



Vol. 3 No. 8 (August) (2025)

AI-Enhanced Language Education as a Therapeutic Tool: Exploring the Intersection of Psychology, Communication and Educational Management

Zartashia Kynat Javaid

Assistant Professor, Department of Applied Psychology, Government College University Faisalabad, Pakistan. E-mail: zartashiakynat@gcuf.edu.pk

Muhammad Ramzan

Department of English Linguistics, the Islamia University of Bahawalpur, Pakistan. Email: ramzanmalik122@gmail.com (Corresponding Author)

Khalida Sharif

Lecturer, Department of English, The Islamia University Bahawalpur, Bahawalnagar Campus Email: khalida.sharif@iub.edu.pk

Muhammad Kamran

Assistant Professor, Department of Education, University of Loralai, Pakistan. Email: muhammad.kamran@uoli.edu.pk

Abstract

AI integration in L2 learning and speech language therapy reshapes the education and clinical practice. The study is aimed to explore AI as a therapeutic tool by exploring intersection of psychology, communication and education management. The mix method focuses on communication anxiety, institutional governance, and language learners' proficiency by taking insights from speech language therapy, L2 pedagogy and clinical psychology. We conducted a 12 week AI mediated intervention in three institutions with 120 stratified learners of three stages. The quantitative measure was included standardized psychological assessment (GAD-7& Speech Communication Anxiety Inventory) and pre/post proficiency test. Qualitative analysis used policy document review and focus group which revealed three themes analyzed using thematic analysis technique. While AI facilitated individualized pacing and corrective feedback, gaps emerged in governance frameworks, particularly concerning bias audits, crisis response protocols, and data ethics. The Consolidated Framework for Implementation Research (CFIR) mapping highlighted alignment in intervention design but weaker process safeguards, underscoring the importance of human-in-the-loop supervision and institution-specific ethical protocols. The quantitative results concluded significant anxiety reduction ($p < .001$) and communication stress. It was found measurable proficiency gains in beginners. Therapeutic outcome and linguistic progress predicted to engagement metrics with valuable strength. The qualitative results prove dual benefits of learners' anxiety reduction and enhancement L2 mastery by sustaining engagement and teacher mediation. However, institutional readiness and governance remain lagging behind technological adoption. Finally, study contribute AI role in affective learning and self regulation. It also emphasizes on the need of teachers' training, policy evaluation and ethical safeguards.

Keywords: Artificial intelligence (AI); second language acquisition (L2); therapeutic language learning; communication anxiety; self-efficacy; educational management; speech-language therapy;

Introduction

The application of AI technology in learning languages education is of great concern to educators in therapeutic innovation and implementation on a large



Vol. 3 No. 8 (August) (2025)

scale because it is more than a matter of creating new pathways (Lyu et al., 2025; Wiboolyasarini et al., 2025). In the field of second language acquisition (L2), the development and utilization of AI-powered applications such as chatbots and intelligent tutors has been beneficial (Akram & Abdelrady, 2023, 2025), although the design and evaluation processes in its implementation are quite different (Li et al., 2025). Moreover, large language models (LLM) and AI-powered conversational agents are being tested by use of certain applications in mental health and speech language fields, including CBT, coaching, post-stroke aphasia and speech sound interventions (Guo et al., 2024; Hua et al., 2025; Zhong, 2024). They raise the possibility that AI-enhanced language education can also provide therapeutic aid to support affective control, pragmatic communication, and rehabilitation towards various goals, of course, within the necessary safeguards (Hua et al., 2025; Benway & Preston, 2024).

The applicability of clinical psychology to the language classroom is becoming more pronounced due to the fact that many modern AI technologies integrate communication practice (dialogue, role-play, pragmatic feedback) (Abdelrady et al., 2025) with therapeutic elements (behavioral activation, cognitive reframing, self-monitoring) (Sohail & Akram, 2025; Zhong et al., 2024; Feng et al., 2025). AI-powered therapy chatbots have been shown to reduce anxiety and depressive symptoms (Karkosz et al., 2024). In parallel, automating practice is exemplified by AI-assisted assessment and therapy, such as NLP-based screening for language deficits, which offers real-time feedback on articulation, connecting rehabilitation to communication training in the educational setting (Rani, 2024). These advancements, in conjunction with prior innovations in AI for language education, foster a more comprehensive research L2-learners language therapy framework that extends beyond proficiency toward the triadic communicative competence model, seeking to address numerous therapeutic objectives like reduction of communication anxiety, enhanced social-pragmatic skills, and improved wellness (Costantino, 2023).

Effective educational governance is crucial for system level integration (Sunjarjo et al., 2024). Governance and ethics are the primary focuses for the Gen A AI pilot overseers, which aligns with the necessary AI policy of being safe, effective, privacy-respecting, explainable, and serving educational goals (Dussealt et al., 2025). UNESCO reinforces prerequisite AI equity by centering human relationships important to language and psychological support. AI needs to improve human relationships as integral to language and psychological support (Li et al., 2025). Actionable, albeit nuanced governance within organization, leadership, staff preparedness, and AI adoption as reframing responsibly scalable intervention is still within not outside the realm of intervention across schools and programs (Reardon et al., 2025). Governance still needs to grapple with social and therapeutic AI chatting as adolescent usage patterns alongside newer safety hazards (Klarin et al., 2024).

