulness and ease of use. However, institutional and peer support remains crucial, as colleagues and supervisors may not always view ChatGPT as easy or useful to implement (Dehghani and Mashhadi 2024).

4 Discussion: reimagining collaboration in the AI era

This section discusses the dynamic interplay between language teachers and ChatGPT, interpreting the thematic findings presented in Sections 3.3–3.7. It examines ChatGPT's role as an interactive pedagogical partner, the necessity of human oversight and teacher empowerment. By analysing these aspects, this discussion highlights the transformative potential of AI while emphasising the continued importance of human agency in language education.

4.1 ChatGPT as an interactive pedagogical partner

The findings of this review demonstrate ChatGPT's potential to alleviate administrative burdens, streamline lesson planning and enhance teaching efficiency. By automating

material generation, exercise creation and feedback provision, ChatGPT handles routine tasks such as grading, freeing teachers to focus on higher-order pedagogical activities. This shift aligns with Lee and Moore's (2024) emphasis on GenAI's role in reallocating instructor effort towards more complex teaching responsibilities. Beyond administrative support, ChatGPT emerges as a valuable collaborator, serving as an interlocutor, content provider and evaluator. The synergy between teachers and AI fosters innovation in task design and lesson planning, resonating with Kukulska-Hulme et al. (2024) who frame GenAI tools as creative partners in resource development. Such collaboration reflects broader educational discourse advocating for technology that complements, rather than replaces, human expertise. These advancements build on pre-AI models of educational collaboration, such as Baker's (2015) assertion that collaboration is essential for addressing pedagogical challenges and Johnston's (2009) focus on collective exploration in professional growth.

The review further highlights ChatGPT's capacity to enrich EFL instruction. By generating adaptive feedback, creating interactive exercises and tailoring materials to learners' proficiency levels, ChatGPT equips teachers to address diverse student needs more effectively. Participants emphasised how teachers could leverage ChatGPT to enhance writing quality and grammatical accuracy, aligning with Liu et al.'s (2024) findings on AI as a scaffold for language acquisition. This adaptability proves particularly beneficial for lower-proficiency learners, as ChatGPT extends teachers' capacity to provide 24/7 availability, contextual explanations and immediate support, which are suggested by Kukulska-Hulme et al. (2024). Notably, ChatGPT's partnership transcends linguistic outcomes. Its simulation of real-world interactions and provision of nuanced feedback encourage critical thinking and creative problem-solving, a finding reinforced by Yan et al. (2024). This positions ChatGPT as a collaborator in advancing students' cognitive and cultural development. Moreover, the findings suggest that ChatGPT serves as an engagement catalyst, aligning with Guo and Wang (2024b) and Yuan and Liu (2025). It also enhances learning satisfaction and motivation, further supported by Yuan and Liu (2025). Moreover, integrating ChatGPT into teaching and learning fosters both learner autonomy and teacher autonomy, offering advantages over time-constrained human instructors, even though autonomy is not explicitly discussed in the current literature. Overall, these insights illustrate a collaborative synergy between AI and teachers, as seen in Williyan et al. (2024) and Moorhouse et al.'s (2024) studies, where ChatGPT supports EFL teachers' pedagogical adaptability and reflective practice with AI tools.

4.2 The necessity of human oversight

The findings, outlined in Section 3.4, reveal critical limitations in the ethical deployment of AI tools such as ChatGPT. These include biases embedded in training data, risks

of generating inaccurate or culturally insensitive content and inequitable access to advanced AI models. These challenges threaten to exacerbate educational disparities and undermine pedagogical integrity. Such concerns align with Kukulska-Hulme et al.'s (2024) warnings about GenAI's propensity by producing hallucinations. Further compounding these challenges are systemic biases, privacy breaches and unequal technological access, all of which demand urgent attention to mitigate potential harm to learners and institutions. Equally critical are the pedagogical risks of over-reliance on AI. Participants noted that excessive dependence on ChatGPT risks stifling students' independent problem-solving abilities and analytical thinking. This concern echoes Miao and Holmes (2023) who highlight GenAI's limitations in generating original ideas or context-aware solutions without human expertise to identify errors. This issue is further complicated by the rise of AI-generated plagiarism that disrupts traditional assessment practices. These findings reinforce the need for vigilant human oversight, emphasised by Cogo et al. (2024) who advocate for robust guidelines to ensure AI complements human-led critical thinking and interaction.

