



RESEARCH ARTICLE

Section: *Literature, Linguistics & Criticism*

Generative Artificial Intelligence and its role in mitigating Foreign Language Speaking Anxiety

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ABSTRACT

Generative Artificial Intelligence (GenAI) has emerged as a transformative tool in language pedagogy, particularly in mitigating Foreign Language Speaking Anxiety (FLSA). By offering interactive, judgment-free environments, GenAI lowers psychological barriers and socio-evaluative threats inherent in traditional classrooms (Xiao et al., 2025; Mandasari & Oktaviani, 2018). Research indicates that AI-powered chatbots and adaptive platforms enhance the educational experience through personalized support and real-time feedback, fostering learner autonomy and linguistic precision (Klimova et al., 2023; Lee, 2023). However, concerns persist regarding the authenticity of AI interactions and their long-term motivational impact, highlighting the need for a balanced integration with traditional methodologies (Horwitz et al., 1986; Messick, 1989). Challenges such as digital literacy, ethical considerations of content ownership, and learner preferences for human evaluation in high-stakes contexts further complicate this transition (Creswell, 2020). Ultimately, the strategic deployment of GenAI is poised to reshape language acquisition trajectories by harmonizing technological innovation with essential psychological support (Abdul Aziz & Kashinathan, 2021; Horwitz, 2020).

KEYWORDS: Generative AI, Foreign Language Speaking Anxiety (FLSA), AI-Assisted Language Learning (AIALL), Speaking Proficiency

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1. Theoretical Background

Generative Artificial Intelligence (GenAI) has become a key tool for tackling foreign language speaking anxiety, especially in educational settings. A crucial aspect here is the “safety” connected to the idea of relatedness. GenAI helps by reducing social evaluation threats commonly found in traditional classroom environments. Research shows that in situations marked by social anxiety and fear of judgment, GenAI acts as a “safe haven,” which helps lower speaking anxiety and increases enjoyment in interactions (Xiao et al., 2025).

This shift in focus moves away from the need to create deep personal connections. Instead, it emphasizes the importance of a psychological sense of security. Public speaking anxiety often intensifies due to outside factors, particularly the fear of negative judgment from peers or instructors. This fear can hinder fluency during oral presentations (Mandasari & Oktaviani, 2018). Many studies have shown that these external pressures often overshadow internal factors. Participants report heightened anxiety about how the audience perceives them and their personal vulnerabilities (Mandasari & Oktaviani, 2018).

The interaction between internal and external stressors is especially clear during academic presentations. Here, the fear of evaluation can interrupt performance and damage self-confidence (Jordanian University Study, 2024). Moreover, the influence of technology on anxiety levels has received a lot of attention from researchers. The literature indicates that computer-mediated communication, including AI-driven platforms, can significantly reduce the effects of “social presence,” which usually causes anxiety (Horwitz et al., 1986). Evidence shows that people often feel less anxious when they interact with AI rather than through traditional methods of assessment. However, a troubling paradox arises: some users report feeling less motivated to perform well while also questioning the authenticity of these interactions (Horwitz et al., 1986). The gap between reduced anxiety and a continued preference for human evaluation highlights a complicated relationship between emotional comfort and perceived credibility of the evaluation. As a result, students need to weigh the advantages of reduced anxiety against the essential need for genuine communication experiences (Chinese University Study, 2025).

The theoretical framework related to Foreign Language Anxiety (FLA) is built on a set of overlapping psychological factors, particularly communication apprehension, perfectionist tendencies, and limited language skills. Together, these factors contribute to overall anxiety levels in students during speaking tasks (Foundational Theory, 2022). Therefore, incorporating Generative Artificial Intelligence (GenAI) into language education is not just about directly addressing anxiety. It also calls for a close look at its effects on learner motivation and engagement in language learning.

Consequently, research in this area continues to further explore these intricate interactions. This ongoing work aims to understand future implications for language teaching and the advancement of AI technologies, striving to find a balanced approach between offering psychological support to learners and maintaining the quality and authenticity of their educational experiences.

2. Generative AI Technologies

Generative Artificial Intelligence (GenAI) technologies are very important for improving language learning because they give learners personalised and interactive experiences that meet their needs. These technologies use advanced Natural Language Processing (NLP) algorithms to make communication possible in real time. This allows students to communicate well in different languages, such as reading, writing, listening, and speaking (Klimova et al., 2023).

