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The Integration of Artificial Intelligence in Teaching Foreign Languages in Tertiary Education

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Abstract.
The integration of Artificial Intelligence (AI) in tertiary foreign language education enhances personalized learning, feedback, and intercultural competence. AI supports all four language skills through adaptive algorithms, intelligent tutoring systems, and natural language processing. This article analyzes theoretical and pedagogical foundations for AI use, explores its ethical implications, and proposes a framework for effective implementation in higher education.

Digital technologies have rapidly reshaped knowledge creation, access, and learning models in the 21st century. Among them, Artificial Intelligence (AI) stands out as a transformative force, especially in foreign language education. Its analytical and predictive capabilities introduce new opportunities for personalized learning, increased student engagement, and improved academic outcomes (Godwin-Jones, 2019; Li & Chen, 2021).

In higher education, foreign language proficiency is closely tied to academic literacy, intercultural awareness, and global employability. Therefore, AI integration serves as a significant pedagogical innovation aligned with contemporary educational needs. However, its implementation requires careful consideration of teaching methodology, teacher roles, and ethical boundaries (Chapelle, 2020; Zawacki-Richter, 2019). A number of pedagogical theories clarify learner interaction with intelligent systems and digital environments.

Constructivist theory emphasizes that knowledge is built through active participation. AI-powered platforms such as Duolingo, Babbel, and intelligent LMS environments enable learners to work with authentic materials, engage in real-time communication, and receive immediate feedback (Warschauer & Grimes, 2007). These mechanisms strengthen autonomy and self-regulated learning, which are crucial in higher education.

Communicative Language Teaching (CLT) highlights the importance of authentic communication as both the means and goal of language learning. AI-driven chatbots, dialog systems, and speech recognition tools simulate real-life conversational contexts, allowing learners to practice pragmatics, vocabulary, and structure with high interactivity (Godwin-Jones, 2019). Natural language processing (NLP) enables practice beyond classroom limits (Searle, 1979).

Postmethod pedagogy argues for contextual flexibility and teacher agency. AI tools support this approach by giving teachers access to learner analytics and data-driven insights, enabling more informed pedagogical decisions. Thus, AI creates an adaptive learning ecosystem aligned with postmethod principles (Kumaravadivelu, 2003; Chapelle, 2020).

AI plays a significant role in developing all core language skills. Listening and speaking are enhanced through speech recognition and synthesis technologies that present multiple accents, speech rates, and communicative scenarios. Tools like ELSA Speak use acoustic models to analyze stress, rhythm, and intonation, providing instant feedback. Virtual avatars and chatbots create low-pressure conversational environments that increase fluency and learner confidence.

For reading, NLP allows adaptive text levels, vocabulary prediction, and automatic generation of linguistic notes. Sentiment and complexity analysis assist learners in navigating academic texts (Zawacki-Richter, 2019). Writing tools such as Grammarly and ChatGPT help improve coherence, grammar, and argumentation, encouraging deeper reflection on linguistic choices.

Personalized learning is one of AI's strongest contributions. Unlike traditional uniform instruction, adaptive systems modify pace and content based on learner performance and motivation. Intelligent Tutoring Systems (ITS) imitate one-on-one tutoring by adjusting tasks to individual needs. Such personalized pathways foster inclusivity in diverse higher education settings.

AI integration reshapes the teacher's role but does not diminish its importance. Teachers act as facilitators, interpreters of AI feedback, and ethical guides. They contextualize AI-generated suggestions and ensure their alignment with curriculum goals. Therefore, teacher-training

programs must include AI literacy to prepare educators for data-based decision-making and responsible AI integration.

International experiences demonstrate the pedagogical potential of AI. Stanford University uses AI-based discourse analysis for EAP writing. Beijing Foreign Studies University applies real-time pronunciation correction through AI virtual classrooms. INSEAD and MIT enhance business language courses with conversational AI. The University of Tartu employs AI analytics to monitor learner engagement and emotional response. These examples highlight the importance of institutional readiness and teacher competence in implementing AI.

AI-equipped language education demands theoretical grounding and ethical sensitivity. Ensuring data privacy, preventing algorithmic bias, and preserving the humanistic aspect of language learning remain essential. When responsibly integrated, AI expands access to quality education and strengthens communicative and intercultural competences.

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