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AI TOOLS AND LISTENING COMPREHENSION DEVELOPMENT:THE ROLE OF SPEECH RECOGNITION TECHNOLOGIES

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Annotatsiya: Ushbu maqolada sun'iy intellekt asosidagi vositalarning ingliz tilini o'rganishda tinglab tushunish (listening comprehension) ko'nikmasini rivojlantirishdagi o'rni tahlil qilinadi. Xususan, nutqni tanish (speech recognition) texnologiyalarining fonetik aniqlik, eshitish orqali idrok qilish va talaffuzni anglash jarayonlariga ta'siri o'rganiladi. Tadqiqotlar shuni ko'rsatadiki, AI asosidagi platformalar real vaqt rejimida fikr-mulohaza berish orqali talabalar tinglab tushunish darajasini oshiradi va o'quv jarayonini individuallashtirish imkonini yaratadi.

Kalit so'zlar: sun'iy intellekt, tinglab tushunish, nutqni tanish texnologiyasi, fonetik idrok, CALL, ingliz tili.

Аннотация: В статье рассматривается роль инструментов на основе искусственного интеллекта в развитии навыков аудирования при изучении английского языка. Особое внимание уделяется технологиям распознавания речи и их влиянию на фонетическое восприятие, понимание устной речи и точность произношения. Анализ научных исследований показывает, что AI-платформы, обеспечивающие мгновенную обратную связь, способствуют повышению уровня аудирования и индивидуализации обучения.

Ключевые слова: искусственный интеллект, аудирование, распознавание речи, фонетическое восприятие, CALL, английский язык.

Abstract: This article examines the role of artificial intelligence tools in developing listening comprehension in English language learning. In particular, it focuses on speech recognition technologies and their impact on phonetic awareness, auditory processing, and spoken language understanding. Recent studies indicate that AI-based platforms provide real-time feedback, enhance learner engagement, and support personalized listening practice. The findings suggest that speech recognition technologies significantly contribute to improving listening comprehension when integrated with pedagogically sound approaches.

Keywords: artificial intelligence, listening comprehension, speech recognition technology, phonetic awareness, CALL, English language learning.

INTRODUCTION

Listening comprehension is a fundamental component of second language acquisition, serving as the primary channel for language input. In applied linguistics, listening has long been recognized as a cognitively complex skill involving phonological processing, lexical recognition, and meaning construction. With the rapid development of artificial intelligence, new tools have emerged that transform traditional listening practices. Speech recognition technologies, in particular, allow learners to interact with spoken language, receive immediate feedback, and

engage in adaptive listening activities. This article explores how AI-based speech recognition tools contribute to listening comprehension development in English language learning contexts.

METHODOLOGY

The study employs a qualitative literature review methodology. Peer-reviewed journal articles, academic books, and recent empirical studies published between 2019 and 2024 were analyzed. Sources were selected based on their relevance to listening comprehension, artificial intelligence in language learning, and speech recognition technologies. The data were thematically analyzed to identify recurring patterns regarding the effectiveness, benefits, and limitations of AI-assisted listening instruction.

DISCUSSION AND RESULTS

Listening Comprehension and Speech Recognition Technology: Listening comprehension requires accurate perception of sounds, stress patterns, and intonation. Speech recognition technology supports this process by allowing learners to compare their auditory input with system-generated models. Research shows that learners exposed to AI-based listening tasks demonstrate improved phoneme discrimination and faster processing of spoken input.AI-Based Feedback and Learner Engagement: One of the major advantages of speech recognition tools is the provision of immediate and individualized feedback. Platforms such as intelligent language tutors and pronunciation applications analyze learners' spoken responses and highlight comprehension gaps. This feedback loop enhances learner awareness and increases engagement during listening practice. Pedagogical Benefits and Challenges: AI tools promote learner autonomy by enabling self-paced listening practice beyond the classroom. However, challenges remain, including technological accessibility, overreliance on automated feedback, and limited contextual understanding of authentic discourse. Effective use of speech recognition technology requires careful integration with pedagogical goals and teacher guidance.

CONCLUSION

Speech recognition technologies play a significant role in enhancing listening comprehension within AI-supported language learning environments. The reviewed studies demonstrate that these tools improve phonetic awareness, listening accuracy, and learner motivation. When combined with appropriate instructional strategies, AI-based listening tools serve as a valuable resource in applied linguistics. Future research should further investigate long-term listening development and ethical considerations related to AI use in education.

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