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ARTIFICIAL INTELLIGENCE-BASED CYBERPEDAGOGICAL MODEL OF DEVELOPING COMMUNICATIVE COMPETENCE OF PHILOSOPHY STUDENTS

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Abstract:
This article analyzes the issues of introducing a cyberpedagogical approach using artificial intelligence (AI) technologies in teaching English to philology students in higher education institutions. The study suggests the need to move from traditional methods of developing communicative competence to a digital learning environment and a model for integrating AI tools (Large Language Models – LLM) into the educational process.

Keywords: cyberpedagogy, communicative competence, artificial intelligence, philological education, prompt engineering, adaptive teaching, linguistic didactics.

INTRODUCTION

The modern education system in the era of global digital transformation is rapidly moving towards a new paradigm - "cyberpedagogy". The integration of information technologies and artificial intelligence (AI) tools into the educational process is fundamentally changing teaching methodologies and significantly expanding the scope of traditional approaches. In particular, the role of advanced technologies in the process of perfect mastering a foreign language by philology

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students in higher educational institutions, intercultural dialogue, and the formation of communicative competencies is becoming crucial.

However, the existing methodologies in today's philological education are often passive and static, limiting the student's ability to engage in real-time communication and to deeply experience the pragmatic and situational aspects of the language. Traditional classroom training in many cases is not able to fully cover the student's personal needs and individual pace of language learning. In this regard, a cyberpedagogical approach based on artificial intelligence is not just about using digital tools, but also about raising the educational environment to an intellectual and interactive level.

The main goal of this study is to develop and scientifically substantiate an artificial intelligence-based cyberpedagogical model aimed at developing the communicative competence of philology students. This model aims to transform the language learning process for students into a continuous, adaptive and individualized trajectory. The virtual environment created using modern AI tools such as Large Language Models (LLM) opens up new opportunities for students to strengthen their speech skills , especially oral and written communication skills, at a high level.

The relevance of the research is that it not only contributes to the formation of the interdisciplinary direction of "Cyberpedagogy" in the higher education system of Uzbekistan, but also offers new mechanisms for increasing the competitiveness of future philologists and translators. This scientific research is aimed at revealing not only the technical, but also the didactic and methodological foundations of integrating artificial intelligence into pedagogical processes . This, in turn, serves as an important step in bringing research in the field of linguistics to a new, qualitatively higher level .

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LITERATURE ANALYSIS AND METHODOLOGY

This of the research theoretical and methodological basics modern linguistic didactics and cyberpedagogy at the intersection formed . Literature analysis shows that in recent years, the role of digital learning environments and Large Language Models (LLM) systems in language teaching has been widely studied within the framework of J. Siemens's "Connectivism" theory. In particular, although foreign scientists evaluate AI tools as "assistant", the systematic integration of the "cyberpedagogical model" in the formation of communicative competence of philology students has not been scientifically studied to a sufficient extent. This situation determines the relevance of the topic and the level of novelty of the research.

is based on the "Mixed Methods" approach , combining quantitative and qualitative analysis. The research design consists of three stages: diagnostic, experimental and analytical. In the experimental part, two groups (control and experiment) are selected. While the control group receives education based on traditional methods, the experimental group is trained in a cyberpedagogical environment based on artificial intelligence. In this environment, the main emphasis is on mastering "prompt-engineering" technologies and interactive communication with AI (role-play, debate).

The uniqueness of the study is that it not only evaluates the effectiveness of AI tools, but also analyzes the student's interaction logic with these technologies. Data collection includes pre-test and post-test tests, chat history of students with AI, and in-depth interviews. The results are statistically processed using SPSS software, and theoretical conclusions are confirmed by practical experiments.

RESULTS

The experimental work carried out within the framework of this study was carried out with the participation of students of the philology department of a higher educational institution. A total of 60 students participated in the experiment, who

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were divided into control (n=30) and experimental (n=30) groups in equal numbers. The control group was taught using traditional textbooks and teacher-led communicative methods, while the experimental group was taught using a developed cyberpedagogical model based on artificial intelligence. The duration of the experiment was one semester (18 weeks).