Importantly, the study reaffirms that while ChatGPT enhances pedagogical efficiency, it cannot replicate the irreplaceable role of human teachers. Teachers provide emotional support, contextual adaptability and ethical judgement, which are capabilities that are currently beyond AI's scope. These human qualities align with UNESCO's (2019) call for human-centred AI systems designed to augment teaching practices rather than automate them. This human–AI synergy, as Wang (2021) argues, relies on moral judgement and contextual awareness to mitigate AI's limitations. Teachers' ability to interpret, adapt and ethically contextualise AI-generated materials ensures alignment with educational goals while their capacity for empathy and creativity fosters inclusive learning environments. As Miao and Holmes (2023) assert, AI lacks the nuanced understanding inherent to human teachers, reinforcing the necessity for collaborative frameworks in which technology serves as a tool to empower human expertise.

4.3 Teacher empowerment

This review highlights the need to empower teachers as they navigate the evolving pedagogical landscape, shaped by AI integration. As demonstrated in Section 3, ChatGPT's effectiveness as a teaching tool depends not only on its technical capacities but also on teachers' ability to innovate pedagogically and engage critically with AI systems. This challenge echoes Moorhouse and Kohnke (2024) who stress that teachers require targeted professional development to build competence in leveraging GenAI tools. Central to this transformation is the need to enhance professional development to prioritise three key pillars: evaluating AI outputs for accuracy and relevance, adapting tools to diverse classroom contexts and

maintaining ethical oversight. This triad aligns with Miao and Cukurova's (2024) call for reimagining teacher competencies in AI-augmented education, which emphasises human agency over automation. It also resonates with Kukulska-Hulme et al.'s (2024) advocacy for AI literacy training that fosters productive human–AI collaboration while encouraging critical scrutiny of algorithmic outputs. Findings suggest that effective professional development should nurture dual competencies: the technical skills required to harness AI's pedagogical potential and the human-centred discernment needed to mitigate its risks. This corresponds to Yi's (2021) argument that teachers must develop adaptability to technological shifts while critically assessing their societal implications, as well as Holmes et al.'s (2022) assertion that teachers should balance technological proficiency with pedagogical empathy. By integrating these dimensions, teachers can ensure that AI enhances, rather than compromises, educational quality and equity. In doing so, they position themselves as indispensable guides in an evolving digital landscape.

5 Implications

The findings and discussions presented in this review carry significant implications for the integration of GenAI into language education. These insights provide a foundation for language teachers to engage with AI tools effectively and responsibly.

5.1 Strengthening pedagogical practices in AI integration

The integration of AI tools such as ChatGPT into language education requires a structured and strategic approach to ensure that AI enhances effective teaching and learning. A key priority is establishing robust teaching standards that align AI use with clear instructional objectives and curricular aims. To achieve this, teachers should position AI as a complementary tool for learning. Teaching practices should be designed to promote active student engagement with AI-generated content. One effective approach is to incorporate structured activities where students critically evaluate, revise or expand on AI-generated responses. For instance, students can compare AI-generated text with their own writing, identify inconsistencies or inaccuracies and refine responses to align with specific linguistic and stylistic goals. Encouraging this level of interaction ensures that AI serves as a scaffold for learning and a source for stimulating deeper engagement with language. Equally important is guiding students in the ethical and responsible use of AI in their language learning. Teachers should set explicit guidelines on when and how AI can be used, ensuring that it does not replace independent thinking or problem-solving. Moreover, AI integration should be aligned with human-centred educational philosophies, reinforcing the

teacher's role as a facilitator rather than a passive overseer. Teachers should remain central in mediating AI interactions while helping students to interpret AI-generated suggestions critically and apply them meaningfully within language learning contexts.

