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AI-IDLE-Enabled Practice as a Transfer Mechanism for Speaking Anxiety Reduction in Pakistani ESL Contexts

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Abstract: AI-mediated Informal Digital Learning of English (AI-IDLE) is increasingly relevant for ESL learners seeking low-pressure opportunities to practise speaking beyond formal classrooms. This qualitative descriptive study explored how Pakistani adult ESL learners perceived the role of AI-based applications in managing speaking anxiety and strengthening speaking self-efficacy. The study involved ten undergraduate ESL learners at the University of Swabi, Khyber Pakhtunkhwa, Pakistan, who used ChatGPT, Copilot, and Grok for informal English practice. The data were collected through participant-generated artifacts, including 44 AI chat screenshots and approximately 78 minutes of voice-chat recordings, as well as semi-structured interviews totaling approximately 238 minutes. The data were analyzed using systematic thematic analysis. The findings revealed that learners perceived AI-IDLE as a safe and supportive rehearsal space where they could practise speaking, make mistakes, receive corrective feedback, and prepare for classroom tasks without fear of ridicule or negative judgment. Repeated AI-guided practice through role-play, vocabulary rehearsal, pronunciation work, and pre-presentation preparation helped learners develop perceived communicative competence and stronger speaking self-efficacy. These gains were associated with reduced pre-task anxiety prior to presentations, vivas, tests, and academic interviews. However, AI rehearsal did not fully remove anxiety rooted in classroom social hierarchies, peer judgment, high-stakes assessment, and unequal speaking opportunities. The study suggests that AI can serve as a meaningful speaking partner in ESL learning when used as an informal rehearsal tool, supported by teacher feedback, ethical guidance, and learner-driven practice routines.

Keywords: AI-IDLE; speaking anxiety, self-efficacy, informal digital learning of English, ChatGPT, ESL learners, Pakistani higher education.

1. Introduction

Speaking anxiety is a significant issue that hampers the development of ESL learners' oral communication skills in Pakistan. This problem is closely linked to an educational system that remains strongly influenced by rote learning, high-stakes testing, and social pressure, where English proficiency is often associated with academic success, social status, and upward mobility. In such classrooms, anxiety commonly appears through the three components of Foreign Language Classroom Anxiety (FLCA): communication apprehension, fear of negative evaluation, and test anxiety (Horwitz et al., 1986; MacIntyre & Gardner, 1991). Communication apprehension occurs when learners fear making mistakes in speaking situations, particularly when opportunities for authentic practice are limited (Horwitz et al., 1986; Lee, 2021). Fear of

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negative evaluation intensifies when teachers and peers prioritize grammatical accuracy over communicative fluency, leading students to avoid oral participation (Dewaele & MacIntyre, 2014; Ubaid et al., 2025). Test anxiety is also intensified in exam-oriented systems, where speaking performance is often judged rather than developed, thereby weakening learners' confidence and willingness to communicate (Yusefzadeh et al., 2019; Ahmed et al., 2017). Local studies further indicate that speaking anxiety is widespread in Pakistani ESL contexts, particularly in teacher-centered classrooms and in learning environments where "good English" is treated as a marker of prestige. Urban-rural disparities, limited resources, and restricted opportunities for interaction also reinforce an evaluation culture that prioritizes memorization over meaningful communication (Ahmed et al., 2017; Gopang et al., 2017; Kalsoom et al., 2020).

The self-efficacy model proposed by Bandura et al. (1999) provides a useful lens for understanding how learners' beliefs about their own competence influence their anxiety and performance. When learners perceive themselves as capable of completing speaking tasks, they are more likely to participate actively, manage nervousness, and recover from mistakes. In ESL contexts, higher self-efficacy has been associated with lower fear of negative evaluation and stronger engagement in communication (MacIntyre et al., 1998). This perspective complements the FLCA model by explaining how traditional classroom practices may weaken learners' confidence, whereas supportive, low-pressure learning environments may strengthen it (Dewaele & MacIntyre, 2014). In this regard, Lee's Informal Digital Learning of English (IDLE) framework is particularly relevant because it highlights how learners engage with English beyond formal classroom instruction through intracurricular, extracurricular, and extramural digital activities (Lee, 2021; Ertok, 2022). AI-mediated IDLE, or AI-IDLE, extends this framework by positioning tools such as ChatGPT, Copilot, and Grok as informal spaces for repeated, low-stakes, and relatively non-judgmental English practice. Such tools may provide learners with opportunities to rehearse conversations, receive language input, generate responses, and build linguistic confidence outside the pressure of classroom evaluation (Godwin-Jones, 2021; Zadorozhnyy & Lee, 2023).

