European Journal of Innovation in Nonformal Education (EJINE)
Volume 5 | Issue 6 | Jun - 2025 ISSN: 2795-8612

Theoretical Foundations and Pedagogical Potential of Artificial Intelligence in Developing English Speaking Skills among Uzbek Students

Oxunov Asilbek Olimjon o'g'li
Farg'ona davlat universiteti, Ingliz tilini o'qitish metodikasi kafedrasi o'qituvchisi,
asilbekshamsiddin@gmail.com

A B S T R A C T
This article provides a theoretical analysis of the use of Artificial Intelligence (AI) in developing English speaking skills among Uzbek EFL learners. Drawing on cognitive, sociocultural, and constructivist theories of language acquisition, the paper critically examines the pedagogical affordances of AI-powered tools—such as speech recognition, intelligent tutoring systems, and conversational agents—in facilitating oral language competence. The analysis is framed within Uzbekistan's national strategy for digital education reform, offering a contextualized reflection on AI's capacity to address linguistic, psychological, and infrastructural barriers in English language instruction.

A R T I C L E I N F O
Article history:
Received 23 Apr 2025
Received in revised form
24 May 2025
Accepted 25 Jun 2025

Keywords: Artificial Intelligence, Speaking Competence, EFL Methodology, Sociocultural Theory, Intelligent Systems, Digital Linguodidactics, Uzbekistan

Hosting by Innovatus Publishing Co. All rights reserved. © 2025

1. Introduction

The advent of Artificial Intelligence (AI) in education has catalyzed a rethinking of pedagogical paradigms, particularly in foreign language teaching. While traditional English instruction in Uzbekistan often prioritizes grammatical and receptive skills, there is a growing recognition of the need to cultivate productive competencies—especially speaking. However, systemic limitations, such as teacher-centered instruction, limited exposure to authentic language input, and psychological barriers to oral production, continue to impede the development of communicative competence.

This article aims to theorize the pedagogical potential of AI in transforming English speaking instruction among Uzbek learners, grounding the discussion in language acquisition theories and educational psychology, while also considering the socio-educational context of Uzbekistan's EFL policy.

2. Theoretical Underpinnings of AI in Language Learning

2.1. Sociocultural Theory (Vygotsky)

Vygotsky's Sociocultural Theory (1978) emphasizes the centrality of interaction and mediation in cognitive development. AI tools, particularly conversational agents and intelligent tutoring systems, function as "mediational means" within the learner's Zone of Proximal Development (ZPD). They scaffold speaking performance through dynamic feedback and dialogic interaction, effectively substituting for human interlocutors in under-resourced settings.

2.2. Communicative Language Teaching (CLT) and Task-Based Learning (TBL)

AI aligns with CLT and TBL by facilitating meaning-focused communication and authentic language use. Through scenario-based simulations and AI-driven dialogue systems, learners engage in contextualized speaking tasks, which enhance fluency, appropriacy, and interactional competence.

2.3. Constructivist Learning Theory

According to Piagetian and Brunerian constructivism, learners build knowledge through active engagement with meaningful content. AI tools such as interactive speech platforms and gamified applications promote learner agency, exploration, and hypothesis testing in language use—core tenets of constructivist learning.

2.4. Cognitive Load Theory

Sweller's Cognitive Load Theory posits that learning environments should minimize extraneous load to optimize processing capacity. AI tools can manage intrinsic and germane cognitive loads by offering just-in-time scaffolds, thus supporting the automation of subskills such as pronunciation and lexical recall in speaking.

3. AI Applications for Enhancing Speaking Skills

3.1. Intelligent Speech Recognition Systems

These systems provide real-time feedback on learners' phonological output. Theoretically, they operationalize behaviorist principles (drill and feedback) but within a constructivist and adaptive framework. Applications such as *Elsa Speak* and *Google Speech-to-Text* use neural networks to assess pronunciation accuracy and intonation patterns, assisting learners in internalizing phonological norms of English.

3.2. Conversational Chatbots and Dialogue Agents

AI chatbots simulate natural conversation, enabling learners to practice spontaneous speech acts (e.g., requesting, apologizing, expressing opinion). These interactions are underpinned by Speech Act Theory (Austin, 1962; Searle, 1969), with the chatbot functioning as both interlocutor and evaluator, enhancing pragmatic competence.

3.3. AI-Assisted Fluency Training Tools

Tools like *Speechling* or *FluentU* deploy spaced repetition, AI-guided shadowing, and contextual response models, encouraging output fluency through interactional automatization—a concept supported by the Output Hypothesis (Swain, 1985), which stresses the role of spoken output in interlanguage development.

4. Pedagogical Affordances in the Uzbek Context

4.1. Overcoming Input Deficiencies

AI can compensate for the scarcity of native-speaker input and authentic communicative settings in Uzbekistan. With AI interlocutors, students experience diversified input, supporting Krashen's Input Hypothesis (1982), which emphasizes the necessity of comprehensible input for language acquisition.

4.2. Mitigating Affective Filters

AI provides a low-stress environment, reducing anxiety and embarrassment associated with speaking in front of peers—thus addressing Krashen's Affective Filter Hypothesis. Adaptive systems can also adjust difficulty levels, promoting self-efficacy and motivation as posited in Self-Determination Theory.

4.3. Catering to Differentiated Learning Styles

AI enables individualized learning trajectories by analyzing learner performance data. This resonates with Multiple Intelligences Theory (Gardner, 1983), particularly linguistic, interpersonal, and intrapersonal intelligences, allowing learners to develop oral skills in diverse cognitive and emotional modalities.

5. Institutional and Methodological Implications

Integrating AI into EFL pedagogy in Uzbekistan requires a fundamental shift from teacher-centered, test-driven instruction toward learner-centered, process-oriented education. Methodologically, this involves:

- **Reconceptualizing the teacher's role** as a facilitator and AI-integrator.
- **Reforming curriculum design** to include digital speaking competencies and AI literacy.
- **Ensuring ethical use** of AI, including data privacy, fairness, and transparency.
- **Conducting empirical research** on AI's long-term impact on oral proficiency and communicative autonomy.

6. Challenges and Theoretical Tensions

Despite its potential, AI integration is not without limitations:

- **Epistemological Concerns**: Can AI truly mediate the interpersonal and sociocultural dimensions of language use?
- **Equity and Access**: Uneven technological infrastructure across urban and rural Uzbek schools raises questions of digital justice.
- **Pedagogical Validity**: AI lacks the interpretive sensitivity of human instructors, particularly in assessing suprasegmental features and sociopragmatic nuances.

These challenges call for a hybrid paradigm, in which AI augments—rather than replaces—human pedagogical judgment.

7. Conclusion

The use of AI in improving English speaking skills among Uzbek learners is best understood not as a technological fix, but as a theoretically grounded pedagogical enhancement. Rooted in Vygotskian mediation, communicative paradigms, and learner autonomy frameworks, AI offers transformative potential for addressing long-standing limitations in Uzbek EFL contexts. Its effective implementation requires a reconceptualization of language instruction, supported by teacher training, policy reform, and ongoing theoretical inquiry.

References

1. Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behavior*. Springer.
2. Gardner, H. (1983). *Frames of Mind: The Theory of Multiple Intelligences*. Basic Books.
3. Krashen, S. D. (1982). *Principles and Practice in Second Language Acquisition*. Pergamon Press.
4. Kukulska-Hulme, A. (2020). Mobile-assisted language learning [MALL]: Affordances and challenges. *ReCALL*, 32(2), 162–180.
5. Swain, M. (1985). Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In *Input in Second Language Acquisition*. Newbury House.
6. Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Harvard University Press.