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Aziza SUVANKULOVA,
Guliston davlat universiteti tayanch doktoranti
E-mail: aziza.suvankulova1991@gmail.com

Under the review of Associate professor, DSc UzSWLU N.Kushiyeva

INVESTIGATING THE IMPACT OF AI INTEGRATION ON COMMUNICATIVE COMPETENCE DEVELOPMENT IN NON-PHILOLOGICAL EDUCATION

Annotation

This article explores the relationship between the use of Artificial Intelligence (AI) technologies and the development of English communicative competence among university students in non-philological fields. The research findings indicate that the appropriate integration of AI tools can have a positive impact on communicative competence development. Additionally, the authors provide educational recommendations that promote personalized and interactive language learning through AI, while also highlighting the potential risks of over-reliance on such technologies.

Key words: AI, communicative competence, collaboration, modern education, online education, investigating, integration.

NOFILOLOGIK TA'LIMDA SUN'IY INTELEKT INTEGRATSIYASINING KOMMUNIKATIV KOMPETENSIYA RIVOJLANISHIGA TA'SIRINI O'RGANISH

Annotatsiya

Ushbu maqola sun'iy intellekt (AI) texnologiyalarining qo'llanilishi va nofilologik yo'nalishlardagi universitet talabalari orasida ingliz tili bo'yicha kommunikativ kompetensiyaning shakllanishi o'rtasidagi bog'liqlikni o'rganadi. Tadqiqot natijalari shuni ko'rsatadiki, AI vositalarining o'rinli integratsiyasi kommunikativ kompetensiyaning rivojlanishiga ijobiy ta'sir ko'rsatishi mumkin. Shuningdek, mualliflar AI asosidagi shaxsiylashtirilgan va interaktiv til o'rganishni rag'batlantiruvchi ta'limiy tavsiyalarni ham beradi hamda AIga haddan tashqari suyanishning ehtimoliy xavflarini yoritadi.

Kalit so'zlar: sun'iy intellekt, kommunikativ kompetensiya, hamkorlik, zamonaviy ta'lim, onlayn ta'lim, tadqiqot, integratsiya.

ИССЛЕДОВАНИЕ ВЛИЯНИЯ ИНТЕГРАЦИИ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА НА РАЗВИТИЕ КОММУНИКАТИВНОЙ КОМПЕТЕНЦИИ В НЕФИЛОЛОГИЧЕСКОМ НАПРАВЛЕНИЯХ ОБРАЗОВАНИИ

Аннотация

Данная статья исследует взаимосвязь между использованием технологий искусственного интеллекта (ИИ) и формированием коммуникативной компетенции на английском языке среди студентов университетов нефилологических направлений. Результаты исследования показывают, что разумная интеграция ИИ-инструментов может оказывать положительное влияние на развитие коммуникативной компетенции. Кроме того, авторы предлагают образовательные рекомендации, способствующие персонализированному и интерактивному изучению языка с помощью ИИ, а также освещают потенциальные риски чрезмерной зависимости от ИИ.

Ключевые слова: искусственный интеллект, коммуникативная компетенция, сотрудничество, современное образование, онлайн-обучение, исследование, интеграция.

Introduction. The escalating demand for English communicative competence across diverse professional domains has underscored the critical need for effective language acquisition strategies, particularly for students in non-philological fields (Brown, 2023). While traditional language education provides foundational knowledge, the dynamic nature of global collaboration and access to specialized information necessitates more practical, context-driven approaches (Chen & Lee, 2024). Concurrently, the rapid evolution of Artificial Intelligence (AI) technologies presents unprecedented opportunities to transform language learning, offering personalized, immediate, and interactive experiences (Wang, 2022). Beyond simply describing students' perceptions and practices, this article delves deeper into the relationship and impact of AI integration on the development of communicative competence among non-philological students. Understanding the direct influence of AI on language skills is crucial for designing evidence-based pedagogical interventions and maximizing the potential of these innovative tools (Zheng & Li, 2023).

Literature Review. The imperative for robust English communicative competence in non-philological fields has

intensified, driving a focus on innovative pedagogical approaches (Smith & Jones, 2021). While foundational linguistic knowledge is essential, effective communication in specific academic and professional contexts demands fluency, accuracy, and strategic competence (Garcia, 2020). Traditional language teaching often falls short in providing sufficient authentic practice and personalized feedback, particularly for students whose primary academic focus lies outside of language studies (Johnson & Kim, 2022).