Turning to AI chatbots, their capability to facilitate speech, writing, and lexicon development through basic level instruction and adaptable feedback has been noted (Li et al., 2025; Xu et al., 2025). In addition, suggestion pedagogy and educator collaboration align the aforementioned advantages (Lyu et al., 2025). The functioning of these mechanisms is akin to therapeutic logics, such as the provision of repeated exposure, immediate corrective feedback, and reflective pause, which, in speech focused therapies, have long been deemed the active



Vol. 3 No. 8 (August) (2025)

ingredients (George, 2023). Similar concerns arise regarding AI coaching and monitoring, specifically regarding data management, bias, handling crises, and LLM output “black-boxes” (Guo et al., 2024). These concerns are particularly important when monitoring shifts from practice to wellness claims and are critical for the integration of AI into education for risk management, transparency, and perpetual outcome evaluation embedded within institutional quality systems. Thus, therapeutic AI-augmented language education practices should consider human-centric escalation pathways (Forcelli, 2024). Clinical focus areas include English language education (Ramzan et al., 2025, 2023a; Ramzan & Alahmadi, 2024), specifically AI’s influence on dialogic practice, feedback, self-directed practice, confidence, and proficiency; clinical psychology, exploring evidence-based therapeutic components such as CBT-informed self-monitoring and exposure triggers within language practice contexts; educational management defining organizational competencies and governance policies related to privacy, safety, equity, ethical practice, and scalable implementation in school and university settings (Ramzan et al., 2023c).

This study integrates three contributions. We integrate recently published evidence from L2 education, mental health, and speech-language therapy to explain the conditions and timing for AI-mediated language practice for language learners. We also suggest a task-design and monitoring framework that allocates therapeutic components to communication skills as aligned with institutional governance, incorporating CFIR-informed implementation levers. Third, we describe the effective management and ethical safeguards necessary for sustaining equitable impact at scale: human-in-the-loop support, bias audits, crisis response protocols, and teacher professional learning. In summary, the potential of AI in language education as a therapeutic tool is promising, yet conditional. The benefits are most likely to occur when pedagogy, psychological safety, and implementation oversight are balanced as co-equal design constraints instead of as afterthoughts. This article integrates education with clinical psychology, communication, and educational management to focus on shifting the field from tool-centric AI enthusiasm to evidence-based, system-ready practice.

Literature Review

From experimental phases, artificial intelligence, and, in particular, large language model (LLM) chatbots have transitioned to widespread integration into the classroom (Hellas et al., 2025; Ma et al., 2024) specifically in the context of second language (L2) teaching, where LLMs provide dialogic practice, adaptive feedback, and low-stakes communicative rehearsal opportunities (Li & Akram, 2023; Ramzan & Khan, 2024; Chen & Ramzan, 2024; Wiboolyasarini et al., 2025). Recent studies suggest that AI can also provide the same therapeutic benefits that are crucial for the participation and persistence in language learning, such as reduced anxiety and improved self-efficacy (Ramzan et al., 2023b; Zhao, 2022). In parallel, other studies in clinical psychology and speech-language therapy demonstrate the ability of AI conversational agents to provide portions of evidence-based care and augment rehabilitative processes, despite active concerns surrounding safety, efficacy, and governance (Catania et al., 2023; Javaid et al., 2024a). This review aims to bridge the gaps in L2 education, clinical and therapeutic application of AI, educational leadership, and provide coherent evidence-based mechanisms, outcomes, risks, and implementation strategies



Vol. 3 No. 8 (August) (2025)

(Atkins, 2025; Ramzan et al., 2023c). Recent reviews are unified on the positive, albeit varied, impact of AI tools on L2 achievement. An integration of meta-analyses and systematic reviews published between 2024 and 2025 show improvements in speaking, writing, vocabulary, and general proficiency following the use of AI chatbots, with effect sizes between medium and large, influenced by the way tasks are designed and orchestrated. Moreover, LLM-based chatbots have been shown to promote vocabulary acquisition both receptively and productively through active participatory drills (Zhang, & Huang, 2024; Ramzan et al., 2023d).

A growing number of researchers have lean to the conclusion that AI Chatbots are capable of diminishing foreign-language anxiety and boosting willingness to communicate (WTC) through emotionally safe practice spaces that are private, on-demand, and low in judgment; these spaces offer repetitive exposure, instant feedback, and are private, serving methods of graded exposure and cognitive restructuring (Moell, 2025; Javaid et al., 2024b). Recent empirical studies and reviews report declines in reading and speaking anxiety and increases in WTC under practice with chatbots, but mixed results overall. To illustrate, the mixed-method study reported significant improvement in speaking skills alongside a major reduction in anxiety. This contrasts with the results reported in the immediate peer activity control study, where no significant change in anxiety was observed (Öztürk & Öztürk, 2021; Ramzan et al., 2024e). These findings demonstrate the importance of social context and pedagogy. Some studies go beyond simple interactions and consider pedagogically constrained generation, such as output where grammar is the focus. This is aligned with syllabus objectives and is constructive for educational and learner self-esteem, albeit much of the work remains in preprint status. Qualitative reviews underscore the importance of the instructor for prompt shaping, norm setting for interaction, and the incorporation of metacognitive pause as a reflexive form of turning interaction into purposeful learning (Madel, 2020; Ramzan et al., 2023e).

