

## **UZBEK STUDENTS' PERCEPTION OF AI TOOLS FOR IMPROVING LISTENING SKILLS: A MIXED-METHODS STUDY**

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**Abstract:** The increasing integration of Artificial Intelligence (AI) technologies in language education has introduced new opportunities for enhancing listening comprehension skills. This mixed-methods study explores the perceptions of Uzbek university students regarding the effectiveness, usability, and pedagogical value of AI tools in improving English listening skills. Quantitative data were collected through structured surveys involving over 150 undergraduate students from three higher education institutions, while qualitative insights were gathered from semi-structured interviews with a smaller subgroup. The findings reveal a generally positive perception of AI tools, with students appreciating features such as personalized feedback, repeatable audio playback, and adaptive difficulty levels. However, challenges were also reported, including technical barriers, unfamiliarity with some tools, and the limitations of synthetic audio content. Many students expressed a preference for a blended learning approach where AI supports, but does not replace, human instruction. The study emphasizes the importance of accessible digital infrastructure, instructor guidance, and culturally appropriate content to optimize the use of AI in listening pedagogy. The results suggest that, when thoughtfully integrated, AI technologies can significantly enhance listening skill development and learner autonomy in the Uzbek context.

**Keywords:** artificial Intelligence, listening skills, language learning, student perception, digital tools, Uzbekistan, mixed-methods research, educational technology, autonomous learning, adaptive learning, speech recognition.

The integration of Artificial Intelligence (AI) tools in language learning has grown significantly in recent years, offering promising solutions for developing receptive skills such as listening. In Uzbekistan, where educational institutions are increasingly adopting digital resources to enhance English language proficiency, understanding students' perception of AI tools for improving listening skills becomes essential. This mixed-methods study investigates how Uzbek students perceive the role and effectiveness of AI-assisted tools in listening comprehension, combining both quantitative and qualitative data to present a comprehensive analysis.

Many students in Uzbekistan view AI tools as innovative and helpful in their listening development. Quantitative data gathered from surveys across several universities indicates that a majority of respondents believe that AI tools—such as

automatic speech recognition (ASR) systems, intelligent tutoring systems, and AI-based transcription platforms—help improve their listening accuracy, vocabulary retention, and overall comprehension. These technologies offer real-time feedback, playback options, and customized difficulty levels, which support autonomous learning and repeated exposure to authentic English input.

However, student perceptions are not unidimensional. Qualitative interviews reveal more nuanced views. Some students express concern over the limitations of AI, such as mispronunciation in machine-generated voices, lack of emotional intonation, or cultural mismatch in content. Others mention initial difficulties navigating AI platforms due to unfamiliarity with the technology or lack of digital infrastructure, especially among students from rural regions. Nonetheless, as users become more accustomed to these tools, their confidence increases, and they begin to appreciate the flexibility and control that AI systems provide in the learning process.

Furthermore, students appreciate the adaptability of AI tools to their individual needs. Unlike traditional classroom settings where listening tasks may not suit every proficiency level, AI-powered applications can dynamically adjust to the user's progress. This personalization fosters learner motivation and reduces the stress often associated with listening tests. Students report feeling more comfortable experimenting with unfamiliar accents and faster speech rates when practicing with AI tools, as these platforms often allow repeated attempts without judgment.

The study also highlights that students' perception of AI in listening education is shaped by the context of use. Those who engage with AI tools as part of their formal instruction—integrated into university curricula—tend to exhibit more positive attitudes compared to those who use such tools independently or sporadically. Institutional support, teacher guidance, and access to reliable internet significantly enhance students' learning experience and reduce technical frustrations.

Moreover, students emphasized the importance of combining AI with human interaction. While AI tools offer valuable practice, they cannot fully replace the pedagogical and emotional support provided by instructors. Students suggested that the most effective approach to improving listening skills is a blended model where AI technologies complement, rather than substitute, traditional methods of language instruction. This includes teacher-led discussions, collaborative learning, and real-time feedback sessions to clarify comprehension gaps.

Overall, Uzbek students perceive AI tools as beneficial for developing listening skills, provided that these tools are easy to use, contextually relevant, and supplemented by pedagogical support. The study concludes that a successful implementation of AI in listening instruction requires attention not only to technological functionality but also to learner experience, accessibility, and integration into the broader educational ecosystem. By aligning AI use with student preferences

and needs, educational institutions in Uzbekistan can better harness the potential of these tools to support language acquisition and digital literacy.

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