1. Quantitative analysis results

at the beginning (Pre-test) and at the end (Post-test) of the experiment focused on measuring students' linguistic and communicative skills (lexical richness, grammatical accuracy, fluency, and communication strategies).

The analysis showed that initially the level of communicative competence in both groups was almost the same (average 62-64 points). However, the final test results showed that the experimental group's performance was significantly higher. The average score in the experimental group was 87 points , while in the control group this indicator was limited to 74 points.

The most significant increase was observed in the parameters of "fluency" and "speed of reaction". Working with artificial intelligence tools allowed students in the experimental group to memorize speech phrases and flexibly apply them in real situations. Statistical analysis (T-test) confirmed that the effect of the cyberpedagogical approach is positive with a confidence level of 95% ($p < 0.05$).

2. Quality analysis and interactive communication logs

The qualitative analysis process analyzed the chat history of students' interactions with AI, which clearly highlighted the unique characteristics of the cyberpedagogical environment.

First, the development of the "Prompt-engineering" skill was observed. While in the first weeks of the study, students tried to get only ready-made answers from the AI (copy-paste approach) , from the 8th week they began to approach the AI with complex scenarios, role-playing games and critical questions. This indicates that the student is developing the position of a "researcher-partner" and not just a language learner.

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Secondly, a decrease in psychological barriers was noted. As a result of the interviews , it was revealed that the students in the experimental group almost completely lost their fear of making mistakes in front of the teacher or peers in the audience when communicating with AI. The fact that artificial intelligence provides calm and non-judgmental feedback in any situation increased the student's speech activity.

3. The effectiveness of the cyberpedagogical model

The results of the study show that the developed cyberpedagogical model does not negate the traditional teaching method, but rather enriches it. Since students continued the learning process through AI platforms outside of class, their "self-study" indicators were 40 percent higher than the control group.

Also, the "real-time feedback" mechanism obtained using AI developed students' ability to independently recognize and correct grammatical errors (metacognitive skills). If in a traditional lesson the teacher does not have time to correct all errors, in the cyberpedagogical environment each error is automatically analyzed and the correct form is explained to the student.

CONCLUSION

This study scientifically and empirically substantiated the effectiveness of an artificial intelligence-based cyberpedagogical approach in developing the communicative competence of philology students in English. The analyses and experiments conducted within the framework of the study allowed us to draw the following conclusions:

1. Theoretical and methodological foundations: Within the framework of the interdisciplinary direction "Cyberpedagogy", it has been scientifically proven that artificial intelligence tools (AI) are not just technical assistants in the language learning process, but also **a "Virtual Educational Ecosystem" that manages the cognitive and communicative activities of the student** . The combination

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of traditional textbooks and digital technologies marks a qualitatively new stage in philological education.

2. Effectiveness of the cyberpedagogical model: The developed model (Prompt engineering, adaptive interaction and real-time feedback) showed superior results compared to traditional methods in developing students' linguistic and communicative skills. The fact that the results of the experimental group (post-test) increased significantly (by an average of 13-15%) compared to the control group confirms the pedagogical value of this approach.

3. Individualization and independent learning: Artificial intelligence tools have become an important factor in adapting to the individual learning pace of each student (adaptive learning), overcoming the "language barrier" and developing critical thinking skills. The cyberpedagogical environment moves the student from a passive listener to an active, researcher-participant position.

4. Practical recommendations: It is recommended that methodological recommendations developed based on the research results be included in the curricula of higher education institutions. In particular, the organization of special modules and seminars on "Cyberpedagogy and AI tools" in philological faculties is crucial in ensuring the competitiveness of future specialists.
and promising way to modernize the philological education system . This research will serve not only to accelerate the digital transformation in higher education in Uzbekistan, but also to train highly qualified philological personnel in accordance with international educational standards. Future research should focus on integrating this model into other foreign language teaching methodologies and on a deeper study of the ethical and pedagogical aspects of artificial intelligence.

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