THE RELEVANCE OF UTILIZING ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN DEVELOPING STUDENTS' COMMUNICATIVE AND SPEAKING SKILLS

Muxriddin Ochilov Faxriddin o'g'li
Qarshi davlat universiteti mustaqil izlanuvchi
Email: mrmuhri7038@gmail.com
Orcid ID:0009-0004-1465-3763
https://doi.org/10.5281/zenodo.23043841

Abstract: This paper examines the relevance and pedagogical potential of integrating Artificial Intelligence (AI) technologies into higher education to enhance university students' communicative competence and foreign language speaking skills. Utilizing natural language processing (NLP), automatic speech recognition (ASR), and large language models (LLMs), the study provides a theoretical and practical foundation for technology-mediated language learning. Key aspects explored include mitigating foreign language classroom anxiety, personalizing learning trajectories, offering real-time corrective feedback, and improving oral fluency and phonological accuracy. The paper concludes with actionable pedagogical recommendations for embedding AI applications effectively into tertiary curricula.

Keywords: artificial intelligence, communicative competence, speaking skills, higher education, foreign language anxiety, automatic speech recognition (asr), large language models, interactive learning.

Introduction.

In an era defined by global economic integration and digital transformation, higher education institutions face an increasing mandate to graduate professionals capable of communicating fluently and effectively in international contexts. Communicative competence—specifically the ability to express complex thoughts with logical coherence, grammatical accuracy, and phonological clarity—serves as a core prerequisite for global academic and professional mobility.

However, traditional higher education settings face persistent structural challenges in cultivating spontaneous oral communication skills. Large class sizes, strict time constraints, and rigid curriculum structures severely limit Individual Student Talking Time (STT). Furthermore, many tertiary learners suffer from Foreign Language Classroom Anxiety (FLCA), a psychological barrier caused by the fear of immediate peer evaluation and teacher correction during public speaking tasks.

Recent advances in Artificial Intelligence (AI) and Large Language Models (LLMs) present a transformative opportunity to overcome these systemic barriers. AI-driven conversational agents and voice-enabled applications provide dynamic, low-anxiety, and highly scalable environments where students can practice speaking on demand. Consequently, evaluating the relevance, efficacy, and pedagogical framework of AI tools in developing students' communicative and speaking skills is a matter of critical academic relevance.

The theoretical framework of technology-assisted communicative language teaching draws heavily on constructivist and second language acquisition (SLA) theories. According to Vygotsky's (1978) Sociocultural Theory, language acquisition occurs through social interaction within a learner's Zone of Proximal Development (ZPD). In AI-mediated contexts, intelligent speech systems act as "More

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Knowledgeable Others" (MKOs), offering scaffolding through dynamic prompts, corrective feedback, and context-aware responses.

From a psychological perspective, Krashen's (1985) Affective Filter Hypothesis explains the mechanics of anxiety reduction in computer-mediated environments. Krashen asserts that high anxiety, low self-confidence, and fear of failure raise an emotional barrier ("affective filter") that impedes language acquisition. Interacting with non-judgmental AI systems lowers the affective filter, encouraging risk-taking behavior and hypothesis testing in speech production.

Empirical studies (Ahmadi & Derakhshan, 2025; Chen et al., 2022; Zhao, 2024) consistently demonstrate that AI-driven Automatic Speech Recognition (ASR) platforms and conversational chatbots yield statistically significant improvements in L2 speaking performance, specifically regarding speech rate, pronunciation accuracy, and lexical richness.

Integrating AI applications into tertiary language instruction offers several strategic advantages for developing oral proficiency. Traditional classroom dynamics often induce cognitive overload and communication apprehension. AI tools (e.g., ChatGPT Voice Mode, Elsa Speak, Speeko) provide a private, low-stakes practice environment. Learners can rehearse conversations, experiment with complex syntactic structures, and make errors without the threat of negative social evaluation.

ASR-driven speech tools analyze voice input at the phonemic level, offering real-time visual feedback on segmental (vowels and consonants) and suprasegmental features (intonation, stress, and rhythm). This spectroscopic and phoneme-level feedback enables learners to identify and correct pronunciation flaws independently.

Generative AI models allow instructors and learners to create realistic, simulated communicative scenarios tailored to specific academic fields (e.g., engineering, business, law, or medicine). AI agents can role-play as job interviewers, conference participants, or clients, exposing students to domain-specific vocabulary and pragmatics.

Unlike human instructors who cannot provide detailed individual feedback to every student during a short lecture, AI systems deliver instant analysis. Upon completing a speaking exercise, the system highlights grammatical discrepancies, repetitive vocabulary, and filled pauses while suggesting natural, native-like alternatives. While AI offers unprecedented opportunities, several critical challenges must be addressed for successful implementation.

Although LLMs possess advanced structural language processing capabilities, they struggle to replicate authentic human empathy, non-verbal cues (kinesics and proxemics), and subtle socio-cultural contexts. Sole reliance on AI interaction may result in formulaic communication habits that do not fully translate to real-world, unpredictable human interactions. Inequalities in access to high-speed internet, modern hardware, and premium subscription-based AI tools can aggravate educational disparities among students. Many educators lack formal training in digital pedagogy, effective prompt engineering, and methods for integrating AI applications into traditional lesson plans.

To maximize oral proficiency gains while offsetting technological limitations, higher education institutions should adopt a Blended Human-AI Framework. This approach positions AI not as a replacement for teachers, but as a complementary preparatory mechanism.

Mandate structured AI speech sessions (e.g., 60 minutes per week) as independent self-study to build vocabulary and fluency prior to live lessons. Reserve classroom hours for interactive group activities, debates, and negotiations where students apply the language practiced with AI. Host professional development workshops focusing on prompt engineering, digital ethics, and data privacy in

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language education. Evaluate oral progress using a combination of classroom performance, AI analytics, and student self-reflection logs.

Conclusion.

The integration of Artificial Intelligence technologies represents a paradigm shift in foreign language education within tertiary institutions. By providing scalable, low-anxiety practice environments, immediate phonological and grammatical feedback, and personalized learning paths, AI tools address long-standing challenges in teaching speaking skills. Ultimately, AI systems should serve as an extension of the instructor's pedagogical toolkit rather than a standalone solution. Combining the technological precision and accessibility of AI with the empathetic, culturally grounded guidance of human educators ensures a comprehensive framework for cultivating highly articulate, communicative global graduates.

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