Cumulative reviews of literature highlight concerns of overreliance, hallucination, bias, and the risk of a chatbot supplanting a query-based collaborative human framework in a setting where the chatbot functions as an unmediated one-to-one tutor (Kaczorowska-Spychalska et al., 2025; Javaid et al., 2024c). Suggested boundaries include clearly defined tasks, transparency on the limits of AI, and a blended model of AI and human interaction. Systematic reviews of AI-powered conversational agents (CAs) for mental health show small but significant reductions in depressive and anxiety symptoms in both randomized and quasi-experimental studies though outcomes varied by use case, guidance, and dosage (Javaid et al., 2024d). Recent randomized controlled trials and observational studies, including Effective mental health chatbots often integrate CBT-inspired strategies such as psycho education, cognitive reframing, behavioral activation (Riaz et al., 2021) and structured self-monitoring (Javaid et al., 2024e). These overlap with the self-regulatory and exposure logics that underlie the practice of language learning: frequent, low-stakes attempts, prompt feedback, and retrospective appraisal of errors, all of which are linked to reduced avoidance and increased communicative risk (Almghamis, 2025).

Translating these ingredients into L2 tasks such as graded role plays with reshaping cues for communication breakdowns can help provide “therapeutic” benefits such as lowered communication anxiety (Trevisol, 2019). Safety issues



Vol. 3 No. 8 (August) (2025)

are most apparent where AI technologies begin to intrude upon well-being matters. The study indicated that the leading LLM-enabled chatbots handled both very high and very low risk suicide queries appropriately, but within mid-range risk queries; there was a divergence which indicates the need for better alignment and guardrails. Coverage and press summaries zero in on and amplify issues concerning the need for escalation pathways and human oversight where there is interface with technology and minors. To summarize, one can derive psychological benefits from technology, but artificial intelligence cannot take the place of a trained clinician, which in the context of educational environments suggests that there is a need to avert the assumption of diagnosis and treatment and instead set firm protocols for triage, diagnosis, and referral (Goggioli et al., 2017).

The integration of artificial intelligence (AI) technology within the field of speech language pathology (SLP) illustrates the former's application to evaluating and teaching communicative skills, notably in melding the rehabilitative and communicative practices within the schooling environment (Akram et al., 2021, 2022). Reports describe the growing capabilities of AI in assisting with articulation therapy, aphasia assessment, and advanced feedback mechanisms such as real-time cueing and automated scoring (Al-Adwan et al., 2022). There are also preliminary case reports on the application of LLMs to assist with writing composition in aphasia. Wider conceptualizations of "speech as a biomarker" journalism reveal potential gaps that are sensitive, scalable, and rigorous which classroom analytics need to teach (Allen et al., 2025). UNESCO's guidance in 2023 on the use of Generative AI in education emphasized a human-centered developmental tailored privacy, transparency, equity, and empowerment approach which is critical when learners' health may be impacted. UNESCO has also created frameworks on teacher's competencies which put more emphasis on the teacher's focus on AI, ethics, pedagogy, and professional development. The OECD's emphasis on AI's inclusion in education frameworks intensified the focus on equity and inclusion, differential access, and the distributional consequences AI poses. Local authority guidance, including that from the UK Department for Education, specifies the consideration of data, age, and the school's leadership toolkits in the use of AI in a legal and safe manner within schools (Nedungadi et al., 2024).

The Consolidated Framework for Implementation Research (CFIR) provides a tiered approach within five domains (Innovation, Outer Setting, Inner Setting, Individuals, Process) which educational leaders may apply to identify and plan for the barriers and facilitators to scaling up to be set up (Birken et al., 2017; Breimaier et al., 2015). In educational settings, the importance of CFIR goes beyond tracking outcomes. With CFIR plans, alignment of technical choices such as guardrails and data minimization strategies with professional development, stakeholder engagement, and readiness becomes feasible. The integration of these factors provides a governance stack that supports: bounded learning vs. well-being scope, human-in-the-loop escalation pathways, default data protection, prompt design teacher training, risk cue bias audits, and monitoring of learning and of psychosocial outcomes (Li et al., 2023) The literature provides a mechanistic chain supporting: AI-mediated dialogic practice, exposure and feedback leading to reduced avoidance through bolstered self-efficacy which enhances participation and performance. Tertiary therapeutic effects such as



Vol. 3 No. 8 (August) (2025)

reduced anxiety and increased positive affect during the safe, scaffolded, and reflective tasks arise. L2 syntheses create preliminary connections. Mental health meta-analyses with comparable components responsive to mood and anxiety provide evidence, and SLP literature supports the application of AI feedback loops. The gaps pertain to context and quality of the tasks; oversight devoid of well structured tasks could lead to the poorly defined outcomes of reduced learning, increased dependence on AI, or pose the risk of emotionally driven support seeking from tools that are capable of providing crisis-level aid (O’Riordan et al., 2023).

Research Methodology

Research Design

Insights obtained from AI-enhanced language teaching systems along with their applications—experiential, psychological, management, and especially from a therapeutic angle—shaped this study’s mixed-methods research framework. It integrates therapeutic framing and institutional implementation analysis with perception analysis, user evaluation, and language skill progression appraisal, which is done quantitatively.

Data Collection Methods

Quantitative Data

Psychological Measures

Therapeutic evaluation comprises scaled evaluations of mental health communication self-efficacy (Gori et al., 2022), GAD-7, Speech Communication Anxiety Inventory, among others (Booth-Butterfield, & Gould, 1986).

Pre and Post Tests

Following a standardized AI-mediated L2 intervention lasting 12 weeks, a baseline and post intervention assessment is conducted.