In this study, AI-IDLE is understood as an enabling condition that provides learners with access to flexible digital speaking practice. In contrast, practice itself is viewed as the mediating process through which learners gradually build communicative competence. As learners engage more frequently with AI-based applications, they may develop greater self-efficacy, which can help reduce FLCA-related speaking anxiety. Thus, the relationship among AI-IDLE, practice, communicative competence, self-efficacy, and reduced speaking anxiety forms the conceptual basis of this study (Bandura et al., 1999; Lee, 2021). Although international research has increasingly shown that digital and AI-mediated practices can support speaking development and reduce language anxiety, important gaps remain at the intersection of IDLE, generative AI, and affective experiences in Pakistan's adult ESL sector (Godwin-Jones, 2021; Chen, 2022; Dooly, 2023; Fauziah & Diana, 2023; Zadorozhnyy & Lee, 2023; Zou et al., 2025). Existing local studies have examined classroom anxiety, pressure related to the language of instruction, and partial anxiety reduction through social media or web-based collaboration. However, they have not sufficiently explored learners' lived experiences of speaking apprehension during extramural engagement with AI-based tools, nor have they examined how non-judgmental AI-mediated practice may foster self-efficacy and help learners manage anxiety in high-stakes classroom environments (Ahmed et al., 2017; Asif et al., 2022; Gopang et al., 2017; Kalsoom et al., 2020).

Therefore, this study addresses this gap by investigating the experiences of Pakistani adult ESL learners at the University of Swabi who engage in AI-mediated informal digital English learning. Using a qualitative descriptive approach, the study explores learners' experiences of speaking anxiety in formal classroom contexts and their perceptions of the role of AI-based applications in developing self-efficacy and managing anxiety. The following research questions guide the study: RQ1: What are the experiences of speaking anxiety in the classroom among Pakistani adult ESL learners engaged in AI-mediated informal digital English

learning? RQ2: How do Pakistani adult ESL learners perceive the roles of AI-based applications, such as ChatGPT, Copilot, and Grok, in building self-efficacy and managing speaking anxiety?

2. Method

This qualitative descriptive study explored classroom speaking anxiety among Pakistani adult ESL learners engaged in AI-mediated informal digital learning of English (AI-IDLE), with particular attention to how AI tools such as ChatGPT, Copilot, and Grok may help reduce anxiety and support self-efficacy. The study was conducted during the Fall 2025 semester in the Department of English at the University of Swabi, Khyber Pakhtunkhwa, Pakistan. It focused on undergraduate adult ESL learners aged 21–25, for whom English proficiency is important for academic progress, communication, and future employment opportunities (Creswell & Poth, 2017; Lee, 2017). Ten adult ESL learners, comprising five males and five females, were purposively selected for their sustained engagement with AI-IDLE (Campbell et al., 2020). The selection criteria ensured gender balance, active use of the target AI tools, and the reporting of experiences of classroom speaking anxiety. This criterion-based purposive sampling was intended to maximize experiential depth and variation rather than to pre-confirm particular outcomes. The participants varied in anxiety intensity, frequency of AI engagement, and academic performance levels, allowing the study to capture diverse experiences of AI-supported informal English learning (Olson, 2016; Yasmine et al., 2021). Their first-person accounts provided insights into how informal digital practices were connected to changes in classroom confidence, which aligns with Bandura's self-efficacy model (Bandura et al., 1999).

Data were collected through two main sources: participant-generated artifacts and semi-structured interviews, which were used for triangulation (Throne, 2024; Wallwey & Kajfez, 2023). The artifacts included at least three screenshots from each participant, totaling 44 screenshots, which documented AI interactions such as chat logs, prompts, and responses. In addition, participants submitted audio recordings of AI-based conversations, totaling 78 minutes and 19 seconds, with the longest at 9 minutes and 2 seconds and the shortest at 6 minutes and 1 second. These artifacts provided tangible evidence of learners' low-stakes practice with AI tools (Alvarez, 2016; Edwards & I'Anson, 2020). The semi-structured interviews were conducted with all ten participants via Zoom and focused on their AI-IDLE routines, emotional responses, perceptions of self-efficacy, and transfer of confidence to classroom speaking situations. The interviews lasted a total of 238 minutes and 27 seconds, ranging from 17 to 28 minutes, and produced 43,732 transcribed words (Fan et al., 2024; Flick, 2021; Godwin-Jones, 2021). The flexible interview format allowed participants to describe their experiences in depth while also enabling emerging themes to be explored during the conversations (Creswell & Poth, 2017).

The research procedures began with ethical approval from the University of Swabi Research Ethics Committee, followed by departmental consent and written informed agreement from the participants. Recruitment was conducted through announcements that emphasized voluntary participation, confidentiality, and the right to withdraw at any stage (Arifin, 2018). Participants submitted their artifacts over two weeks, while individual Zoom interviews were conducted within one month. With participants' permission, the interview sessions were audio-recorded, transcribed verbatim, and anonymized using pseudonyms and by removing identifying information. Artifacts were submitted through encrypted drives, and participants were invited to review their submissions for accuracy (Creswell & Poth, 2017). Confidentiality protocols were followed throughout the study, and potential psychological discomfort arising from discussions of anxiety was minimized through pre-briefings and debriefings (Connelly, 2014).