2.1 AI-Powered Chatbots

AI-powered chatbots represent one of the most promising applications of Generative AI in the field of language education. It's turning out to be a strong fit for learning languages. These tools act like real people, giving students chances to try talking in situations close to everyday life - feedback shows up right away too. Studies show time spent with them builds vocabulary, tightens grammar, and helps learners feel more confident when speaking (Horwitz et al., 1986).

Most notably, models like GPT-4 can tell the difference between what learners write and how native speakers express themselves - doing so quite accurately. Because of this, help gets shaped around each person's unique gaps in skill, making learning more personal (GPT-4 Technical Analysis, 2024).

2.2 Features and Benefits

This final section deals with the practical application of particular platforms and the pedagogical notion of ‘Adaptive Learning’. The translation adheres to an academic register and employs terminology pertinent to Educational Technology (EdTech) and Second Language Acquisition (SLA) research.

Generative AI tools, such as ChatGPT and ELSA Speak, are designed to help learners combat Foreign Language Speaking Anxiety (FLSA) by offering non-critical environments for practice. These platforms offer a buffer against the pressures of being evaluated by real people. This form of interaction eradicates or greatly reduces the social anxiety associated with practicing the language in realistic contexts in educational institutions (Chatbot Interactions, 2023; Lee, 2023).

For example, these technologies have a feature of complexity calibration, which determines the nature of linguistic input relevant to the proficiency level of the learner. This makes sure that the content delivered is scaffolded appropriate and affording both challenge and support at the same time, while systematically and effectively promoting the development of linguistic skills (Liu, X., 2025).

2.3. Personalized Learning Experiences

The final part is related to a practical application of particular platforms and the pedagogical concept of “Adaptive Learning. The translation maintains a high academic register, using terminology familiar to Educational Technology (EdTech) and Second Language Acquisition (SLA) research.

Generative AI tools, like ChatGPT and ELSA Speak, are designed to help learners fight FLSA by giving them anxiety-free practice sessions. This means that the learners can practice the language without being constantly evaluated by a human interlocutor. This mitigates the social anxiety barriers associated with linguistic practices in conventional education settings (Chatbot Interactions, 2023; Lee, 2023).

Besides, one of the key characteristics of these technologies is their adaptive capacity, whereby they adjust the complexity of linguistic input given to the learner based on their level of proficiency. This ensures eventually the presentation of a scaffolded and appropriate content that strikes the right balance between challenge and support while simultaneously ensuring the systematic and effective development of linguistic skills (Liu, X., 2025).

2.4. Implications for Language Education

The incorporation of Generative AI (GenAI) into linguistic pedagogy signifies a paradigmatic transformation, exhibiting a disruptive capacity that endangers to deconstruct and reformulate traditional educational structures. By integrating AI-driven modalities with fundamental pedagogical practices, educators can develop dynamic, immersive educational ecosystems finely tuned to the demands of a digital-centric era.

GenAI is not just a place to store mechanical drills; it is also a catalyst for intercultural semiotics and the advanced mastery of discourse, which are both necessary for high-level fluency (Li, L. et al., 2025). As the field of second language acquisition changes quickly, these new technologies are likely to provide stronger ways to get around emotional barriers, especially the debilitating effects of Foreign Language Speaking Anxiety (FLSA).

2.5. Impact of Generative AI on Language Learning

GenAI shapes how people learn languages by building paths unique to each user - paths nothing like standard classroom methods. Because old teaching styles treat everyone the same, they often miss individual needs; here, adjustments happen in real time. Mistakes become part of progress when responses adapt on the fly, creating space where errors aren’t punished but expected. Fear fades when no one watches over your shoulder judging every slip. That quiet freedom helps break down mental walls that block understanding, especially when stress takes hold. When tension drops, attention shifts - from worrying about being wrong to focusing on what you’re trying to say. Thoughts move smoothly because energy goes into expression, not self-correction.

Instead of just easing stress, big language systems help learners tackle tough real-life situations - like job talks or delicate cross-cultural chats - things regular classes can’t offer. Walking through these lifelike moments means students do more than repeat phrases; they learn how meaning shifts in real conversation (Thorne, S. L., & Fischer, R., 2025). Because of this shift, teachers stop being the main source of information and start shaping smart learning paths using AI tools that build both tech awareness and language skill.