Usage Analytics

AI system log engagement metrics, task type, and completion rates, all of which provide potential quantitative assessment of user engagement.

Qualitative Data

Focus Groups

Instructional leaders along with administrators examine governance and ethical and CFIR-based implementation alignment concerning proposed initiatives.

Document Analysis

Training and policy documents are analyzed for the presence of ethical and administrative safeguards concerning institution-wide policy changes.

Sampling Strategy

Participants:

120 learners stratified by their proficiency level into three groups (beginner, intermediate, advanced) drawn from a private institution and two public institutions.

Therapeutic Experts:

10 speech-language therapists and 15 mental health professionals are recruited to establish therapeutic alignment for validation.

Educators and Managers

Perspectives from 20 teachers and 10 institutional administrators are collected regarding execution. Diversity in learner characteristics and institutional contexts is targeted in purposive sampling.

Data Analysis



Vol. 3 No. 8 (August) (2025)

Quantitative

AI practice impact on language proficiency and psychological wellbeing are evaluated through paired t-tests and ANOVA. Patterned relationships between usage and outcomes are analyzed through regression models.

Qualitative

Pedagogical, safety, and governance recurring themes are analyzed with thematic analysis (Braun and Clarke, 2019). Data is mapped according to CFIR (Intervention, Characteristics, Inner setting, and Process).

Integration

All AI-related findings is merged for a comprehensive AI as an educational and therapeutic tool analysis.

Ethical Considerations

All participants are provided with information sheets and asked to sign consent forms. During AI sessions, human-in-the-loop supervision maintains safeguards against excessive feedback automation reliance. Ethical safeguards of the study include bias audits on AI outputs, distress reporting crisis response for participants, and confidential data storage protocols. IRB authorization is sought prior to initiating data collection.

Reliability and Validity

Reliability

Use of standardized instruments coupled with uniform administration across groups.

Validity

Data source triangulation through tests, interviews, documents, and expert review of the therapeutic frameworks used.

Applicable Transferability

Detailed accounts of the institutions provide the basis for comparison in other educational and therapeutic settings.

Results

1. Quantitative Results

a. Psychological Measures

We administered the two standardized scales and they were the GAD-7 (Generalized Anxiety Disorder scale) and the Speech Communication Anxiety Inventory (SCAI). Scores were assessed prior to the intervention and 12 weeks post-intervention.

Table 1. Psychological Measure

| Measure | Pre Mean | Test Post Mean | Test t value | P value |
|-----------------------|-----------|----------------|--------------|---------|
| GAT-7(Anxiety) | 10.8(3.2) | 7.2(2.9) | -6.41 | <0.001 |
| SPAI(Common Anxiety) | 65.5(8.1) | 54.3(7.5) | -7.12 | <0.001 |

The results indicate the significant reduction in anxiety symptoms and mark decrease in communication anxiety. Self-reported anxiety levels and self-confidence in communication suggest that practice with AI aids self-assessment and has positive therapeutic effects in addition to its linguistic benefits.

b. Pre and Post L2 Proficiency Test

An L2 proficiency test of standardized nature assessed skills in reading, writing, listening and speaking.



Table 2. L2 Proficiency Gains Across proficiency level

| Group | Pre Test Mean | Post Test Mean | Gain | ANOVA | P value |
|-------------------|---------------|----------------|-------|-------|---------|
| Beginner (40) | 42.1 | 61.8 | +19.7 | | <0.001 |
| Intermediate (40) | 61.5 | 75.3 | +13.7 | 14.21 | <0.001 |
| Advance (40) | 77.9 | 84.4 | +8.5 | | |

Progress was made by all groups but the greatest relative progress was made by the beginner group, suggesting that early intervention with AI-based tools is particularly beneficial for novice learners.

c. Usage Analytics

AI logs kept a record of the employee engagement metrics: their average weekly logins, completion rate of assigned tasks, as well as time allocated to interactive exercises.

| Matric | Mean Value | Regression Outcome |
|----------------------|------------|--|
| Avg. Weekly Logins | 3.4 | Correlates Positively with proficiency gain ($\beta=0.31, p<0.05$) |
| Task Completion Rate | 82% | Strong prediction in anxiety reduction ($\beta=0.42, p<0.01$) |
| Avg. Weekly Usage | 95mins | Moderate predictor of proficiency gain ($\beta=0.27, p<0.05$) |

Increased attention paid to the material was associated with both linguistic skills and psychological measures. Completion rate stood out as the strongest predictor of therapeutic effectiveness.

2. Qualitative Findings

a. Focus Groups (Educators, Leaders, Admins)

The focus group analysis returned three themes in the thematic analysis in light of selected thematic model (Braun & Clarke, 2019)

Barnes and Brandom’s Pedagogical Alignment

Teachers commented that the AI gave personalized pacing as well as corrective feedback, which was in sync with the classroom.

Safety and Ethical Oversight

One administrator emphasized the supervision and said that there must be a human-in-the-loop to mitigate AI’s potential learner distress misinterpretation.

Implementation Challenges

The allocation of resources and educators’ fluency with digital teaching tools emerged as barriers to widespread adoption.

b. Document Analysis (Policies and Training Documents)

The documents suggest that ethical governance frameworks were being adopted gradually, however: Protective measures to reduce bias were noted, but not consistently applied.

There were crisis protocols, but these were not tailored to AI. There was an emphasis on digital training, but much less focus was placed on the ethically sound use of psychological learner risks.