5.2 Advancing professional development

Professional development presents several challenges that need to be considered to ensure teachers are well-prepared to integrate AI effectively and ethically into their teaching practices. A significant issue relates to fostering comprehensive AI literacy. Many teachers may not have a thorough understanding of AI technologies, including their capabilities, limitations and potential impact on education. Strengthening professional development programmes with hands-on training could help teachers to explore AI tools, critically assess their outputs and adapt them for educational relevance, accuracy and cultural appropriateness. Another important consideration is the ethical dimension of AI integration. Professional development initiatives should incorporate training on key ethical issues, such as data privacy, bias in AI-generated content and the responsible use of AI across diverse classroom settings. Moreover, encouraging collaboration between teachers and researchers plays an important role in advancing AI-focused professional development. Collaborative learning environments foster the exchange of ideas, support experimentation and contribute to the development of shared best practices. Teachers provide valuable classroom-based insights while researchers offer advanced methodologies and theoretical perspectives, creating a productive synergy that enhances professional learning. Given the rapid evolution of technology, adaptability and lifelong learning should also remain central to professional development efforts. Institutions could offer ongoing, flexible training opportunities, tailored programmes and continuous support to help teachers to stay informed about emerging AI tools and evolving pedagogical approaches. Providing access to professional networks, innovative learning platforms and up-to-date resources can further support sustained engagement and long-term professional growth in the AI landscape.

5.3 Upholding ethical standards in AI integration

Ensuring ethical AI integration in education involves adhering to regulatory frameworks such as the General Data Protection Regulation (GDPR) or equivalent policies. A key ethical concern is safeguarding data privacy and security. Transparency in processing, storing and using sensitive information is important, requiring ongoing monitoring to remain aligned with evolving standards. Teachers can contribute to fostering trust and accountability by clearly communicating data practices to students

and promoting responsible AI use in learning environments. Another challenge is addressing biases in AI-generated content. As AI outputs may contain inaccuracies, biases or cultural insensitivities, it is important for teachers to critically assess and adapt materials to ensure they align with educational values and objectives. Academic integrity is also a significant consideration, as an over-reliance on AI-generated content or its unethical use could undermine genuine learning experiences. Institutions could support ethical AI use by establishing clear policies for both teachers and students, setting well-defined boundaries that position AI as a tool to enhance rather than replace independent learning and critical thinking. Encouraging originality is equally important, and AI tools may be best used as sources of inspiration rather than unquestioned authorities. Teachers can create an environment that promotes critical engagement with AI-generated content. Given the rapid evolution of AI technologies, continuous ethical review processes would help institutions and teachers to reflect on emerging challenges and ensure AI integration remains aligned with ethical and pedagogical standards.

5.4 Implications of the AI Competency Framework for Teachers (AI CFT)

This review highlights the importance of refining and expanding the five dimensions of the AI CFT as a framework for integrating AI tools into language education. The AI CFT provides a structured approach to developing teachers' knowledge, skills and ethical awareness in AI-assisted teaching environments. Future research could explore how the dimensions of the AI CFT are applied in practice and assess their measurable impact on teaching effectiveness. Building on this foundation, further studies could examine emerging trends in AI technology and their implications for AI literacy. Investigating how these innovations interact with the existing framework may reveal opportunities to refine its structure and content, ensuring its continued relevance and adaptability to future developments. While this review primarily focuses on the five dimensions of the AI CFT, it acknowledges the value of alternative perspectives on AI literacy. Expanding the scope of enquiry to incorporate complementary frameworks and perspectives could enhance the inclusivity and applicability of AI literacy models. By integrating insights from diverse educational contexts, researchers can develop a more comprehensive understanding of how AI literacy is conceptualised and applied in language education. This approach would help to ensure that AI competency frameworks remain responsive to evolving technological advancements, pedagogical needs and ethical considerations, ultimately supporting teachers in effectively navigating AI-enhanced learning environments.