The data were analyzed using Naeem et al.'s (2023) systematic thematic analysis. Nowell et al.'s (2017) referential adequacy principle informed an additional validation step. The first phase involved transcription, data familiarization, and selection of relevant quotations. The second phase identified recurring keywords such as "non-judgmental feedback" and "rehearsal safety," representing participants' affective and learning experiences. The third phase assigned keywords as codes to meaningful data segments. The fourth phase organized codes into candidate themes, including competence building and efficacy transfer. At Step 4b, each

theme was cross-checked against digital artifacts for convergence or divergence. This operationalized referential adequacy as a trustworthiness measure. The fifth phase conceptualized relationships among keywords, codes, and themes in relation to the research questions and framework. The sixth phase developed a conceptual understanding of AI-IDLE and self-efficacy as pathways to FLCA reduction (Naeem et al., 2023; Nowell et al., 2017).

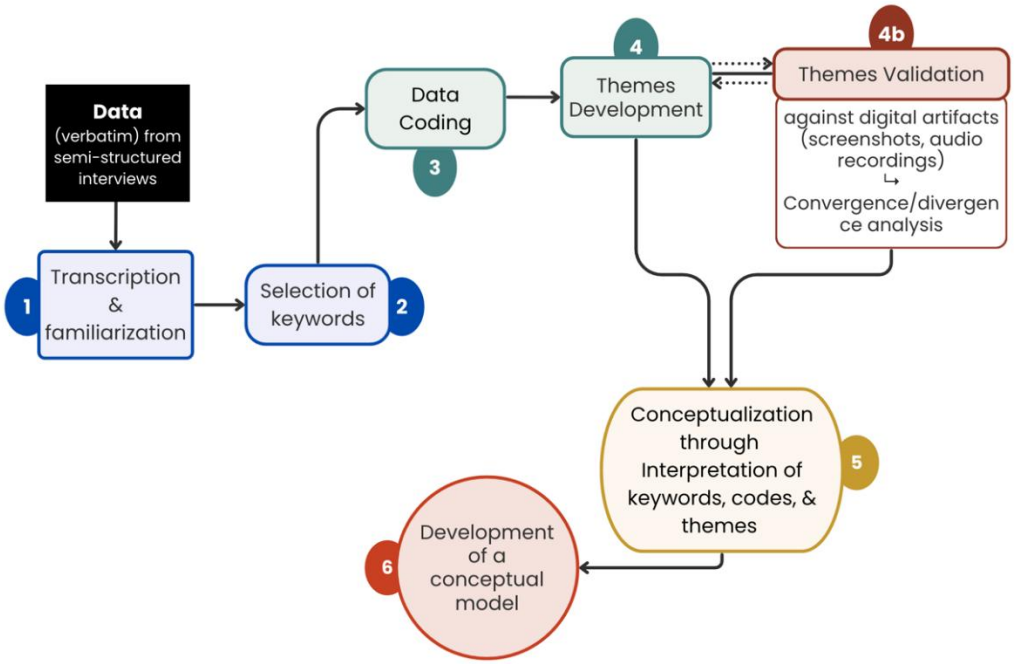

Figure 1. Six-Step Thematic Analysis Framework Adapted from Naeem et al. (2023) with Digital Artifact Triangulation (Step 4b) Following Nowell et al. (2017).

Trustworthiness and rigor were ensured through Lincoln and Guba's (1985) criteria of credibility, transferability, dependability, and confirmability (Loh, 2013). Credibility was achieved through methodological triangulation, in which participant-generated artifacts were used to corroborate claims made during interviews. For example, screenshot prompts and audio excerpts reflected the rehearsal practices described by participants, thereby reducing potential bias through cross-verification. Transferability was supported by providing detailed descriptions of the resource-constrained ESL context in Swabi, participant demographics, and the specific characteristics of AI-IDLE practices. Dependability was established through an audit trail comprising raw transcripts, codebooks, reflexive journals, and analysis memos that documented the researcher's decisions throughout the analytic process. Confirmability was strengthened through member checking, in which participants reviewed theme summaries and confirmed that the interpretations reflected their experiences. Minor clarifications from participants were incorporated into the final themes, and artifact consent forms were reviewed before submission (Connelly, 2014).

The study was guided by the assumption that participants would report their experiences honestly and that the AI tools would remain consistently accessible, as verified through logs and submitted artifacts. However, several limitations should be acknowledged. The small sample size of ten participants limits the transferability of the findings, and self-selection bias may have occurred because participants who used AI tools more actively were more likely to volunteer. In addition, retrospective accounts may have presented experiences more positively than they actually occurred. The study focused specifically on the emotional impact of extramural AI-IDLE and did not include quantitative FLCA scales or longitudinal tracking. No advanced statistical analysis was conducted, as the study's purpose was to explore participants' experiences in depth. Thematic saturation was reached with the eighth participant, suggesting that the data were sufficiently rich for qualitative interpretation. These methodological choices prioritized authenticity, depth,

and replicability rather than broad generalizability (Creswell & Poth, 2017). Ethical integrity was maintained throughout the study through pre-study ethical approval, informed consent, anonymity, encrypted data storage, restricted access, double anonymization, and transparent reporting through the consistent use of pseudonyms. The final findings were also shared with participants, reinforcing the study's trustworthiness and its contribution to ESL pedagogy in the Global South (Arifin, 2018; Creswell & Poth, 2017; Connelly, 2014).