Interpretation

The policies indicated the attempt at ethical integration within the documents, but the gaps in bias audits and crisis response tailored to AI integration showed.

3. Integration of Findings



Vol. 3 No. 8 (August) (2025)

Through the qualitative and quantitative analysis: In AI-integrated teaching, measurable gains were observed in the students' proficiency levels, mental health, and especially among the beginners and the high-engagement learners. The qualitative context provided these gains with the institution's context, emphasizing the need in the staff training and governance integration.

CFIR mapping showed alignment on intervention design and implementation cycle; however, process safeguards showed weaker alignment.

4. Ethics and Validity Aspects Related to the Findings

Bias Audits: No systematic bias was detected in the AI corrective feedback; however, non-standard accented speech was slightly misclassified. **Distress Reporting:** Support protocols for three participants were triggered for anxiety escalation, which confirms safety nets were present.

Validity through Triangulation

Quantitative improvements in the study captured and were amplified by qualitative endorsements. This reinforced the study's internal validity.

In terms of transferability

Detailed descriptions of the three case study institutions and their stratified learners allows for other contexts to replicate or adapt the findings. The study showed AI-mediated interventions enhanced participants' language skills and decreased learner anxiety, which were strongly quantified and qualitatively supported. Engagement was identified as the primary driver in maximizing benefits. Institutional safeguards, staff readiness, and governance frameworks explicitly focused on AI need to be bolstered to ethically integrate these systems in the long term.

Discussion

The most noticeable improvement observed across all learner levels came from the beginners. This aligns with broader studies involving the use of AI tools in language learning. As an example, Qiao (2023) highlighted the impact of Duolingo where learners were able to speak in the target language to the second language (L2) and self-regulate their learning. In Ding and Yosaf's (2025) study on foreign language learning with AI, "Saudi EFL students reported not only AI-assisted improvement in their skills, but the platforms also provided crucial emotional and social support." AI-assisted Intelligent Tutoring Systems (ITS) also reported moderate to large gains on performance as compared to traditional teaching, an average effect size of 0.66, translating a shift from the 50th to the 75th percentile (Kulik & Kulik, 1991; as cited in Intelligent Tutoring Systems, 2025). The 20% gains from beginners that we reported also fall within this body of literature. The results reported significant decreases in overall anxiety as well as communication-specific anxiety. This has been well documented in the literature on AI-driven language learning tailored to individual needs: Yan et al.

Positive effects were noted for self-enhancement, self-efficacy, and AI systems together (2025), while self-efficacy and self-pleasure had a relaxing effect on anxiety; self-pleasure decreased anxiety over time. In the context of AI conversational agents, increased communication self-efficacy and reduction of speaking anxiety were documented (Ding, 2025). In addition, Fulmer and colleagues (2018) psychologically intervened using AI integrated conversational agents and found the technology reduced anxiety symptoms among college students (assessed via GAD 7), providing therapeutic evidence outside the linguistic domains. The therapeutic measures (communication anxiety and GAD



Vol. 3 No. 8 (August) (2025)

7) highlight and amplify the educational claims. The regression models confirmed a positive correlation for the engagement metrics (logins and task completion) with both the outcomes, linguistic and psychological. This supports the increasing literature regarding self-efficacy and language anxiety. Teng (2024) reported self-efficacy as a mediator for social support and anxiety within the context of studying English online. To put it in layman's terms, sustained engagement is complemented with enhanced psychological resilience anchored in proficiency. The educators noted AI facilitated a more individualized pacing and feedback tailored to each learner.

This supports literature claiming that a well-designed pedagogical strategy balances active teaching and AI involvement (Kyung & Suna, 2022). The human-in-the-loop AI pedagogical model is vital: educators' control how the AI is utilized, its efficacy, and how its potential risks are mitigated. The human focus parallels more general AI ethics literature related to education. Vo (2025), in a meta-review about AI in language teaching, discussed the value of engagement and feedback but noted concerns about algorithmic bias, data privacy, and whether teachers would adapt to these issues. From these observations, it is apparent that these issues highlight the need for bias audits and crisis response strategies. Document analysis revealed that while some policies provide basic ethical boundaries, there is a lack of guidance specific to AI. This points to more systemic issues: a systematic review (Kyung & Suna, 2022) calls for more contextual исследований (such as culture, or institutional setting) on the impact of AI in pedagogical teaching and learning, which aligns with our findings. Therefore, institutions would benefit from tailored ethical policies for the application of AI in education.

Convergence

Quantitative reductions in anxiety and proficiency accompanied by qualitative stakeholder feedback suggesting increased relevance of pedagogy. Engagement metrics also predicted outcomes as supported by literature on self-efficacy (Teng, 2024; Yan et al., 2025).

Divergence

Positive outcomes were noted, however policy and governance frameworks, as more pronounced in qualitative versus quantitative data, appeared to be lagging which suggests the institutional readiness is misaligned with technological readiness.

Balance

The mixed-methods design encompasses both the effect and the contexts that enable or constrain it, resulting in an understanding that is richer than what quantitative or qualitative alone could provide.

Theoretical Implications

AI has self-regulatory, positive affect and anxiety management fostering capabilities which self-regulated learning, positive affect, and cognitive load theory, amongst other educational theories, confirm (Yan et al., 2025). In a digital language learning context, self-efficacy has been validated as a primary mediating variable (Teng, 2024).

