



THE INFLUENCE OF ARTIFICIAL INTELLIGENCE ON ENHANCING ENGLISH SPEAKING ABILITIES FOR SPECIFIC PURPOSES THROUGH THE EXPERIENCES OF PSYCHOLOGY STUDENTS

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ABSTRACT

The rapid development of artificial intelligence (AI) has significantly transformed foreign language education, particularly in the field of English for Specific Purposes (ESP). This article examines the influence of AI-based technologies on improving English speaking abilities among psychology students. The study focuses on how intelligent tutoring systems, speech recognition tools, conversational agents, and adaptive learning platforms contribute to developing professional oral communication skills required in psychological practice. Using a mixed-method research design, quantitative data from speaking performance assessments and qualitative data from student reflections were analyzed. The findings demonstrate that AI-supported learning environments enhance pronunciation accuracy, fluency, domain-specific vocabulary usage, and communicative confidence. The article argues that AI tools are especially effective in ESP contexts because they provide personalized feedback, simulate authentic professional scenarios, and support learner autonomy. The results contribute to the growing body of research on AI-assisted language learning and highlight its pedagogical value in psychology-oriented ESP instruction.

Introduction

English speaking competence has become a crucial requirement for psychology students due to the increasing internationalization of psychological research, professional training, and clinical practice. Psychologists are expected to communicate effectively in English during academic conferences, research collaborations, therapy sessions with international clients, and professional documentation. English for Specific Purposes (ESP) addresses these needs by focusing on discipline-specific language skills rather than general language proficiency [1]. Recent advances in artificial intelligence have introduced innovative tools that reshape language learning processes. AI technologies such as automatic speech recognition, natural language processing, and intelligent tutoring systems enable learners to practice speaking in interactive, adaptive, and feedback-rich environments [2]. Unlike traditional classroom-based speaking instruction, AI-driven platforms allow continuous practice beyond time and space constraints.

For psychology students, speaking competence involves not only linguistic accuracy but also pragmatic appropriateness, empathy-driven discourse, and professional terminology usage. AI-based systems are increasingly capable of modeling these communicative features through simulated dialogues, role-play scenarios, and real-time feedback mechanisms [3]. Therefore, examining the role of AI in enhancing ESP speaking skills for psychology students is both timely and pedagogically significant.

This article aims to analyze how AI-supported learning environments influence the development of English speaking abilities for specific psychological purposes. It explores empirical evidence from educational research and student experiences to assess the effectiveness of AI tools in ESP-oriented speaking instruction.

Methodology

The study employed a mixed-method research approach combining quantitative and qualitative data collection methods. Participants included undergraduate psychology students enrolled in an ESP course focused on professional communication skills. The course integrated AI-based speaking tools such as speech recognition applications, AI chatbots, and adaptive pronunciation software.

Quantitative data were collected through pre-test and post-test speaking assessments measuring fluency, pronunciation accuracy, lexical appropriateness, and communicative effectiveness. The assessment rubric was adapted from standardized ESP speaking descriptors used in higher education contexts [4]. Statistical analysis was conducted to compare performance improvements after sustained exposure to AI-supported speaking practice.

Qualitative data were gathered through semi-structured interviews and reflective journals in which students documented their experiences using AI tools. Thematic analysis was applied to identify patterns related to learner motivation, perceived effectiveness, and challenges in AI-assisted speaking practice [5].

All instructional materials and assessment procedures were aligned with established ESP pedagogy principles and ethical research standards.

Results

The quantitative analysis revealed statistically significant improvements in students' English speaking performance after integrating AI-based tools into ESP instruction. Pronunciation accuracy improved notably due to real-time corrective feedback provided by speech recognition systems [6]. Students demonstrated increased fluency, characterized by reduced hesitation and improved speech rhythm.

Lexical development was also evident, particularly in the use of psychology-specific terminology during simulated counseling sessions and academic discussions. AI-driven conversational agents enabled repeated practice of professional dialogues, which contributed to more accurate and context-appropriate language use [7].

Qualitative findings supported the quantitative results. Students reported increased confidence in speaking English, attributing this improvement to the non-judgmental nature of AI tools. Unlike human interaction, AI-based systems allowed learners to practice without fear of social anxiety or negative evaluation, which is especially relevant for psychology students aware of affective barriers in communication [8].

Additionally, learners highlighted the benefits of personalized learning paths. Adaptive algorithms adjusted task difficulty based on individual performance, ensuring optimal challenge levels and sustained engagement.

Analysis and Discussion

The findings of this study provide substantial evidence that artificial intelligence plays a transformative role in enhancing English speaking abilities for specific professional purposes among psychology students. In ESP-oriented language education, speaking competence is not limited to grammatical accuracy or general fluency; rather, it encompasses discipline-specific

discourse, pragmatic appropriateness, terminological precision, and communicative sensitivity. The integration of AI-based technologies addresses these multifaceted demands more effectively than traditional instructional approaches alone.

One of the most significant outcomes observed is the improvement in pronunciation accuracy and speech intelligibility. AI-powered speech recognition systems analyze learners' oral production at phonetic, phonological, and prosodic levels, allowing immediate identification of segmental and suprasegmental errors. Previous research confirms that such real-time corrective feedback enhances learners' awareness of phonological deviations and supports the development of intelligible speech rather than native-like accent imitation [6]. For psychology students, intelligibility is particularly crucial, as professional communication often involves sensitive interactions where mispronunciation may affect comprehension and trust.