3. Findings

3.1 Classroom Speaking Anxiety among Pakistani Adult ESL Learners

The findings show that participants' classroom speaking anxiety was shaped by fear of negative evaluation, fear of making mistakes, high-stakes speaking tasks, and limited opportunities for safe English practice. Learners repeatedly described English-speaking situations in class as socially risky because errors were not perceived merely as linguistic problems but as possible sources of embarrassment, ridicule, or personal judgment. One participant stated, **"***Our biggest fear of speaking English is being judged by others and to make mistakes***."** This response indicates that speaking anxiety was closely connected to the anticipation of being evaluated by classmates and teachers. Participants also distinguished between linguistic mistakes and social humiliation. For them, the classroom was not simply a space for language practice; it was also a space where mistakes could affect how others perceived their competence and personality. One participant explained, **"***People judge my personality on the basis of I made mistakes in conversation… and AI only judges my mistakes not my personality***."** This distinction is important because it shows that learners' anxiety was caused not only by limited knowledge of grammar, pronunciation, or vocabulary, but also by the social meaning attached to speaking English in a public classroom environment.

Anxiety was particularly strong before high-stakes speaking events such as presentations, vivas, tests, and interviews. One learner reported, **"***Sir, I'm feeling very anxious before the presentation or any interview or any test***."** Another learner described anxiety as strongest at the beginning of speaking: **"***I feel nervous at the starting point like initially but… when it's gone to flow, it's become easy for me to convey it***."** These accounts suggest that pre-task anxiety was a major barrier to oral participation. Once learners began speaking and gained momentum, anxiety could decrease, but the initial fear of being judged remained difficult to overcome. The findings also suggest that classroom anxiety was intensified by limited access to meaningful speaking opportunities. One participant linked this problem to regional and institutional conditions, stating, **"***We do not get so much opportunities to speak English with other people even in universities… if I was a student in Lahore or any big city… I would have get more opportunities to speak English***."** This response indicates that speaking anxiety was not merely an individual psychological issue; it was also shaped by unequal exposure to English-speaking environments and restricted opportunities for communicative practice.

Table 1. Sources of Classroom Speaking Anxiety among Pakistani Adult ESL Learners

Source of anxiety	Representative evidence	Interpretation
Fear of negative evaluation	"Our biggest fear of speaking English is being judged by others and to make mistakes."	Learners associated English-speaking mistakes with public judgment and embarrassment.
Peer and teacher judgment	"In the classroom, there are so many students and I'm thinking that someone laugh at me, teachers are also."	The presence of classmates and teachers intensified anxiety.
Personality-based judgment	"People judge my personality… and AI only judges my mistakes not my personality."	Learners feared that language errors would be interpreted as personal inadequacy.
High-stakes speaking tasks	"I'm feeling very anxious before the presentation or any interview or any test."	Presentations, vivas, tests, and interviews triggered strong pre-task anxiety.

Source of anxiety	Representative evidence	Interpretation
Limited speaking opportunities	"We do not get so much opportunities to speak English with other people even in universities."	Restricted access to authentic English practice reinforced anxiety and low confidence.

The first research question is therefore answered by showing that Pakistani adult ESL learners experienced speaking anxiety as a socially situated phenomenon. Their anxiety was linked not only to communication apprehension but also to fear of negative evaluation, public performance pressure, and limited access to supportive speaking environments.

3.2 AI-IDLE as a Rehearsal Space for Self-Efficacy and Anxiety Management

The second research question examined how learners perceived the role of AI-based applications in building self-efficacy and managing speaking anxiety. The findings indicate that participants perceived AI-IDLE as a low-pressure rehearsal space where they could practise speaking, make mistakes, receive feedback, prepare for classroom tasks, and strengthen their confidence before speaking in front of others. Three interconnected themes emerged: *AI as a non-judgmental practice partner, AI-guided rehearsal for perceived competence and self-efficacy, and partial transfer of confidence to classroom speaking tasks*.

Table 2. Thematic Summary of AI-IDLE Roles in Speaking Anxiety Management and Self-Efficacy Development

Theme	AI-IDLE function	Representative evidence	Interpretation
AI as a non-judgmental practice partner	Provides emotionally safe speaking practice	"AI doesn't judge me… a human being can mock you or criticize you."	AI reduced fear of ridicule and encouraged learners to practise without social pressure.
Supportive corrective feedback	Corrects errors in an affirming and non-threatening way	"AIs are so polite… they rephrase my mistake… saying that it is really okay to make mistakes."	Learners accepted correction more easily when feedback was emotionally supportive.
Dialogic rehearsal	Simulates classroom questioning and conversation	"I ask some questions from ChatGPT… then it suggests me some and then ask me some questions."	AI enabled interactive speaking practice beyond the classroom.
Competence building	Supports repeated practice and perceived improvement	"Before AI… I'm five out of ten and after AI, now I am eight out of ten."	Learners associated repeated AI practice with stronger self-belief.
Pre-task anxiety reduction	Helps learners prepare for presentations, vivas, tests, and interviews	"I use AI at that moment for presentation… my anxiety decrease a little bit."	AI rehearsal helped lower anxiety before high-stakes speaking tasks.
Persistent classroom anxiety	Cannot fully remove fear rooted in human judgment	"Being judged is my biggest fear."	Anxiety linked to peer judgment and classroom hierarchy remained resistant to AI practice alone.