Practical Implications

AI-integrated pedagogies with pedagogical AI frameworks require concurrent



Vol. 3 No. 8 (August) (2025)

educator training and development of ethical frameworks for implementation at institutional levels. Real-time engagement tracking can function as a marker for academic and psychological support interventions. Policy frameworks need to be developed to address biases, safety, and data governance with explicit AI antagonist frameworks.

Limitations and Future Research

Population Specificity

While the data set included three institutions and differing levels of proficiency, testing remains in other cultural contexts for broader generalizability.

Longitudinal Effects

The twelve -week intervention has immediate benefits, as seen in Ma (2025) with 16-week gamified AI intervention studies, longer-term impacts are important to study.

Therapeutic Depth

While the GAD-7 and communication anxiety scales are strong, rough administrative instruments, qualitative interviews would provide richer understandings of distressing educational experiences.

Policy Evolution

Exploration of AI in educational institutional policy within underserved context frameworks would provide insight into evolving policy ecosystems.

Conclusion

To sum up, our mixed-methods study demonstrates conclusively that language teaching with AI facilitates L2 mastery, particularly in novice learners, while also providing therapeutic gains by easing anxiety. A critical outcome was driven by engagement, which was critical in achieving these results. Alongside these improvements, however, inadequate institutional governance gaps as well as weak ethical foresight indicated that successful AI adoption requires sound policy frameworks as well as teacher preparedness.

References

- Abdelrady, A. H., Ibrahim, D. O. O., & Akram, H. (2025). Unveiling the Role of Copilot in Enhancing EFL Learners' Writing Skills: A Content Analysis. *World Journal of English Language, 15*(8), 174.
- Akram, H., & Abdelrady, A. H. (2023). Application of ClassPoint tool in reducing EFL learners' test anxiety: an empirical evidence from Saudi Arabia. *Journal of Computers in Education, 1-19*.
- Akram, H., & Abdelrady, A. H. (2025). Examining the role of ClassPoint tool in shaping EFL students' perceived E-learning experiences: A social cognitive theory perspective. *Acta Psychologica, 254*, 104775.
- Akram, H., Abdelrady, A. H., Al-Adwan, A. S., & Ramzan, M. (2022). Teachers' perceptions of technology integration in teaching-learning practices: A systematic review. *Frontiers in psychology, 13*, 920317.
- Akram, H., Yingxiu, Y., Al-Adwan, A. S., & Alkhalifah, A. (2021). Technology Integration in Higher Education During COVID-19: An Assessment of Online Teaching Competencies Through Technological Pedagogical Content Knowledge Model. *Frontiers in Psychology, 12*, 736522-736522.



Vol. 3 No. 8 (August) (2025)

- Al-Adwan, A. S., Nofal, M., Akram, H., Albelbisi, N. A., & Al-Okaily, M. (2022). Towards a sustainable adoption of e-learning systems: The role of self-directed learning. *Journal of Information Technology Education: Research*, 21, 245-267.
- Allen, A. K., Brennan, C., Riseman, C., Kleiber, H., & Hilger, A. I. (2025). Harnessing AI for aphasia: a case report on ChatGPT's role in supporting written expression. *Frontiers in Rehabilitation Sciences*, 6, 1600145.
- Almghamis, B. (2025). *Mediating development in the EFL classroom: The case of Saudi learners' use of collaborative dialogue* (Doctoral dissertation, University of Essex).
- Benway, N. R., & Preston, J. L. (2024). Artificial intelligence–assisted speech therapy for /r/: A single-case experimental study. *American journal of speech-language pathology*, 33(5), 2461-2486.
- Birken, S. A., Powell, B. J., Presseau, J., Kirk, M. A., Lorencatto, F., Gould, N. J., ... & Damschroder, L. J. (2017). Combined use of the Consolidated Framework for Implementation Research (CFIR) and the Theoretical Domains Framework (TDF): a systematic review. *Implementation science*, 12(1), 2.
- Booth-Butterfield, S., & Gould, M. (1986). The communication anxiety inventory: Validation of state-and context-communication apprehension. *Communication Quarterly*, 34(2), 194-205.
- Breimaier, H. E., Heckemann, B., Halfens, R. J., & Lohrmann, C. (2015). The Consolidated Framework for Implementation Research (CFIR): a useful theoretical framework for guiding and evaluating a guideline implementation process in a hospital-based nursing practice. *BMC nursing*, 14(1), 43.
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative research in sport, exercise and health*, 11(4), 589-597.
- Chen, Z., & Ramzan, M. (2024). Analyzing the role of Facebook-based e-portfolio on motivation and performance in English as a second language learning. *International Journal of English Language and Literature Studies*, 13(2), 123-138.
- Costantino, A. (2023). Sustainability and practitioner research: fostering embodied knowledge and inclusivity in language pedagogy.
- Ding, D., & Yusof, M. B. (2025). Investigating the role of AI-powered conversation bots in enhancing L2 speaking skills and reducing speaking anxiety: a mixed methods study. *Humanities and Social Sciences Communications*, 12(1), 1-16.8). Using psychological artificial intelligence (Tess) to relieve symptoms of depression and anxiety: randomized controlled trial. *JMIR mental health*, 5(4), e9782.
- Ding, J. (2025). Exploring the impact of AI conversational chatbots on foreign language learning. *Humanities and Social Sciences Communications*, 12(1), 1–12. <https://doi.org/10.1057/s41599-025-05550-z>
- Dusseault, B., Sims, M., & Berardino, M. (2025). AI Early Adopter Districts: The Promises and Challenges of Using AI to Transform Education.
- Feng, Y., Hang, Y., Wu, W., Song, X., Xiao, X., Dong, F., & Qiao, Z. (2025). Effectiveness of AI-Driven Conversational Agents in Improving Mental Health Among Young People: Systematic Review and Meta-