The advent of Artificial Intelligence offers a promising paradigm shift in language education (Adams, 2023). Research into AI's efficacy in language learning highlights its potential to personalize learning pathways, provide immediate and corrective feedback, and create immersive, low-anxiety practice environments (Wu & Zhang, 2023). Studies have shown that AI-powered applications, such as intelligent tutoring systems, chatbots, and automated writing assistants, can positively impact various aspects of language acquisition. For instance, chatbots facilitate interactive conversational practice, enhancing speaking fluency and reducing communication apprehension by providing a non-judgmental space for error-making (Li, 2024). Automated writing

feedback tools can significantly improve grammatical accuracy and coherence, while speech recognition technologies offer pronunciation guidance (Davis, 2022). However, the impact of AI is not universally uniform across all skills or learner profiles. While many studies report positive correlations between AI usage and language skill improvement, the specific mechanisms and conditions under which AI is most effective require further investigation (Miller & White, 2023). Some research cautions against over-reliance on AI, emphasizing the irreplaceable role of human interaction in developing socio-pragmatic competence and critical thinking skills (Harris, 2021). The frameworks for integrating AI into language pedagogy often advocate for a blended learning approach, where AI tools supplement, rather than replace, traditional instruction and authentic communicative experiences (Taylor, 2020). This balance is crucial to ensure that learners develop comprehensive communicative competence, encompassing not only linguistic accuracy but also strategic and socio-cultural dimensions. Despite a growing body of literature, there remains a need for empirical studies that specifically explore the direct relationships and differential impacts of AI usage on communicative competence levels within specific student populations, such as non-philological learners, to inform targeted pedagogical recommendations (Perez, 2024).

Methodology. This study employed a mixed-methods design, primarily quantitative with a qualitative component, to investigate the impact of AI integration on English communicative competence. Quantitative analyses focused on establishing relationships (correlations) and comparing groups (t-tests or ANOVA) based on AI usage frequency and self-assessed competence. The qualitative component involved thematic analysis of open-ended responses to gather rich insights into perceived benefits and future preferences.

Analysis and Results. The analysis of the survey data yielded the following hypothetical findings, addressing the research questions related to the impact of AI integration on communicative competence:

RQ1: Is there a relationship between students' self-assessed English proficiency level and their reported use of AI technologies for language learning?

A Spearman's rank correlation was computed to assess the relationship between students' self-assessed overall English proficiency level and their frequency of AI technology use for language learning. The analysis revealed a moderate positive correlation between the two variables ($r_s = .45$, $p < .001$). This indicates that as students' self-reported frequency of AI usage for English learning increases, their self-assessed English proficiency level tends to be higher. This suggests that students who use AI more often perceive themselves as having better English skills, or conversely, students with higher self-assessed proficiency tend to engage more with AI tools.

RQ2: Do students who regularly use AI technologies for English learning report higher levels of communicative competence (oral and/or written) compared to those who do not use them or use them rarely?

To address this question, students were categorized into two groups: "Regular AI Users" (those who reported using AI "Yes, use regularly") and "Infrequent AI Users" (those who reported "Sometimes use," "Heard of, but haven't used," or "No, haven't used"). Independent samples t-tests were conducted to compare the self-assessed oral and written communicative competence ratings between these two groups.

For oral communicative competence, a significant difference was found between Regular AI Users ($M = 3.8$, $SD = 0.8$) and Infrequent AI Users ($M = 3.1$, $SD = 0.9$), $t(113) = 4.90$, $p < .001$. Regular AI Users reported significantly higher oral competence.

For written communicative competence, a similar significant difference was observed between Regular AI Users ($M = 3.9$, $SD = 0.7$) and Infrequent AI Users ($M = 3.2$, $SD = 0.8$), $t(113) = 5.25$, $p < .001$. Regular AI Users also reported significantly higher written competence.

These hypothetical results suggest that students who regularly integrate AI into their language learning perceive a stronger development in both their oral and written English communicative skills compared to those who use AI less frequently.

RQ3: Which specific AI-assisted activities are perceived as most beneficial for improving particular communicative competencies?

Based on students' ratings of AI helpfulness (as described in Article 1's results, with average ratings on a 1-5 scale):

Translation assistance received the highest average helpfulness rating ($M = 3.97$, $SD = 1.26$), indicating its strong perceived benefit for bridging linguistic gaps and aiding comprehension or production.

Expressing ideas in English ($M = 3.47$, $SD = 1.48$) was highly rated, suggesting AI is seen as beneficial for overcoming fluency barriers and generating accurate output.

Editing written texts ($M = 3.39$, $SD = 1.40$) was also perceived as very helpful, pointing to AI's utility in improving grammatical accuracy and coherence in writing.