The first theme shows that learners valued AI-IDLE because it reduced the social threat usually associated with classroom speaking. One participant stated, **"***AI is more supportive for me. AI doesn't judge me. AI doesn't ask for anything. So, I prefer to talk to AI as compared to a human being because a human being can mock you or can criticize you***."** This response shows that AI was perceived as safer than human interlocutors because it allowed learners to practise without fear of ridicule. Another learner emphasized the emotional tone of AI feedback: **"***AIs are so polite… they rephrase my mistake or tell me in a very polite manner and make me feel like they are not judging me… saying that it is really okay to make mistakes and human make mistakes and English*

*is not your first language so it's okay***."** These statements indicate that learners did not simply want correction; they wanted correction that preserved confidence.

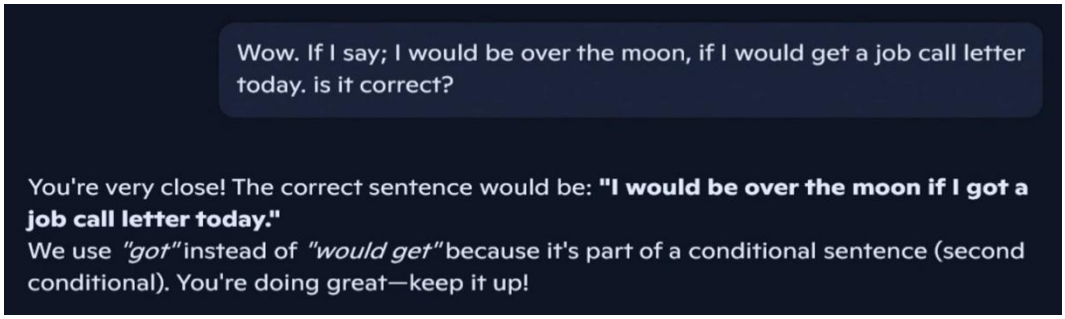

Figure 2. Supportive corrective feedback in AI-mediated speaking preparation

Figure 2 directly supports the theme of *supportive corrective feedback*. The artifact shows a learner asking ChatGPT whether the sentence "*I would be over the moon, if I would get a job call letter today*" was correct. ChatGPT first affirmed the learner's attempt, then provided a corrected version and a grammatical explanation. This example illustrates why participants perceived AI feedback as less threatening than classroom correction: it was corrective yet encouraging.

The second theme concerns AI-guided rehearsal and perceived competence building. Participants used ChatGPT, Copilot, and Grok for live conversations, pronunciation practice, vocabulary development, sentence correction, role-play, and preparation for classroom speaking tasks. One learner explained, "*I talk to them like on live call… along with that I record voices for evaluation and furthermore I also use it like I send some sentences to correct this structure or to give me the alternatives.*" This response shows that AI-IDLE was not limited to casual chatting; it became a flexible rehearsal environment that combined speaking practice, language correction, and self-monitoring.

Several learners reported improvement in perceived speaking competence after repeated AI practice. One participant stated, "*Before AI, sir, I'm five out of ten and after AI, now I am eight out of ten***."** Another reported, "*Before AI, it was about two to three and after AI, it's six to seven… practice makes you better. So, I was practicing with AI even a little bit but it helped me a lot.*" A third learner explained, "*At start… my English level, speaking level was kind of four or five… after the AI, I feel like seven or eight now***."** Although these self-ratings do not represent objective proficiency scores, they indicate that learners perceived repeated AI-mediated practice as contributing to stronger speaking self-efficacy. AI-IDLE was also used to prepare vocabulary and expressions before classroom communication. Participants asked AI tools to explain vocabulary, provide alternative expressions, and model more natural language use. This was particularly useful before presentations, discussions, or academic interviews.