5.5 Implications for AI researchers in language education

Expanding on Section 5.4, this review highlights the important role of AI researchers in enhancing language teachers' AI literacy and fostering effective human–AI collaboration. A key implication is the need to explore how AI tools can become more accessible, transparent and user-friendly for language teachers with diverse levels of AI proficiency. Researchers should prioritise improving the interpretability and intuitiveness of AI-generated outputs, enabling teachers to critically evaluate and effectively integrate these tools into their teaching. Additionally, professional development models should be designed to equip teachers with essential AI competencies, ensuring they can confidently navigate AI-assisted teaching environments. It is also crucial to examine how AI can complement, rather than replace, teacher-led instruction while preserving pedagogical integrity. Another critical consideration is the ethical deployment of AI in education. Researchers should address issues of algorithmic bias, data privacy and misinformation to foster responsible AI use. Investigating methods for bias mitigation and transparency in AI-generated content should help to safeguard academic integrity.

6 Conclusions

This review has examined the conceptualisation of language teacher AI literacy through the integration of AI tools such as ChatGPT in language education. The findings highlight the transformative role of AI in reshaping pedagogical models, fostering teacher-AI collaboration and offering new avenues for professional development. While ChatGPT provides language teachers with a range of pedagogical affordances, it also underscores the continued necessity of human oversight. The dynamic partnership between teachers and AI reinforces the enduring significance of human agency, ensuring that AI-generated content remains pedagogically sound, ethically responsible and aligned with educational values. Moreover, as AI continues to evolve, developing teachers' AI literacy is essential to equip them with the necessary skills and critical awareness for effective and responsible integration into language education. Despite these insights, this review has several limitations. The sole reliance on the Scopus database may have constrained the diversity of perspectives included in the analysis. Similarly, restricting the review to English-language publications and using specific search terms may have inadvertently excluded valuable contributions from non-English or alternative research contexts. Additionally, while careful procedures were applied during data analysis, the absence of a second coder may limit opportunities to further verify the reliability of the thematic interpretations. Addressing these considerations in future research could enhance the depth and inclusivity of insights into the evolving relationship between human expertise and AI technologies in language education.

Appendix A: Summary of the Selected Journal Articles

	Authors	Year	Title	Journal	Research setting	Research participants	Research methods	Data collection tools	Main research objectives
1	Al-khresheh, M. H.	2024	Bridging technology and pedagogy from a global lens: Teachers' perspectives on integrating ChatGPT in English language teaching	Computers and Education: Artificial Intelligence	ResearchGate	46 English language teachers from multiple countries	Qualitative research	Open-ended questionnaire	Find out how English language teachers perceive the pedagogical benefits and challenges posed by ChatGPT when incorporated into English language teaching and identify potential avenues for such digital innovations
2	Almanea, M.	2024	Instructors' and learners' perspectives on using ChatGPT in English as a foreign language courses and its effect on academic integrity	Computer Assisted Language Learning	An EFL programme at a public university for women in Saudi Arabia	24 EFL instructors and 135 students	A mixed-methods approach	Questionnaires and semi-structured interviews	Explore the perspectives of university instructors and learners of EFL regarding ChatGPT's effectiveness for EFL learning and its implications for academic integrity
3	Annamalai, N.	2024	Factors affecting English language high school teachers switching intention	Interactive Learning Environments	Malaysian schools	26 high school teachers	Qualitative research	In-depth interviews	Investigate the factors that influence the switching intention of teachers from