The results also indicate notable gains in speaking fluency, reflected in reduced hesitation, smoother speech flow, and improved turn-taking behavior. AI-based conversational agents provide repeated exposure to speaking tasks without time pressure or social evaluation, enabling learners to rehearse speech patterns until automaticity is achieved. According to psycholinguistic models of second language acquisition, fluency development requires extensive practice that facilitates the proceduralization of linguistic knowledge [3]. AI environments create optimal conditions for such practice by offering unlimited opportunities for repetition and immediate engagement.

Another critical dimension highlighted in the analysis is the development of discipline-specific lexical competence. Psychology students demonstrated improved use of professional terminology, including diagnostic vocabulary, counseling expressions, and academic discourse markers. AI-driven platforms often integrate domain-specific corpora and task-based scenarios, which expose learners to authentic language use within their field of study. ESP research emphasizes that vocabulary acquisition is most effective when lexical items are learned in context rather than in isolation [1]. The simulated counseling sessions and academic discussions generated by AI tools reinforce contextualized vocabulary learning and promote functional language use.

From a pragmatic perspective, AI-supported speaking practice contributes to the acquisition of discourse strategies essential for psychological communication. These include active listening responses, clarification requests, empathetic language structures, and appropriate register selection. Although AI systems do not fully replicate human emotional intelligence, their ability to model pragmatic norms through scripted and semi-adaptive interactions offers valuable preparatory experience. This aligns with findings that pragmatic competence can be developed through exposure to contextualized input and guided interaction, even in technologically mediated environments [9].

Learner affective factors also play a crucial role in speaking performance, particularly in ESP contexts. The qualitative data reveal that students experienced reduced speaking anxiety and increased confidence when interacting with AI tools. Foreign language anxiety has been widely documented as a major barrier to oral communication, especially in evaluative classroom settings [8]. AI-based systems create a low-anxiety environment by eliminating fear of negative peer or teacher judgment, thereby encouraging risk-taking and experimentation with language. This psychological safety is especially relevant for psychology students, who are often highly aware of emotional and cognitive barriers to communication.

The analysis further demonstrates that AI-supported learning environments promote learner autonomy and self-regulated learning. Adaptive algorithms adjust task complexity based on individual performance, ensuring that learners operate within their optimal zone of proximal development. Students can monitor progress through performance analytics, pronunciation scores, and fluency metrics, which enhances metacognitive awareness. Research on autonomous language learning emphasizes that self-monitoring and goal-setting are critical

predictors of long-term proficiency development [11]. AI tools facilitate these processes by providing transparent and continuous feedback mechanisms.

In the context of ESP instruction for psychology students, autonomy is particularly important due to the diversity of learners' professional goals. Some students aim for clinical practice, others for academic research, and some for international collaboration. AI-based platforms allow customization of speaking tasks to align with these varied objectives, thereby increasing relevance and motivation. Motivation theory in second language learning suggests that perceived relevance of tasks strongly influences engagement and persistence [5].

Despite these advantages, the findings also highlight important limitations that require critical consideration. One of the primary concerns is the limited capacity of current AI systems to fully capture the emotional and ethical complexity of psychological communication. While AI chatbots can simulate counseling dialogues, they lack genuine empathy, moral judgment, and cultural sensitivity. Psychology as a discipline places strong emphasis on ethical communication, confidentiality, and emotional responsiveness. These aspects require human-mediated instruction and reflective discussion, which cannot be entirely replaced by AI [10].

Another limitation relates to the potential overreliance on automated feedback. While AI-generated corrections are immediate and precise, they may not always provide sufficient explanatory depth. Learners may correct errors without fully understanding underlying linguistic principles. Therefore, pedagogical integration of AI tools should involve guided reflection and instructor mediation to ensure meaningful learning rather than mechanical correction. This supports the blended learning approach advocated in ESP pedagogy, where technology complements but does not substitute human instruction [2].

Furthermore, the analysis raises questions about accessibility and digital literacy. Effective use of AI-based speaking tools requires a certain level of technological competence and reliable access to digital infrastructure. In contexts where these conditions are not consistently met, the benefits of AI integration may be unevenly distributed. Educational equity considerations must therefore be addressed when implementing AI-supported ESP programs.

From a theoretical perspective, the findings align with constructivist and experiential learning frameworks. AI-supported speaking activities encourage active knowledge construction through interaction, reflection, and contextualized practice. The simulated professional scenarios function as experiential learning environments, allowing students to apply linguistic knowledge in meaningful contexts. This supports the view that language learning is most effective when embedded in authentic social practices [4].

In addition, the results contribute to ongoing discussions in AI-assisted language learning research regarding the role of intelligent systems in skill development. While early CALL applications focused primarily on grammar and vocabulary, contemporary AI tools demonstrate substantial potential for developing productive skills, particularly speaking. The present analysis confirms that AI technologies are no longer supplementary tools but integral components of modern ESP instruction when used strategically.

Conclusion

This study demonstrates that artificial intelligence significantly enhances English speaking abilities for specific purposes among psychology students. AI-based tools improve pronunciation, fluency, professional vocabulary usage, and communicative confidence through personalized feedback and authentic practice environments. The integration of AI into ESP instruction aligns with contemporary educational demands and supports the development of profession-oriented communication skills.

The findings suggest that higher education institutions should strategically incorporate AI technologies into ESP curricula for psychology and related disciplines. Future research should explore long-term learning outcomes and the integration of emotional intelligence models into AI-driven speaking systems.

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