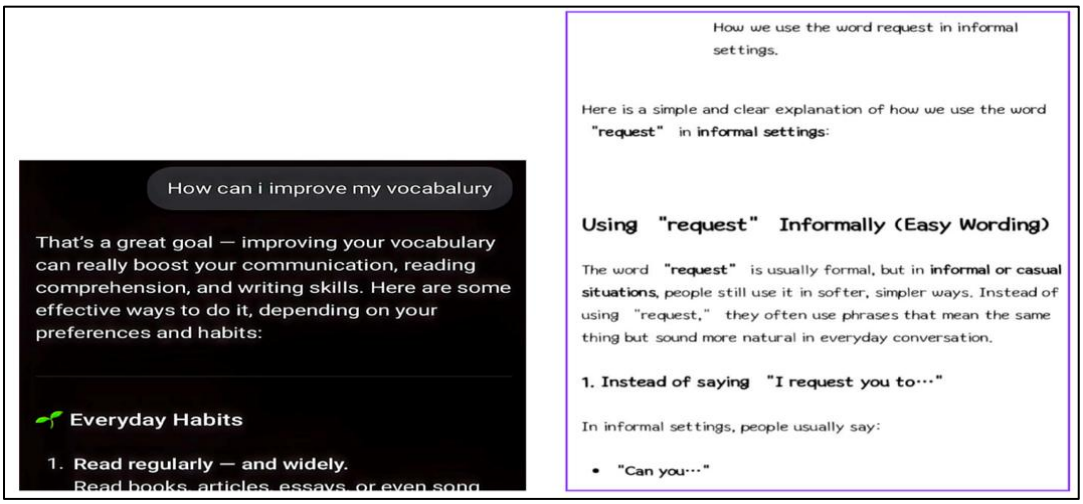

Figure 3. AI-supported vocabulary and expression practice for classroom speaking preparation

Figure 3 supports the finding that AI-IDLE helped learners prepare language before speaking tasks. The artifact shows learners asking AI tools questions such as "*How can I improve my vocabulary?"* and "*How we use the word request in informal settings*." These examples demonstrate that participants used AI not only for correction but also for vocabulary building, expression practice, and contextual language preparation.

The third theme concerns the partial transfer of AI-supported confidence to classroom speaking tasks. Participants reported using AI before presentations, tests, interviews, and vivas. One learner stated, "*Before I'm nervous because I want to practice on it… especially, I use AI at that moment for presentation*." Another explained, "*Sir, I'm feeling very anxious before the presentation or any interview or any test, so then I am asking some questions with ChatGPT… I'm also like a dialogue."* These accounts suggest that AI rehearsal helped learners anticipate possible questions, prepare responses, and reduce uncertainty before high-stakes speaking tasks. One participant summarized this effect by saying, "*Before I'm practicing with AI. So then my anxiety decrease a little bit."*

However, the confidence gained through AI practice did not fully remove classroom anxiety. Learners continued to experience fear of peer judgment, teacher evaluation, and public embarrassment. One participant admitted, "*Yes, I feel a lot… being judged is my biggest fear."* Another explained the partial nature of AI support: "*AI does not judge but it prepares me for real-life conversations… it prepares me for the test before the exam starts. So in the test I feel like yeah, I know this one and I speak about it without anxiety."* This indicates that AI-IDLE did not eliminate anxiety; rather, it helped learners feel more prepared. What transferred from AI practice to classroom speaking was not immunity from judgment, but greater readiness and perceived control. The artifact evidence strengthened the interview findings. The selected screenshots and voice-chat recordings showed that learners used AI tools in ways consistent with their interview accounts: they sought supportive correction, practised vocabulary and expressions, rehearsed possible responses, and repeated language before classroom tasks. Thus, the artifacts served as triangulated evidence that AI-IDLE functioned as a practical rehearsal space for speaking preparation.

4. Discussion

The thematic analysis yielded a conceptual model illustrating how AI-IDLE functions as an enabler of informal practice, which operates through three transfer mechanisms, builds perceived L2 competence and progressively reduces Foreign Language Classroom Anxiety (Figure 4).

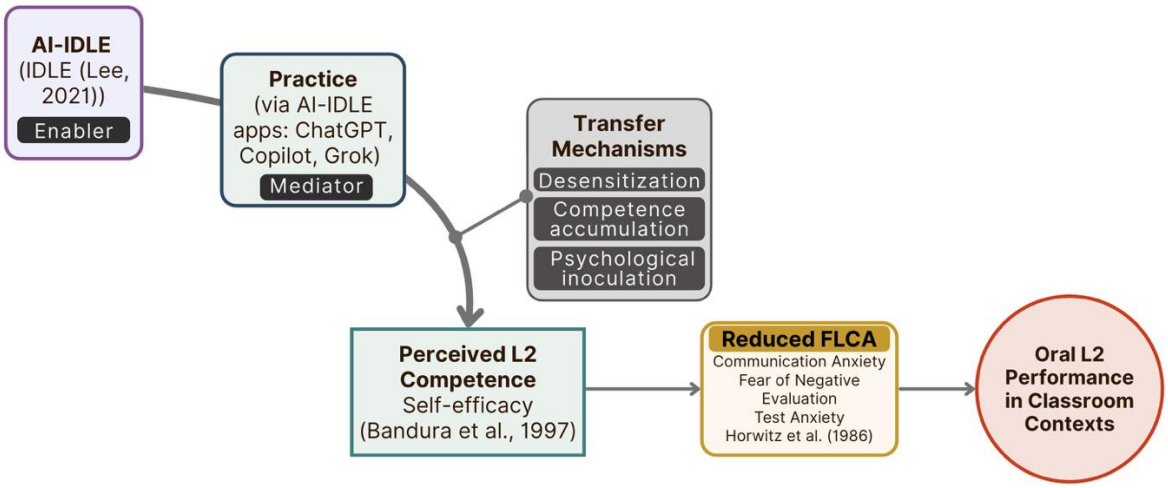

Figure 4. An Emerged Model of Anxiety Reduction through AI-IDLE Practice and Self-Efficacy Transfer