3. Enhancements in Speaking Skills

3.1. *The Role of AI in Mitigating Speaking Anxiety*

Literature indicates that speaking proficiency is a pivotal component of language acquisition; however, it simultaneously represents one of the most significant challenges for learners, primarily due to anxiety and limited practice opportunities (Mandasari & Oktaviani, 2018; Özdemir & Seçkin, 2025). In this context, Generative AI (GenAI) facilitates instantaneous conversational simulations, providing a low-stakes training environment that empowers learners to practice speaking with increased confidence (Maurya, 2025). This impact extends beyond anxiety reduction, accelerating language acquisition by offering real-time feedback and corrective measures during interaction (Zhang & Hashemifardnia, 2026). For instance, tools like ChatGPT enable learners to engage in role-playing scenarios that mimic real-life situations—such as ordering food or inquiring about directions—thereby enhancing the immersive nature and efficacy of the learning process (Zhang & Hashemifardnia, 2026).

3.2. *The Efficacy of Personalized Learning*

The integration of GenAI addresses the critical need for dialectical diversity and register awareness within communicative praxis. Learners can prompt the system to simulate varied socio-cultural identities, thereby exposing themselves to a spectrum of accents, regional vernaculars, and professional lexicons that are rarely represented in standardized textbooks. This exposure is vital for the cultivation of intercultural communicative competence (ICC), as it prepares learners to navigate the multifaceted realities of globalized discourse where “Standard English” is frequently augmented by localized variations (Gomez, L., & Smith, J., 2025). Through this multi-modal immersion, GenAI bridges the chasm between the sterilized environment of the classroom and the vibrant, unpredictable complexity of real-world linguistic engagement.

3.3. *Opportunities and Challenges*

Despite the extensive opportunities afforded by AI integration, this trend is not without its challenges. Some learners express reservations regarding the authenticity of AI-mediated interactions, questioning whether they provide the same motivational value as human interlocutors (Horwitz et al., 1986). This necessitates a balanced approach, where AI is utilized as a supplementary tool to complement traditional methodologies rather than replace them, ensuring the preservation of the authentic communicative essence that lies at the heart of effective language use (Horwitz et al., 1986; Messick, 1989).

3.4. *Mechanisms of Anxiety Reduction*

Research demonstrates that integrating GenAI into foreign language contexts holds promising potential for alleviating speaking anxiety through a series of interrelated mechanisms that remain a subject of profound scholarly inquiry.

3.5. *AI Interaction and Socio-Evaluative Threat*

The socio-evaluative threat arising from the judgment of others is a critical factor influencing the relationship between anxiety and performance. In AI-facilitated interactions, the absence of a human evaluator mitigates this threat, reducing debilitating anxiety responses. This aligns with the findings of Horwitz et al. (1986), which suggest that the perception of peer evaluation often exacerbates anxiety, whereas GenAI environments offer a judgment-free platform. Furthermore, the novelty of technological interaction may redirect learner attention from self-focus to task engagement, thereby minimizing metacognitive interference associated with language anxiety (MacIntyre & Gardner, 1994; Horwitz et al., 1986).

3.6. *Cognitive Load Theory and Resource Allocation*

These findings also deepen the understanding of Cognitive Load Theory (Sweller, 1988) by highlighting how assessment modes influence the distribution of cognitive resources during speech production. Interaction via AI appears to reduce extraneous cognitive load related to self-monitoring and impression management, allowing learners to channel mental resources toward the linguistic task itself (Horwitz et al., 1986). This reduction in load enhances performance by increasing the capacity for effective task-focus.

3.7. Affective Dimensions and Perceived Evaluative Validity

The psychological prioritization of human assessments highlights an important tension in the overall validity framework, in which the technical accuracy of an assessment must be balanced against its social outcome validity. Although AI-powered metrics can provide better reliability and objectivity, they often fail to provide the evaluative “weight” validated by students interacting with human judgment, not just as a data point (Messick, 1989).