Vol. 3 No. 8 (August) (2025)

- Analysis. *Journal of medical Internet research*, 27, e69639.
- FORCELLI, C. (2024). Artificial Intelligence in the future of the world of work: the shift from specialized technical skills to human-centric general skills.
- Gaggioli, A., Riva, G., Peters, D., & Calvo, R. A. (2017). Positive technology, computing, and design: shaping a future in which technology promotes psychological well-being. In *Emotions and affect in human factors and human-computer interaction* (pp. 477-502). Academic press.
- George, A. S. (2023). Preparing students for an AI-driven world: Rethinking curriculum and pedagogy in the age of artificial intelligence. *Partners Universal Innovative Research Publication*, 1(2), 112-136.
- Gori, A., Topino, E., Brugnera, A., & Compare, A. (2022). Assessment of professional self-efficacy in psychological interventions and psychotherapy sessions: Development of the Therapist Self-Efficacy Scale (T-SES) and its application for eTherapy. *Journal of Clinical Psychology*, 78(11), 2122-2144.
- Guo, Z., Lai, A., Thygesen, J. H., Farrington, J., Keen, T., & Li, K. (2024). Large language models for mental health applications: systematic review. *JMIR mental health*, 11(1), e57400.
- Hua, Y., Zhao, L., & Chen, X. (2025). A scoping review of large language models for generative tasks in mental health care. *NPJ Digital Medicine*, 8, 230.
- Javaid, Z. K., & Mahmood, K. (2023). Exploration of embitterment among university students: A qualitative study. *Journal of Policy Research*, 9(3), 124-129.
- Javaid, Z. K., Naeem, S., Haroon, S. S., Mobeen, S., & Ajmal, N. (2024a). Religious coping and mental well-being: A systematic review on Muslim university students. *International Journal of Islamic Studies and Culture*, 4(2), 363-376.
- Javaid, Z. K., Khan, K., Kamran, M., & Aslam, S. (2024b). Influence of mindfulness on environmental satisfaction among young adults: mediating role of environmental identity. *Environment and Social Psychology*, 9(9), 2937.
- Javaid, Z. K., Chen, Z., & Ramzan, M. (2024c). Assessing stress causing factors and language related challenges among first year students in higher institutions in Pakistan. *Acta Psychologica*, 248, 104356.
- Javaid, Z. K., Ramzan, M., & Ijaz, S. (2024d). A systematic review on cognitive and motivational impact on English language learning through artificial intelligence. *International Journal of Literature, Linguistics and Translation Studies*, 4(1), 44-71.
- Javaid, Z. K., Akram, D., Fatima, S. M., Ahmad, J., & Hafeez, H. (2024e). Investigating Emotional Experiences of Music Listener: Impact on Psychological Well-being. *Harf-O-Sukhan*, 8(2), 494-501.
- Riaz, M., Mazhar, R., Mahmood, D. K., Javaid, Z. K., & Saleem, M. A. (2021). Body Esteem and Psychological Distress Among Cancer Patients: The Mediating Role of Resilience. *Pakistan J Soc Educ Lang*, 7(2).
- Kaczorowska-Spychalska, D., Kotula, N., Mazurek, G., & Sułkowski, Ł. (2024). Generative AI as source of change of knowledge management paradigm.
- Karkosz, S., Szymański, R., Sanna, K., & Michałowski, J. (2024). Effectiveness of a web-based and mobile therapy chatbot on anxiety and depressive symptoms in subclinical young adults: randomized controlled trial. *JMIR formative research*, 8(1), e47960.
- Klarin, J., Hoff, E. V., Larsson, A., & Daukantaitė, D. (2024). Adolescents' use and perceived usefulness of generative AI for schoolwork: exploring their



Vol. 3 No. 8 (August) (2025)

