THE EFFECTIVENESS OF INTERACTIVE PLATFORMS IN IMPROVING ENGLISH PRONUNCIATION USING ARTIFICIAL INTELLIGENCE

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Annotation. This paper investigates how artificial intelligence (AI) integrated into interactive learning platforms enhances English pronunciation among non-native speakers. Drawing upon pedagogical principles from the MA TESOL framework, the study identifies AI tools' capabilities in offering personalized, immediate feedback and learner-driven pronunciation training. It presents qualitative and empirical evidence that AI tools improve both segmental and suprasegmental features of speech. The paper also discusses limitations, ethical concerns, and practical implications for TESOL practitioners seeking to incorporate AI into blended learning environments.
Key Words. Artificial intelligence, pronunciation instruction, TESOL, interactive platforms, speech recognition, intelligibility, segmental features, learner autonomy, pronunciation feedback

1**. Introduction**. Pronunciation plays a crucial role in second language (L2) communication, directly impacting learners' intelligibility and overall speaking confidence. However, many English language learners (ELLs) report insufficient pronunciation practice in traditional classroom contexts, largely due to time constraints, class size, or teacher insecurity (Derwing & Munro, 2015). To address this gap, the integration of artificial intelligence (AI) into language le7arning platforms has created new opportunities for autonomous, high-frequency, and accurate pronunciation training. Interactive platforms that use AI can offer learners real-time corrective feedback, visualization of speech output, and motivation through gamified interfaces. This paper evaluates the effectiveness of such platforms in improving pronunciation outcomes by referencing TESOL pedagogical frameworks and recent AI implementations. The discussion also explores practical applications for educators and implications for blended teaching models.

2. Methods. Literature Review and Theoretical Foundations. Historically, pronunciation has been undervalued in TESOL curricula. Yet, intelligible speech is essential for effective communication and learner identity. According to Celce-Murcia, Brinton, and Goodwin (2010), pronunciation instruction should be communicative,

integrated, and personalized. AI platforms meet these principles by leveraging individualized data to deliver context-aware feedback.

The communicative approach emphasizes the importance of real-time, meaningful interaction. AI systems such as speech recognition and natural language processing simulate this through immediate correction, allowing learners to refine their output in practice-rich environments. As Levis (2005) notes, "The intelligibility principle, rather than the nativeness principle, should guide pronunciation instruction" (p. 370). AI systems align well with this shift by focusing not only on accent eradication, but also on clear, intelligible speech production. Furthermore, Vygotsky's (1978) sociocultural theory supports AI's role in scaffolding learners through their zone of proximal development. By providing feedback just beyond learners' current abilities, AI tools help bridge the gap toward more accurate pronunciation.

Key Features of AI-Based Pronunciation Platforms.

Modern AI-integrated tools, such as ELSA Speak, Google's AI for Education, Mondly, and Duolingo's AI tutor, deliver various key features:

Automatic Speech Recognition (ASR): These systems detect phonemic errors and offer detailed phonetic feedback.

Waveform and pitch comparison: Learners visualize their speech against native-speaker models, promoting self-correction.

Segmental and suprasegmental training: Learners can practice individual sounds as well as stress, rhythm, and intonation patterns.

Gamification and progress tracking: Motivation is reinforced through badges, levels, and leaderboards.

For example, ELSA Speak offers phoneme-level accuracy feedback with customized daily goals. One learner commented (via ELSA's platform): "After 3 weeks, my pronunciation improved so much that my colleagues noticed a difference in meetings." These platforms fulfill MA TESOL's emphasis on learner autonomy, immediate feedback, and comprehensible input, all of which are pillars of successful pronunciation development.

3. Results. Pedagogical Benefits in TESOL Contexts

AI tools support pronunciation learning in the following pedagogical domains:

Individualization: AI platforms adapt to each learner's pace and performance, embodying the differentiation strategies central to TESOL (Grabe & Stoller, 2011).

Increased exposure: Learners can receive significantly more corrective feedback than traditional classrooms can offer in limited instructional time (Levis, 2018).

Learner autonomy: Self-regulated learners engage more deeply when they control their practice routines.

Pronunciation awareness: By isolating and targeting problem areas, AI enhances phonological awareness and listening discrimination.

Indirect evidence from Neri et al. (2008) shows that ASR-based feedback systems significantly outperform classroom-only instruction in helping learners improve segmental accuracy. This reinforces the value of integrating tech into mainstream TESOL classrooms.

4. Discussion. Limitations and Ethical Challenges

While the benefits of AI tools are significant, there are notable limitations:

Accent Bias: Most systems are trained on General American or RP (Received Pronunciation) accents, potentially marginalizing World Englishes (Jenkins, 2007).

Technological accessibility: Learners from low-income or rural areas may lack access to stable internet or compatible devices.

Data Privacy: Platforms may collect sensitive speech data. According to GDPR principles, informed consent and transparency are essential.

TESOL educators must ensure that ethical principles guide the implementation of AI tools in classrooms, balancing effectiveness with inclusivity and privacy.

Implications for Teachers and Curriculum Designers

To maximize the impact of AI tools in pronunciation teaching:

1. Teachers should receive professional development on integrating AI with pronunciation instruction.
2. Curricula should include blended learning pathways, combining AI platforms with communicative classroom tasks.
3. Programs must diversify AI accents to support learners' exposure to global Englishes, reflecting the multilingual reality of English use.

The MA TESOL curriculum already emphasizes the importance of multimodal teaching and learner agency, both of which AI platforms can support when used strategically.

5. Conclusion

AI-driven interactive platforms mark a transformative shift in pronunciation pedagogy. By providing personalized, consistent, and intelligibility-focused feedback, they address several long-standing challenges in TESOL pronunciation instruction. While ethical and accessibility concerns remain, these tools—when thoughtfully integrated—can significantly enhance learners' pronunciation outcomes and overall confidence in spoken English.

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