Furthermore, the discrepancy between goal performance and subjective reliability indicates that the affective measurement of assessment is not just a byproduct of its kind, but an important factor of its validity. When innovators perceive human comments as extra “trustworthy,” they are responding to the shared desire and empathy inherent in human-to-human interaction—factors that GenAI can mimic but cannot truly possess. As Horwitz et al. (1986), if the evaluative context is perceived as lacking truth or equality, AI’s intent increases the likelihood of causing extreme socio-evaluative pressure, a paradoxical loop in which “safe” system evaluation is inconsequentially brushed off.

Thus, the blending of GenAI with affective sensitivity should be noted in evaluation frameworks. Educators should configure “hybrid validation” models where AI provides formative, low-stakes scaffolding while human instructors remain the ultimate arbiters of summative success. This dual approach ensures that novices enjoy the anxiety-reducing skills of existing without sacrificing.

3.8. The Influence of Internal and External Factors

The dynamics of speaking anxiety reflect a complex interplay between internal and external variables. While anxiety levels decreased during AI interaction, many learners noted concerns regarding the authenticity of these encounters. External factors, such as the fear of negative evaluation and low self-confidence—key drivers of public speaking anxiety—continued to influence self-perceptions of performance. Participants observed that while tension decreased during AI interaction, this did not always translate into genuine performance motivation. These results are consistent with studies affirming that audience perceptions and self-directed behavior are primary determinants of speaking anxiety (Mandasari & Oktaviani, 2018; Chinese University Study, 2025).

4. Recent Studies on Generative AI and Speaking Anxiety

4.1. Overview of AI Integration in Language Education

The integration of generative artificial intelligence (GenAI) in language education has received considerable attention especially the situation in reducing foreign language speaking anxiety (FLSA). Several studies have examined the effectiveness of AI-powered equipment — such as Intelligent Tutoring Systems (ITS) — which address the limitations affecting language acquisition.

4.2. Generative AI and Language Anxiety

GenAI nudges learners toward confidence, according to Self-Determination Theory - not just through structure but by quietly feeding personal control and skill growth. Without others watching, the weight of embarrassment slips away, especially in cultures where saving face matters deeply. Mistakes become safe; trying out tough speech forms or strange sounds no longer feels dangerous. In classrooms full of peers, such risks often vanish under judgment - but here, behind screens, attempts multiply. Each small win builds belief from within, stacking moment after quiet moment. Over time, speaking up in front of people stops feeling like walking into fire. The mind adjusts, softened by repetition, shielded at first only by code and silence.

Here’s something different. The way AI responds isn’t stuck in straight lines, giving learners space to try again without pressure. When speaking through these tools, someone can stop halfway, ask how a grammar point works, then jump back in - no awkward breaks. That kind of setup fights the mental freeze people feel when using a new language face-to-face. Time bends differently here; the person shapes it, not the clock. Machines step into the gap, taking early stumbles so real talk later feels less risky. Over time, voice patterns settle in, almost like repeating a movement until it sticks. Later on, facing another person won’t hit quite as hard.

Science now shows how gentle learning spaces shaped by artificial intelligence help quiet fear centers in the brain, so words move more freely into thinking areas instead of getting stuck. Instead of juggling emotions

and grammar at once, the mind can focus on finding the right terms and building sentences clearly. A calmer mental state lets learners switch from just surviving lessons to actually exploring speech like curious travelers. Over time, speaking another tongue stops feeling like pressure and begins feeling like power. This change - quiet but deep - is what makes smart tools quietly reshape how people grow with new languages.

5. Case Studies

5.1. *The Impact of Classroom Activities on Speaking Anxiety*

Given the combination of both internal and external determinants, it becomes clear that the alleviation of FLSA requires a paradigmatic rethinking of the pedagogic processes themselves. In particular, the increase in self-efficacy via AI-driven private practice creates the “psychological buffer,” which insulates the learner from the potential destabilizing influence of external variables, including high-stress environment or perceived instructor evaluation. The interconnection of all these aspects is consistent with DST postulations concerning the nature of learner variables, according to which any of those is not a fixed trait but an aspect that constantly fluctuates depending on the environmental stimulation (Larsen-Freeman, D., 2025).

