

# AI-Powered Speech Recognition in EFL E- Learning: Enhancing Students' Speaking Fluency and Pronunciation – A Case Study at the University of Tiaret, Algeria

**Dr. Raji Mohamed Medjahed**

*University of Ibn Khaldoun, Tiaret, Algeria*

## Abstract

With the rise of artificial intelligence in education, AI-powered tools are transforming language learning, particularly in enhancing speaking skills. This study explores the impact of AI-powered speech recognition tools (ChatGPT) on EFL students' speaking fluency and pronunciation at the University of Tiaret, Algeria, using a descriptive research design. Data were collected through surveys, classroom observations, and semi-structured interviews with 40 second-year EFL students and 8 University Professors. The findings indicate that students perceive AI tools as beneficial for improving pronunciation accuracy, fluency, and self-confidence. Many reported that real-time feedback from AI-assisted speech recognition enhanced their ability to identify and correct pronunciation errors. Instructors also acknowledged the potential of AI in fostering autonomous learning and engagement. However, challenges such as dependency on technology, variations in AI accuracy for different accents, and the need for teacher training in AI integration were noted. Future research could explore AI's long-term impact on speaking proficiency, its effectiveness across different EFL proficiency levels, and strategies for optimizing AI-based instruction in classrooms.

**Keywords:** computer-assisted language learning; digital learning tools; educational technology; language pedagogy; oral proficiency