The findings of this study show that AI-mediated Informal Digital Learning of English (AI-IDLE) functioned as a supportive but partial pathway for managing speaking anxiety among Pakistani adult ESL learners. Participants experienced classroom speaking as socially risky because English errors were often associated with public embarrassment, peer judgment, teacher evaluation, and personal inadequacy. This pattern is consistent with the Foreign Language Classroom Anxiety (FLCA) framework, which identifies communication apprehension, fear of negative evaluation, and test anxiety as key affective barriers in language learning (Horwitz et al., 1986; Horwitz, 2001; MacIntyre & Gardner, 1991). In the Pakistani ESL context, these forms of anxiety are intensified by the prestige attached to English, exam-oriented learning, teacher-centered classroom cultures, and unequal access to meaningful speaking opportunities (Kalsoom et al., 2020; Ubaid et al., 2025). Against this background, learners' preference for ChatGPT, Copilot, and Grok as non-judgmental rehearsal partners becomes understandable: AI tools temporarily removed the evaluative gaze of peers and teachers, allowing learners to practise, make mistakes, and receive feedback without immediate social exposure.

The first major contribution of the study is to show how AI-IDLE reduces learners' fear of negative evaluation by creating a low-pressure practice environment. Participants repeatedly contrasted classroom speaking with AI-based practice, explaining that human interlocutors might laugh, criticize, or judge their personality, whereas AI corrected only their language mistakes. This finding resonates with Dewaele and MacIntyre's (2014) argument that language classrooms contain both anxiety and enjoyment, depending on how learners experience interaction, evaluation, and emotional safety. It also supports recent work on technology-enhanced language learning, which suggests that digital tools can reduce speaking anxiety by providing structured rehearsal, repeated practice, and reduced performance pressure (Asif et al., 2022; Chen, 2022; Gopang et al., 2017). However, the present study extends this line of research by showing that generative AI is not merely a digital resource for language input; it functions as an affectively responsive interlocutor whose tone, patience, and corrective style shape learners' willingness to practise. The artifacts also support this interpretation, showing that AI feedback often combined correction with encouragement, which helped learners remain engaged rather than withdraw from practice.

The findings also extend Lee's Informal Digital Learning of English (IDLE) framework by illustrating how informal English practice changes when mediated by generative AI. Earlier IDLE studies have emphasized learners' engagement with English through digital entertainment, social media, online videos, games, and other extramural practices (Lee, 2017; Lee, 2021; Ertok, 2022). In this study, AI-IDLE created a more dialogic and responsive form of informal learning. Learners did not merely consume English input; they interacted with AI tools, asked for corrections, rehearsed conversations, practised vocabulary, requested alternative expressions, simulated questions, and prepared for presentations or vivas. This aligns with research

suggesting that AI-mediated informal learning can support language development by offering personalized, interactive, and learner-driven practice opportunities (Godwin-Jones, 2021; Zadorozhnyy & Lee, 2023; Liu et al., 2024; Zou et al., 2025). In resource-constrained ESL settings where learners have limited access to fluent English-speaking partners, AI-IDLE may therefore operate as a bridge between private self-study and real communicative performance.

Participants' self-reported improvement in speaking confidence indicates that repeated AI-mediated practice contributed to stronger perceived communicative competence. From Bandura's self-efficacy perspective, learners' beliefs about their ability are shaped through mastery experiences, feedback, emotional states, and repeated opportunities to perform manageable tasks (Bandura et al., 1999). In this study, AI-guided rehearsal appeared to provide mastery-like experiences: learners practised speaking, received supportive correction, repeated responses, and entered classroom tasks feeling more prepared. Thus, the value of AI-IDLE lies not only in reducing anxiety directly but also in strengthening learners' belief that they can prepare, practise, and perform more successfully.

Nevertheless, the findings caution against treating AI-IDLE as a complete solution to speaking anxiety. Learners continued to report anxiety in classroom situations, especially when facing peer judgment, teacher evaluation, and high-stakes performance. This indicates that AI rehearsal reduced pre-task anxiety by increasing preparedness, but it did not fully eliminate anxiety rooted in human evaluation and classroom hierarchy. This limitation is consistent with studies showing that speaking anxiety is socially and institutionally produced rather than merely individually experienced (Ahmed et al., 2017; Gopang et al., 2017). The study therefore supports a balanced interpretation: AI-IDLE is useful as a supplementary rehearsal space, but its effect depends on broader pedagogical conditions, including supportive teacher feedback, reduced assessment pressure, peer encouragement, and more frequent opportunities for low-stakes classroom speaking.

The artifact evidence strengthens the credibility of this interpretation. The screenshots and voice-chat recordings showed that learners used AI for supportive correction, vocabulary development, informal expression practice, pronunciation rehearsal, and pre-task preparation. These artifacts are important because they triangulate interview claims and show that AI-IDLE practices were not only reported retrospectively but also visible in learners' actual digital interactions. Methodologically, this supports the use of participant-generated artifacts in qualitative research to capture learning practices that may not be fully accessible through interviews alone (Alvarez, 2016; Edwards & I'Anson, 2020; Wallwey & Kajfez, 2023). In the present study, the artifacts showed how learners transformed AI tools into rehearsal spaces for classroom speaking. They also revealed why learners experienced AI feedback as less threatening: correction was often immediate, private, repeatable, and emotionally buffered through supportive language.