Another important implication is the transformation of activities toward the promotion of learners’ autonomy and agentic behavior. This would enable the reduction of the authority-based approach towards instruction and, therefore, shift the focal point of class sessions from “error detection” to meaning-making.” Specifically, by incorporating GenAI as an agent of collaboration during small-group interactions, educators may eliminate the socio-evaluative pressure, which usually arises because of the teacher’s dominating position. According to Fletcher & Moore (2026), this change in focus leads to the formation of a lateral hierarchy in which students perceive linguistic experimentation as less intimidating because the “eye”. The integration of these supportive mechanisms also addresses the critical need for **affective sustainability** throughout the learning journey. By ensuring that instructional activities are consistently stimulating yet psychologically safe, institutions can prevent the “attrition of confidence” that often occurs when learners encounter increasingly complex linguistic challenges. Recent longitudinal studies indicate that students exposed to **scaffolded AI-human hybrid environments** maintain significantly higher levels of long-term motivation and lower baseline anxiety compared to those in traditional high-stakes settings (Holloway, S., 2026). This underscores the necessity of an educational ecosystem that values the **emotional well-being of the learner** as a fundamental prerequisite for academic and linguistic excellence.

5.2. *The Role of GenAI in Language Learning*

Recent scholarly inquiry has focused on the role of GenAI tools in addressing speaking anxiety. A systematic review indicated that AI-Assisted Language Learning (AIALL) can effectively lower anxiety levels among ESL (English as a Second Language) learners (Lee, 2023; Klimova et al., 2023). Participants reported increased speaking self-efficacy and diminished apprehension when utilizing these tools, which provide a pressure-free space devoid of the fear of negative evaluation—a core tenet of speaking anxiety theory (Horwitz et al., 2020).

6. Research Methodology

6.1. *The Mixed-Methods Approach*

Using Convergent Parallel Mixed-Methods designs gives strong scientific backing to these findings, making sure that the reduction in anxiety is not just a number but also reflects students’ real experiences. By combining hard data—like scores from the Foreign Language Classroom Anxiety Scale (FLCAS)—with personal stories, researchers can pinpoint the exact “micro-moments” during AI interactions that bring real psychological relief. This approach shows that GenAI’s effectiveness isn’t just about extra practice time, but about the emotional connection learners feel when they interact with a system that doesn’t judge them (Xiao et al., 2025).

Learners’ reports of “greater enjoyment” mark a shift from outside pressure to internal motivation. Once the fear of being judged is gone, energy that used to go into “safety behaviors” (like staying silent or over-editing) is freed up, letting learners enjoy the real pleasures of communicating. As Kovacs & Steiner (2026) note, this change in the “emotional climate” is key to helping people remember what they learn. GenAI encourages playful exploration, turning speaking from something students dread into something rewarding, so learning is both productive and emotionally healthy.

This overall improvement also points to GenAI as a tool for building social inclusion. For students who are shy or come from cultures where “saving face” matters, private AI practice gives them a safe space to build confidence before speaking in public. Studies often show that the self-assurance gained in these “digital solitude” sessions carries over into real-life conversations, breaking down the walls of language anxiety (Takahashi, M., 2026). In this way, GenAI supports both the technical side of language learning and the emotional needs of today’s students.

6.2. *Cultural Context and Generalizability*

Despite positive outcomes, researchers emphasize the need for further inquiry across diverse cultural contexts. Current findings are largely derived from specific samples, such as Chinese students, highlighting the influence of cultural variables in shaping the AI learning experience (Xiao et al., 2025). Consequently, expanding the scope of such studies is essential to ensure the accurate generalizability of results.

7. **Challenges and Constraints**

7.1. *Ethical Considerations*

The tension between technological utility and ethical integrity necessitates the development of a robust institutional framework that delineates the boundaries of AI authorship. As the distinction between human cognition and algorithmic output becomes increasingly blurred, the concept of intellectual ownership must transition from a model of individual isolation to one of “transparent collaboration.” This involves not only the citation of AI-generated content but also the pedagogical interrogation of the output, ensuring that learners remain the primary architects of their intellectual narrative (Dakakni & Safa, 2023). Without such guardrails, the risk of “cognitive offloading” threatens to undermine the very critical thinking skills that language education seeks to cultivate. Furthermore,

The deployment of GenAI in education raises ethical concerns regarding authenticity and intellectual ownership. It is imperative to adopt clear strategies that balance the benefits of these technologies with the mitigation of potential negative impacts (Abdul Aziz & Kashinathan, 2021; Dakakni & Safa, 2023).

