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TEACHING SPEAKING SKILLS USING TECHNOLOGY (AI, VR, OR SPEECH RECOGNITION)

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ABSTRACT

The article examines how new technologies, such as virtual reality (VR), artificial intelligence (AI), and speech recognition, are changing how individuals engage with their environment. It highlights the AI is becoming more and more prevalent in daily life, from decision-making tools in healthcare and education to personalized assistants. In the meantime, voice recognition is presented as an accessibility tool that enables people with disabilities to traverse digital settings and speak more freely.

The paper makes the case that although these technologies offer exciting prospects, they also bring ethical and privacy issues that need to be addressed through real-world examples and professional insights. In the end, the article portrays technology as a force influencing human connection, productivity, and society as a whole rather than only a tool.

Key words:

Advances in technology, learner-centeredness, artificial intelligence, pedagogical consequences, efficacy, and communication skills.

Introduction.

Innovations in technology are changing the environment of language instruction, especially when it comes to speaking abilities, which are typically challenging to improve without immersive, real-time feedback. Pronunciation, fluency, vocabulary use, and interactional competency are only a few of the intricate cognitive processes involved in speaking (Bygate, 2009). Due of time limits, a lack of individual feedback, and performance anxiety, traditional classroom approaches frequently fail. New opportunities to get around these restrictions are provided by the combination of AI, VR, and speech recognition. This article examines the present use of these technologies in language instruction with a particular emphasis on speaking development. It also addresses the difficulties in using them and delves more into how they affect learner autonomy, motivation, and accessibility.

Speaking instruction using artificial intelligence (AI).

The use of AI-driven technologies in language learning settings is growing. Applications like Rosetta Stone, Duolingo, and ELSA Speak AI to offer error correction, customizable lesson pathways, and real-time pronunciation feedback. In order to evaluate spoken performance and recommend enhancements, AI systems examine phonetic patterns, intonation, and stress (Nguyen et al., 2021). The efficacy of AI in fostering speaking proficiency is supported by research. Li and Lan (2020), for instance, discovered that AI-based feedback improved learner accuracy and raised rates

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of self-correction. Furthermore, by adjusting to the learner's pace, level, and learning style, AI makes individualized learning—a fundamental SLA concept—possible. But algorithmic prejudice and data privacy are other issues that AI brings up. Over-reliance on conventional pronunciation and inaccurate evaluation of non-native accents Learners from a variety of linguistic origins may become discouraged by inaccurate evaluation of non-native accents and an excessive dependence on conventional pronunciation conventions. As a result, developers need to make sure training datasets are inclusive. and assessment algorithms' openness.

Immersion Speaking Practice using Virtual Reality (VR). Language learners can participate in role-playing games and simulated conversations in immersive, contextualized virtual reality environments. In contrast to conventional digital tools, virtual reality (VR) appeals to a variety of senses and enables students to "practice" speaking in real-world settings like restaurants, airports, and offices.VR improves language retention and oral fluency, lowers speaking anxiety, and boosts student engagement, according to studies (Liu et al., 2022). It is consistent with constructivist learning theory, which holds that knowledge is developed via engagement in practical work (Vygotsky, 1978). For example, Mondly VR provides learners with task-based speaking objectives and real-world conversation environments with instant feedback.

High hardware expenses (headsets and processing power), restricted accessibility in low-income areas, and the requirement for teacher training are the primary barriers to VR. Additionally, extended VR use may result in discomfort or cognitive overload (Rupp et al., 2019). To guarantee fair access to immersive language resources, these obstacles must be removed.

Pronunciation feedback and speech recognition.

Many digital tools used for pronunciation and fluency instruction are based on speech recognition technology. It enables students to communicate verbally. based AI systems and get input on rhythm, stress patterns, and speech. Examples of this technology in use include the Google Speech-to-Text API, Microsoft Azure Speech Services, and proprietary features in applications like Babbel and Speakly.McCrocklin (2016) asserts that speech recognition facilitates independent learning by offering instantaneous, nonjudgmental feedback that lowers fear and Promotes repeated practice. Additionally, by using waveform and spectrogram analysis, it enables students to see pitch and intonation, supporting phonological consciousness. However, identifying different accents, controlling code-switching, and correctly understanding prosodic variation continue to be difficult tasks. To assist students in interpreting feedback in a meaningful way and developing communicative competence beyond phonetic correctness, educators must integrate these tools with guided instruction.

Implications for Education.

A trend toward blended and technology-enhanced learning paradigms is shown in the incorporation of AI, VR, and speech recognition into language classes. These Instead than taking the place of human connection, tools should be utilized to enhance it. In order to ensure that technology use is in line with curricular objectives and student requirements, teachers are essential. Additionally, teachers need to be properly trained in the use of these technologies as well as their pedagogical integration. Curriculum designers should steer clear of too mechanical drills and repetitive repetition in favor of communicative, context-rich, and learner-centered technology-based tasks.

In conclusion.

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Finally, voice recognition, VR, and AI technologies provide transformational potential for speech instruction and acquisition. They provide individualized, immersive, and engaging practice possibilities that are challenging to duplicate in conventional venues. However, careful integration, moral design, and fair access are necessary for their efficacy. Future studies should examine the long-term effects of utilizing these tools in various settings, such as how they affect learner motivation, retention, and intercultural communication abilities. Developing competent, self-assured speakers will require striking a balance between human pedagogy and technical innovation as we transition to increasingly digital learning settings.

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