These findings have several pedagogical implications. First, ESL teachers should recognize AI-IDLE as part of learners' broader English learning ecology rather than treating AI use only as an external or potentially problematic practice. Students can be guided to use AI tools for pre-speaking rehearsal, vocabulary preparation, role-play, pronunciation practice, and question prediction before presentations or discussions. Second, AI use should be accompanied by explicit ethical and pedagogical guidance because learners need to understand that AI feedback may be useful but not always accurate or contextually appropriate; a finding reinforced by studies on AI literacy among English language teachers in similar regional contexts (Godwin-Jones, 2021; Liu et al., 2024; Drajati et al., 2025). Third, classroom speaking tasks should be redesigned to reduce excessive evaluative pressure. Since learners' anxiety remained tied to public judgment, teachers should incorporate small-group rehearsal, peer support, non-punitive correction, gradual performance tasks, and constructive feedback routines. These strategies can help transfer confidence from AI-mediated rehearsal into human classroom interaction.

This study also contributes theoretically by connecting FLCA, self-efficacy theory, and IDLE within an AI-mediated framework. FLCA explains why learners avoid speaking in evaluative classroom settings (Horwitz

et al., 1986; MacIntyre & Gardner, 1991); self-efficacy theory explains how repeated successful practice strengthens learners' perceived capability (Bandura et al., 1999); and IDLE explains how informal digital environments extend English learning beyond the classroom (Lee, 2017; Lee, 2021). AI-IDLE connects these perspectives by providing a low-stakes digital space where learners can practise repeatedly, receive supportive feedback, build perceived competence, and approach classroom speaking with greater readiness. The pathway summarized in Figure 4 suggests that AI-mediated informal rehearsal provides a safe practice setting; repeated practice strengthens perceived competence; stronger perceived competence supports speaking self-efficacy; and increased self-efficacy helps reduce pre-task speaking anxiety. However, this pathway remains constrained by social and institutional factors, including assessment pressure, peer judgment, and unequal access to English-speaking opportunities.

Several limitations should be acknowledged. The study involved ten undergraduate ESL learners from one university in Pakistan, so the findings should be understood as context-specific rather than broadly generalizable. The study relied on qualitative interviews and participant-generated artifacts, which provided rich insight into learners' experiences but did not objectively measure changes in speaking proficiency or anxiety levels. However, future studies should combine qualitative accounts with assessments of speaking performance, FLCA scales, or longitudinal tracking. Future research should also compare guided and unguided AI-IDLE, examine learners with different levels of digital access, and investigate whether AI-mediated rehearsal leads to sustained reductions in speaking anxiety over time.

The central insight of this study is that AI can serve as a meaningful speaking partner by providing learners with a safe space to rehearse, fail, correct themselves, and try again. For Pakistani adult ESL learners, AI-IDLE helped reduce the emotional burden of preparing to speak and supported the development of self-efficacy. Yet the persistence of classroom-based anxiety shows that AI alone cannot resolve the deeper social and institutional pressures surrounding English-speaking. Its greatest value lies in its integration with supportive teacher feedback, reduced evaluative pressure, and deliberate opportunities for human communication. In this way, AI-IDLE can support speaking anxiety management not by replacing the classroom, but by preparing learners to enter it with greater confidence and control.

5. Conclusion

This study explored adult ESL learners' perceptions of AI-mediated Informal Digital Learning of English (AI-IDLE) and its role in their experiences of speaking anxiety at the University of Swabi, Pakistan. Participants' narratives and artifacts revealed that learners engaged ChatGPT, Copilot, and Grok for casual practice, pronunciation work, fluency exercises, and role-play rehearsal before high-stakes events. Learners perceived AI-IDLE as building their competence and speaking self-efficacy. Most participants reported feeling more prepared and less nervous before presentations, vivas, and interviews following AI rehearsal. However, anxiety rooted in fear of negative evaluation, limited opportunities to speak English, and regional educational inequalities continued to affect learners' confidence in classroom interactions with peers and teachers. Findings from this context suggest that for adult undergraduates in resource-constrained Pakistani ESL settings, AI-IDLE may serve as an affectively sensitive rehearsal space that supports anxiety management. Broader impact, however, depends on complementary conditions: more supportive teacher feedback, reduced assessment pressure, and institutional encouragement of learner-driven practice.

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7. Declaration of AI Use

The authors used Claude AI and Grammarly during the preparation of this manuscript. The tools were used to assist with language refinement, academic phrasing, and improving the flow of selected sections.

These tools were used solely for editorial and language support purposes. They did not contribute to the research design, corpus selection, data coding, multimodal analysis, interpretation of findings, or formulation of conclusions. The authors reviewed and approved all tool-assisted revisions and remain fully responsible for the accuracy, originality, analytical decisions, and scholarly integrity of the final manuscript.

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