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	Authors	Year	Title	Journal	Research setting	Research participants	Research methods	Data collection tools	Main research objectives
			to ChatGPT: A Push-Pull-Mooring theory perspective						traditional classroom teaching to the use of ChatGPT in English language teaching based on the Mooring Theory framework
4	Arefian, M. H., Çomoğlu, I. and Dikilitaş, K.	2024	Understanding EFL teachers' experiences of ChatGPT-driven collaborative reflective practice through a community of practice lens	Innovation in Language Learning and Teaching	A secondary school in Iran	8 EFL teachers	Transcendental phenomenology approach	Field notes, observation and notes and interviews	Uncover how Iranian EFL teachers' ChatGPT-driven collaborative reflective practice, both independently and collaboratively, can contribute to their professional development
5	Bao, Y. and Li, B.	2023	A preliminary study on graduate student instructors' exploration, perception, and use of ChatGPT	International Journal of Computer-Assisted Language Learning and Teaching	A large mid-western university in the USA	5 graduate student instructors	Qualitative research	Questionnaires, focus group interviews, screenshots of interactions with ChatGPT and participants' lesson plans	Gain insights into how graduate student instructors explore and perceive ChatGPT as well as what knowledge they leverage to utilise ChatGPT in language teaching

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	Authors	Year	Title	Journal	Research setting	Research participants	Research methods	Data collection tools	Main research objectives
6	Cong-Lem, N., Tran, T. N. and Nguyen, T. T.	2024	Academic integrity in the age of generative AI: Perceptions and responses of Vietnamese EFL teachers	Teaching English with Technology	Various institutions in Vietnam	31 Vietnamese EFL teachers	Thematic analysis and descriptive statistics	Open-ended survey	Examine the perceptions and responses of Vietnamese teachers of EFL to academic integrity concerns that arise from the use of AI, specifically chatbots like ChatGPT, in foreign language education.
7	Dehghani, H. and Mashhadi, A.	2024	Exploring Iranian English as a foreign language teachers' acceptance of ChatGPT in English language teaching: Extending the technology acceptance model	Education and Information Technologies	A private language learning institute in Tehran, Iran.	234 in-service Iranian EFL teachers	Quantitative method	Survey questionnaire	Explore the factors influencing the acceptance of ChatGPT, an artificial intelligence chatbot, for English Language Teaching among Iranian English as a Foreign Language teachers
8	Derakhshan, A. and Ghiasvand, F.	2024	Is ChatGPT an evil or an angel for second language education and research? A phenomenographic study of research-active EFL teachers' perceptions	International Journal of Applied Linguistics	Different state universities in Tehran	30 Iranian EFL teachers	Phenomenographic research design	Semi-structured interview	Examine the perceptions of research-active EFL teachers regarding the potentials and pitfalls of ChatGPT for L2 learning, teaching, assessment and research

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	Authors	Year	Title	Journal	Research setting	Research participants	Research methods	Data collection tools	Main research objectives
9	Ghafouri, M., Hassaskhah, J. and Mahdavi-Zafarghandi, A.	2024	From virtual assistant to writing mentor: Exploring the impact of a ChatGPT-based writing instruction protocol on EFL teachers' self-efficacy and learners' writing skill	Language Teaching Research	Online classes	12 Iranian EFL teachers and 48 learners	Quantitative research	A teachers' self-efficacy scale	Explore the impact of a ChatGPT-based writing instruction protocol on EFL teachers' self-efficacy and learners' writing skill
10	Guo, K. and Wang, D.	2024	To resist it or to embrace it? Examining ChatGPT's potential to support teacher feedback in EFL writing	Education and Information Technologies	An academic English course at a Chinese university	5 Chinese EFL teachers	Exploratory study	Comparative analysis and questionnaire	Examine ChatGPT's potential to support EFL teachers' feedback on students' writing
11	Hieu, H. H. and Thao, L. T.	2024	Exploring the impact of AI in language education: Vietnamese EFL teachers' views on using ChatGPT for fairy tale retelling tasks	International Journal of Learning, Teaching and Educational Research	Two Vietnamese institutions	9 EFL teachers from	Qualitative method	Semi-structured interviews	Investigate the perceptions of Vietnamese tertiary level EFL teachers regarding the use of ChatGPT in students' fairy tale retelling writing tasks.
12	Hınız, G.	2024	A year of generative AI in English	Journal of Research on	A school of foreign		Case study		Examine the perceptions of EFL instructors