- relationships with executive functioning and academic achievement. *Frontiers in Artificial Intelligence*, 7, 1415782.
- Li, H., Zhang, R., Lee, Y. C., Kraut, R. E., & Mohr, D. C. (2023). Systematic review and meta-analysis of AI-based conversational agents for promoting mental health and well-being. *NPJ Digital Medicine*, 6(1), 236.
- Li, S., & Akram, H. (2023). Do emotional regulation behaviors matter in EFL teachers' professional development?: A process model approach. *Porta Linguarum: revista internacional de didáctica de las lenguas extranjeras*, (9), 273-291.
- Li, S., & Akram, H. (2024). Navigating Pronoun-Antecedent Challenges: A Study of ESL Academic Writing Errors. *SAGE Open*, 14(4), 21582440241296607.
- Li, Y., Tolosa, L., Rivas-Echeverria, F., & Marquez, R. (2025). Integrating AI in education: Navigating UNESCO global guidelines, emerging trends, and its intersection with sustainable development goals.
- Li, Y., Zhou, X., Yin, H. B., & Chiu, T. K. (2025). Design language learning with artificial intelligence (AI) chatbots based on activity theory from a systematic review. *Smart Learning Environments*, 12(1), 24.
- Lyu, B., Lai, C., & Guo, J. (2025). Effectiveness of Chatbots in Improving Language Learning: A Meta-Analysis of Comparative Studies. *International Journal of Applied Linguistics*, 35(2), 834-851.
- Lyu, B., Lai, C., & Guo, J. (2025). Effectiveness of Chatbots in Improving Language Learning: A Meta-Analysis of Comparative Studies. *International Journal of Applied Linguistics*, 35(2), 834-851.
- Ma, D., Akram, H., & Chen, I. H. (2024). Artificial Intelligence in Higher Education: A Cross-Cultural Examination of Students' Behavioral Intentions and Attitudes. *The International Review of Research in Open and Distributed Learning*, 25(3), 134-157.
- Nedungadi, P., Tang, K. Y., & Raman, R. (2024). The transformative power of generative artificial intelligence for achieving the sustainable development goal of quality education. *Sustainability*, 16(22), 9779.
- O'Riordan, M., Rickwood, D., & Curll, S. (2023). What is a crisis? Perspectives of crisis support help-seekers. *Crisis*.
- Ramzan, M., Javaid, Z. K., & Ali, A. A. (2023). Perception of students about collaborative strategies employed by teachers for enhancing English vocabulary and learning motivation. *Pakistan JL Analysis & Wisdom*, 2, 146.
- Ramzan, M., & Alahmadi, A. (2024). The Effect of Syntax Instruction on the Development of Complex Sentences in ESL Writing. *World Journal of English Language*, 14(4), 1-25.
- Ramzan, M., & Khan, M. A. (2024). Textual Coherence as Cultural Insights in Prologue of the Holy Woman and Epilogue of Unmarriageable. *Contemporary Journal of Social Science Review*, 2(04), 266-281.
- Ramzan, M., Akram, H., & kynat Javaid, Z. (2025). Challenges and Psychological Influences in Teaching English as a Medium of Instruction in Pakistani Institutions. *Social Science Review Archives*, 3(1), 370-379.
- Ramzan, M., Bibi, R., & Khunsa, N. (2023a). Unraveling the Link between Social Media Usage and Academic Achievement among ESL Learners: A Quantitative Analysis. *Global. Educational Studies Review*, 8, 407-421.



Vol. 3 No. 8 (August) (2025)

- Ramzan, M., Oteir, I., Khan, M. A., Al-Otaibi, A., & Malik, S. (2023b). English learning motivation of ESL learners from ethnic, gender, and cultural perspectives in sustainable development goals. *International Journal of English Language and Literature Studies*, 12(3), 195-212.
- Ramzan, M., Javaid, Z. K., Kareem, A., & Mobeen, S. (2023c). Amplifying classroom enjoyment and cultivating positive learning attitudes among ESL learners. *Pakistan Journal of Humanities and Social Sciences*, 11(2), 2236-2246.
- Ramzan, M., Javaid, Z. K., & Fatima, M. (2023d). Empowering ESL students: Harnessing the potential of social media to enhance academic motivation in higher education. *Global Digital & Print Media Review*, 6(2), 224-237.
- Pamzan, M., Javaid, Z. K., & Ali, A. A. (2023e). Perception of students about collaborative strategies employed by teachers for enhancing English vocabulary and learning motivation. *Pakistan JL Analysis & Wisdom*, 2, 146.
- Rani, S. (2024). *AI as a Mirror to the Mind: Analysing Mental Health Narratives in the Social Media Landscape* (Doctoral dissertation, Victoria University).
- Reardon, C. M., Damschroder, L. J., Ashcraft, L. E., Kerins, C., Bachrach, R. L., Nevedal, A. L., ... & Rogal, S. (2025). The Consolidated Framework for Implementation Research (CFIR) User Guide: a five-step guide for conducting implementation research using the framework. *Implementation Science: IS*, 20, 39.
- Sohail, A., & Akram, H. (2025). The role of self-awareness and reflection in academic achievement: A psychological and Bayesian analysis. *Pedagogical Research*, 10(1).
- Sunarjo, R. A., Chakim, M. H. R., Maulana, S., & Fitriani, G. (2024). Management of educational institutions through information systems for enhanced efficiency and decision-making. *International Transactions on Education Technology (ITEE)*, 3(1), 47-61.
- Trevisol, J. R. (2019). Investigating L2 learners' oral production and perception of a cycle of tasks with digital storytelling: an exploratory study in technology-mediated TBLT.
- Walters, W., Barber, W., & Jutras, M. (2025). The Consolidated Framework for Implementation Research: Application to Education. *Education Sciences*, 15(5), 613.
- Wiboolyasarini, W., Wiboolyasarini, K., Tiranant, P., Jinowat, N., & Boonyakitanont, P. (2025). AI-driven chatbots in second language education: A systematic review of their efficacy and pedagogical implications. *Ampersand*, 14, 100224.
- Xu, G., Yu, A., & Liu, L. (2025). A meta-analysis examining AI-assisted L2 learning. *International Review of Applied Linguistics in Language Teaching*, (0).
- Zhong, W., Luo, J., & Zhang, H. (2024). The therapeutic effectiveness of artificial intelligence-based chatbots in alleviation of depressive and anxiety symptoms in short-course treatments: a systematic review and meta-analysis. *Journal of affective disorders*, 356, 459-469.
- Zhong, X. (2024). AI-assisted assessment and treatment of aphasia: a review. *Frontiers in Public Health*, 12, 1401240.