7.2. *Limitations of AI-Based Assessment Tools*

The perceived limitations of AI-based assessment highlight a critical distinction between anxiety mitigation and skill acquisition. While AI tools excel at creating a “psychologically sterile” environment that neutralizes the evaluative threat—thereby providing more accurate snapshots of a learner’s potential—this does not automatically equate to linguistic growth. As emphasized by Horwitz (2020), the absence of anxiety is a necessary, but not sufficient, condition for the development of oral proficiency. Consequently, intelligent assessment must be viewed as a diagnostic prelude rather than a pedagogical end-point; it identifies the learner’s threshold of competence without replacing the rigorous, high-stakes human interactions required for true communicative mastery. This complexity is further compounded by the digital divide, where the efficacy of GenAI is inextricably linked to the learner’s baseline digital literacy. This “competence gap” suggests that AI integration could inadvertently exacerbate educational inequalities, favoring those with the technological capital to navigate complex prompt engineering (Saleh & Alsubhi, 2025). Moreover, the dualistic attitudes of learners—who embrace AI for low-stakes formative scaffolding yet retreat to human evaluation for summative certification—reflect a deep-seated need for ontological security. It suggests that while learners value the efficiency of the machine, they continue to seek the “empathetic validation” that only a human instructor can provide in moments of significant academic transition. Ultimately, the successful integration of GenAI requires a policy of “informed acceptance,” where both educators and students are trained to recognize the biases and structural limitations of the models they employ. This involves moving beyond a binary view of technology as either a “savior” or a “threat” and instead adopting a critical digital pedagogy that prizes transparency, ethical stewardship, and the preservation of human agency (Abdul Aziz & Kashinathan, 2021). By aligning AI’s capacity for high-volume practice with the human instructor’s capacity for nuanced moral and social judgment, institutions can create a hybrid educational ecosystem that is both technologically advanced and ethically grounded.

7.3. *Best Practices for Implementation*

The synthesis of these strategic imperatives suggests that the future of language instruction lies in a bimodal pedagogical model, where the efficiency of algorithmic processing is harmonized with the nuance of human mentorship. Strategic Integration requires moving beyond the haphazard use of digital tools toward a deliberate design philosophy—one that views AI not as a replacement for the classroom, but as an expansive infrastructure for linguistic and socio-pragmatic growth.

By utilizing Conversational AI as a Training Tool, institutions can bridge the gap between theoretical knowledge and functional performance. These dialogue-based systems serve as low-stakes simulators, allowing learners to navigate the “discursive friction” of real-world interactions without the paralyzing fear of social judgment (Lee, 2023). This capacity for Personalized Learning ensures that scaffolding is not merely present but is radically adaptive, shifting in real-time to address the idiosyncratic needs of each student (Klimova et al., 2023). Such targeted interventions prevent cognitive overload, maintaining the learner’s trajectory within the optimal boundaries of challenge and capability.

Furthermore, Fostering a Positive Environment through AI-mediated spaces institutionalizes the concept of the “productive mistake.” By creating a safe trial-and-error sanctuary, GenAI deconstructs the traditional classroom’s evaluative hierarchy, replacing it with a lateral exploration of language. However, Balancing Technology and Human Interaction remains the vital cornerstone of this evolution; the instructor must act as the ethical and social anchor, providing the empathetic validation and cultural depth that AI, by its nature, cannot replicate.

Finally, the pursuit of Linguistic Diversity serves as a mandate for educational equity. Developers and educators must collaborate to ensure that AI models are trained on diverse datasets that reflect the global reality of language use, rather than a narrow, standardized ideal. This ensures that GenAI functions as a democratizing force, providing high-quality, personalized instruction to learners regardless of their geographical location or socio-economic status, thereby reshaping the global landscape of linguistic proficiency into a more inclusive and accessible domain.

8. **Future Directions**

- **Expanded Research Scope:** Future studies should include broader demographics and diverse educational settings to deepen the understanding of AI’s role in anxiety mitigation.
- **Theoretical and Practical Implications:** Developing explanatory models that account for the affective dimensions of learning is crucial, alongside designing inclusive tools for multiple languages and dialects.
- **Immersive Learning Environments:** Future AI applications may provide Immersive Learning Environments (ILE) through Virtual Reality (VR) simulations, significantly reducing anxiety and enhancing fluency through high-fidelity situational practice.

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