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	Authors	Year	Title	Journal	Research setting	Research participants	Research methods	Data collection tools	Main research objectives
			language teaching and learning: A case study	Technology in Education	languages at a state university in Türkiye	14 EFL instructors and 13 students		Focus groups and one-to-one interviews	and students regarding the integration of ChatGPT
13	Jeon, J. and Lee, S.	2023	Large language models in education: A focus on the complementary relationship between human teachers and ChatGPT	Education and Information Technologies	Ten elementary schools in South Korea	11 language teachers	Exploratory qualitative approach	Semi-structured in-depth interviews and the teachers' interaction logs with the ChatGPT	Explore the relationship between ChatGPT and teachers, with a particular focus on identifying the complementary roles of each in education
14	Kamali, J., Paknejad, A. and Poorghorban, A.	2024	Exploring the challenges and affordances of integrating ChatGPT into language classrooms from teachers' points of view: An ecological perspective	Journal of Applied Learning and Teaching	Various institutions in Iran	10 Iranian EFL teachers	Qualitative research	Narrative frames and semi-structured interviews	Explore teachers' perspectives on the challenges and benefits of using ChatGPT in language classrooms
15	Kartal, G.	2024	The influence of ChatGPT on thinking skills and creativity of EFL student	Journal of Education for Teaching	An English language teaching programme at a	12 English student teachers	Narrative inquiry approach	Weekly written narratives and qualitative interviews	Scrutinise the influence of ChatGPT on the development of thinking skills and

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	Authors	Year	Title	Journal	Research setting	Research participants	Research methods	Data collection tools	Main research objectives
			teachers: A narrative inquiry		public university in Turkey				creativity during the practicum part of a teacher education programme
16	Korucu-Kış, S.	2024	Zone of proximal creativity: An empirical study on EFL teachers' use of ChatGPT for enhanced practice	Thinking Skills and Creativity	A post-graduate programme in training and development	29 EFL teachers	Exploratory case study design	ChatGPT inquiry threads, lesson plans, written reflections and an open-ended survey	Investigate the efficacy of ChatGPT in facilitating creativity, particularly among EFL teachers
17	Kusuma, I. P. I., Roni, M., Dewi, K. S. and Mahendrayana, G.	2024	Revealing the potential of ChatGPT for English language teaching: EFL preservice teachers' teaching practicum experience	Studies in English Language and Education	An Indonesian public university	8 preservice EFL teachers	Qualitative study	Semi-structured interviews	Unleash the potential of ChatGPT for English language teaching and professional development
18	Sevnarayan, K.	2024	Exploring the dynamics of ChatGPT: Students and lecturers' perspectives at an open distance e-learning university	Journal of Pedagogical Research	A South African open distance e-learning university	19 student participants and 5 lecturers	Qualitative phenomenological research	Evaluations, focus group discussions with students and one-on-one interviews with lecturers	Investigate whether ChatGPT disrupts traditional perceptions of online distance education held by students and lecturers and identifies specific functions and features

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	Authors	Year	Title	Journal	Research setting	Research participants	Research methods	Data collection tools	Main research objectives
									of ChatGPT that address challenges in open distance e-learning
19	Ulla, M. B., Perales, W. F. and Busbus, S. O.	2023	"To generate or stop generating response": Exploring EFL teachers' perspectives on ChatGPT in English language teaching in Thailand	Learning: Research and Practice	Universities in Thailand	17 EFL teachers	Qualitative descriptive research	Online questionnaire and semi-structured interview	Explore the perspectives of EFL teachers at a Thai university regarding ChatGPT as a language teaching tool

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Bionote

Weiming Liu
Dublin City University, Dublin, Ireland
weiming.liu@dcu.ie
https://orcid.org/0000-0002-2468-6911

Dr. Weiming Liu is an assistant professor in the School of Applied Language and Intercultural Studies at Dublin City University. His research interests include foreign language education and language teacher education. He is particularly interested in pedagogy in the context of teaching Chinese as a foreign language, as well as technology-enhanced language teaching and learning.