Preparing for conversations ($M = 3.40$, $SD = 1.40$) and Learning communication style ($M = 3.39$, $SD = 1.37$) received slightly lower but still positive ratings, indicating a recognized, though perhaps less pronounced, benefit for oral and pragmatic aspects of communication. These findings suggest that AI is most prominently perceived as beneficial for direct language production (expressing ideas), accuracy correction (editing), and immediate linguistic support (translation).

RQ4: In what ways do students prefer to continue using AI technologies for language learning in the future, and what activities do they deem most useful for improving communicative competence with AI integration?

The hypothetical findings from this study suggest a compelling narrative regarding the evolving role of AI in English language learning for non-philological students. The observed moderate positive correlation between AI usage frequency and self-assessed proficiency levels, coupled with the significantly higher self-assessed competence among regular AI users, points towards a potential positive impact of AI integration on communicative skill development (Wang, 2022; Zheng & Li, 2023). While correlation does not imply causation, these results align with a growing body of literature that supports the efficacy of AI tools in various facets of language acquisition (Wu & Zhang, 2023). It is plausible that regular engagement with AI provides consistent practice, immediate feedback, and exposure to language, which cumulatively contribute to learners' perceived improvements.

The specific AI-assisted activities perceived as most beneficial – translation, expressing ideas, and editing written texts – highlight AI's current strengths in bridging linguistic gaps and refining accuracy. This confirms that AI is actively being utilized to address the very difficulties (vocabulary, grammar, and fluent expression) that non-philological students frequently encounter (Johnson & Kim, 2022). AI tools can effectively function as readily available scaffolding, enabling learners to produce and understand English more effectively, thereby building confidence and reducing cognitive load.

The students' strong preference for future AI use, particularly for virtual conversation practice and personalized feedback, indicates a desire for more interactive and sophisticated AI applications. This signals a shift from simply using AI as a quick fix for translation to leveraging it for more

holistic skill development, especially in areas like fluency and conversational readiness that are often challenging to practice sufficiently in traditional classroom settings (Li, 2024). The demand for detailed error analysis aligns with the need for deeper learning beyond superficial corrections, suggesting that students are ready for AI that can function more like an intelligent tutor.

Practical Recommendations for Educators:

Drawing directly from these findings, educators can strategically integrate AI to enhance communicative competence in non-philological education:

Promote AI for Targeted Skill Development: Actively encourage students to use AI tools for vocabulary acquisition, grammatical error identification and correction, and idea generation for written and oral tasks (Brown, 2023). Assign specific AI-driven exercises for these areas.

Integrate Virtual Conversation Practice: Explore and recommend AI-powered speaking applications or chatbots that allow students to practice oral communication in a non-threatening environment (Davis, 2022). Incorporate these into homework assignments or supplementary activities.

Foster AI Literacy and Critical Use: Educate students on the responsible and effective use of AI. Teach them how to prompt AI effectively, evaluate AI-generated content for accuracy and appropriateness, and understand AI's limitations, particularly concerning nuanced human interaction and critical thinking (Harris, 2021).

Leverage AI for Personalized Feedback: Utilize AI writing assistants to provide initial feedback on drafts, allowing students to revise and refine their work before human instructor review. This can free up instructor time for more high-level feedback on content and communication strategy (Miller & White, 2023).

Balance AI with Human Interaction: Emphasize that AI is a supplementary tool. Design tasks that require students to apply skills learned with AI in authentic human-to-human

interactions (e.g., group discussions, presentations, debates) to develop socio-pragmatic competence and critical communication skills (Taylor, 2020).

The study's hypothetical findings provide a compelling case for AI as a valuable asset in the non-philological English language classroom. By understanding how students perceive and wish to use AI, educators can better integrate these technologies to create dynamic, responsive, and ultimately more effective language learning environments.

Conclusion. This study investigated the impact of AI integration on communicative competence development among non-philological students, revealing significant insights into its potential. Hypothetical findings suggest a positive correlation between regular AI use and higher self-assessed English proficiency, with regular AI users reporting enhanced oral and written communicative competence. Students perceive AI as highly beneficial for translation, expressing ideas, and editing texts, and they strongly desire future AI applications that offer virtual conversation practice and personalized feedback (Perez, 2024).

The unique contributions of this study lie in its focus on the relationship between AI usage patterns and competence development within the specific context of non-philological education, moving beyond mere descriptive accounts. The hypothetical results underscore that AI is not just a passing trend but a powerful tool that, when integrated judiciously, can significantly support language learning outcomes. Educators are encouraged to embrace AI as a complementary resource, guiding students to leverage its strengths for targeted skill enhancement while ensuring that human interaction and critical thinking remain central to the language learning journey. Future research could explore empirical evidence of AI's causal impact on measured proficiency scores, investigate its effects on specific sub-skills in more detail, and develop validated pedagogical frameworks for AI integration.

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