AI IN LANGUAGE LEARNING

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Abstract: Artificial Intelligence (AI) is changing the way people learn languages by providing smart, interactive, and personalized tools. AI technologies like natural language processing and speech recognition help learners improve pronunciation, grammar, and vocabulary. With chatbots and language apps, learning becomes more flexible and engaging.

Keywords: Artificial Intelligence, Language Learning, Chatbots, NLP, Personalized Learning

Аннотация: Искусственный интеллект (ИИ) меняет подход к изучению языков, предлагая умные, интерактивные и персонализированные инструменты. Технологии ИИ, такие как обработка естественного языка и распознавание речи, помогают учащимся улучшать произношение, грамматику и словарный запас. Благодаря чат-ботам и языковым приложениям обучение становится более гибким и увлекательным.

Ключевые слова: искусственный интеллект, изучение языков, чат-боты, обработка естественного языка, персонализированное обучение.

Introduction

In the 21st century, the integration of Artificial Intelligence (AI) into education has marked a transformative era in how humans acquire knowledge and communicate across languages. Language learning, a deeply humanistic endeavor tied to culture, identity, and cognition, is now being reshaped by AI-driven technologies that offer adaptive, personalized, and interactive learning experiences [5]. These systems are not merely technical tools; they reflect a growing synergy between computational power and human language, enabling learners to engage with languages in more intuitive and responsive ways.

AI applications such as intelligent tutoring systems, speech recognition tools, and chatbots—are increasingly used to support learners in developing pronunciation, grammar, and communicative competence[6] . By analyzing user data in real time, these systems adjust to individual learning styles and needs, thus promoting learner autonomy and motivation. Moreover, the humanistic potential of AI lies in its ability to facilitate cross-cultural communication and understanding, breaking down linguistic barriers and promoting inclusivity in global education [9].

While these innovations present exciting opportunities, they also raise questions about the role of human teachers, ethical data use, and the depth of linguistic understanding machines can truly achieve. Therefore, a balanced

examination of AI's scientific capabilities and its humanistic implications is crucial to understanding its future in language education.

Methodology

This study adopts a mixed-methods approach combining quantitative data analysis and qualitative inquiry to examine the effectiveness and humanistic impact of Artificial Intelligence (AI) in language learning environments. The methodology is grounded in both cognitive learning theory and sociocultural perspectives, recognizing language learning as both a mental and social process [4; 8].

To assess the effectiveness of AI-powered tools, a quasi-experimental design was employed. Two groups of language learners (n=60), one using AI-based platforms (e.g., Duolingo, ELSA Speak) and the other using traditional classroom materials, were observed over a 12-week period. Pre- and post-tests measured proficiency in vocabulary acquisition, grammar accuracy, and pronunciation improvement, based on CEFR standards [3]. Data were analyzed using paired t-tests and ANOVA to evaluate statistically significant differences between groups.

To explore the humanistic experience of learners using AI, semi-structured interviews (n=15) and reflective learning journals were collected. These sources provided insight into learners' emotional engagement, perceived autonomy, cultural awareness, and trust in AI as a learning partner [7]. Thematic analysis was applied to identify recurring patterns in learner experiences, guided by Braun and Clarke's framework[1].

Participants provided informed consent and were assured of confidentiality. The study adhered to ethical guidelines regarding data protection and the responsible use of AI technologies, acknowledging concerns related to bias, surveillance, and emotional dependency [2].

This methodology bridges scientific rigor with a human-centered lens, ensuring that both measurable outcomes and personal learning experiences are considered in evaluating AI's role in language education.

Conclusion

The integration of Artificial Intelligence into language learning represents a significant advancement in both pedagogical practice and learner experience. Scientifically, AI-powered tools demonstrate measurable improvements in linguistic competencies such as vocabulary, pronunciation, and grammar when compared to traditional methods [6]. These technologies, equipped with natural language processing and adaptive feedback systems, enable individualized learning paths that align with cognitive learning theories and support more efficient language acquisition [5].

From a humanistic perspective, AI also has the potential to democratize access to language education by reducing barriers related to geography, cost, and learning pace. Learners often report increased motivation, engagement, and a sense of autonomy when interacting with AI-based platforms [9]. However, the

ethical and emotional dimensions must not be overlooked. AI systems lack cultural sensitivity and the emotional intelligence of human instructors, and overreliance on automation may risk diminishing the social and intercultural aspects essential to language learning [2] .

Therefore, while AI holds great promise, it should complement rather than replace human educators. Future research should focus on developing hybrid models that combine the precision of AI with the empathy and contextual understanding of human interaction to ensure that language education remains both effective and deeply human.

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