



THE POTENTIAL OF ARTIFICIAL INTELLIGENCE IN PROJECT-BASED FOREIGN LANGUAGE TRAINING

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Annotation. The article explores the role of artificial intelligence as a key tool in project-based learning in higher education. It highlights the potential of AI technologies to enhance knowledge acquisition, foster critical thinking, and develop professional competences of students.

Keywords: project-based learning, artificial intelligence, foreign language training, higher education student, competences, teamwork.



Анотація. У статті розглянуто роль штучного інтелекту як ключового інструмента в організації та реалізації проєктного навчання іношомовної підготовки у закладах вищої освіти. Проаналізовано можливості інтеграції інтелектуальних технологій у навчальний процес із метою підвищення ефективності засвоєння знань, розвитку критичного мислення та формування професійних компетентностей здобувачів вищої освіти.

Ключові слова: проєктне навчання, штучний інтелект, іношомовна підготовка, здобувачі вищої освіти, компетентності, командна робота.



The contemporary development of higher education is characterized by extensive digitalization and the systematic integration of innovative technologies into teaching and learning practices. Among these, artificial intelligence (AI) has become a particularly significant catalyst, increasingly serving as a key instrument for advancing both educational outcomes and professional competencies. According to Oleksandr Boryakov, Deputy Minister of Digital Transformation for IT Development, the integration of AI is no longer optional but essential: «Modern education is impossible without artificial intelligence. Higher education institutions must adapt to current educational trends and adopt the best global practices in the field of AI to remain competitive, achieve new scientific breakthroughs, and prepare highly skilled specialists» [1].

Recent scholarly publications indicate that the integration of artificial intelligence (AI) into the educational process is being examined across several key dimensions. These include the potential of AI technologies to optimize educational practices [2]; the advancement of personalization and adaptive learning strategies [3]; the development of tools for planning and coordinating learning activities [4; 5]; the design of innovative approaches to assessment [6]; and the consideration of academic integrity and ethical issues associated with AI use [2; 6].

At Simon Kuznets Kharkiv National University of Economics (S. Kuznets KhNUE), the regulatory framework for AI's integration into the educational process is being established at multiple levels: at international level (UNESCO Recommendations, 2021 [7]); at national level (Recommendations of the Ministry of Education and Science of Ukraine and the International Center of Education of Ukraine, 2023 [8]); at institutional level (Policy on the Use of Artificial Intelligence in Academic Activities of S. Kuznets KhNUE, 2025 [9]). Collectively, these documents provide a foundation to ensure the ethical, safe and effective application of AI within the educational process.

An analysis of recent scientific publications demonstrates that AI possesses significant potential to transform project-based learning from individualized educational processes to contemporary methods of assessing learning outcomes. Nevertheless, the safe and effective implementation of AI in this context requires establishing updated



assessment standards, forming comprehensive ethical guidelines for AI use and introducing systematic mechanisms for ongoing monitoring and evaluation.

The purpose of this study is to examine the potential of artificial intelligence as a key instrument in project-based foreign language training for higher education students, with particular attention to its advantages, limitations, and prospects for future application.

Among the most widely adopted methodological approaches to foreign language training in recent years, project-based learning occupies a particularly prominent position. This approach facilitates the effective development of key competencies in higher education students that are essential for successful professional activity in a globalized society. The project method has been actively implemented in foreign language training at non-linguistic higher education institutions where the foreign language functions simultaneously as the object and the medium of learning. As noted in the literature, project-based activity in the context of foreign language training *«involves acquiring knowledge through active engagement in processes such as planning, searching, analysing, researching, synthesizing and presenting <...>, this enables students to study the language in contexts that closely approximate real-life communication»* [10, p. 4]. Within this framework, the foreign language emerges not only as an object of study but also as a means of communicative interaction, a tool for accessing and critically analysing new information, and a medium for presenting the outcomes of project work.

The effective realization of the potential of project-based learning under contemporary conditions is unattainable without integrating digital tools that support information retrieval and analysis, organizing teamwork and communication and adapting tasks to the learners' level of language proficiency. Within this context, AI emerges as a particularly significant instrument for enhancing the implementation of project-based activities. For teachers, AI serves not only as a mean of streamlining routine processes such as planning, monitoring and evaluating educational projects, but also as a tool to create an innovative and dynamic educational environment.

Numerous algorithms to organize project-based activities have been proposed in the scientific and methodological literature (e.g., Kulalaeva N., 2019; Savytska L., Kovalova K., Bezugla I., 2025; Umyarov K., Konkova T., 2025). However, artificial intelligence integration as a central tool introduces a qualitatively new level of project organization. AI systems enable to personalize the project work, thereby enhancing its intensity, efficiency and overall engagement for learners.

At the stage of project preparation and planning, tools such as ChatGPT, Google Gemini, and YouMind support both teachers and students in generating ideas, defining goals and objectives, developing work plans and project structures and organizing tasks with clear role distribution within the team.

During the stage of collecting and analysing information, platforms such as Consensus AI, Elicit, and Perplexity AI facilitate the automated retrieval and processing of scientific sources, thereby contributing to the development of comprehensive literature reviews.

At the stage of project implementation, applications such as Notion AI and Trello AI assist in organizing notes, structuring materials and enhancing team collaboration, while Excel Copilot and Tableau AI provide advanced functionalities for statistical analysis and data visualization.

At the stage of presenting project outcomes, tools such as Gamma 3, Canva AI, and VoxDeck facilitate the creation of modern presentations enriched with infographics and three-dimensional visualizations. Synthesi enables the development of video presentations featuring virtual avatars, while Tome AI supports the design of interactive presentations generated from textual descriptions.

At the final stage of project implementation and evaluation, AI systems can be employed to monitor task performance, analyse team interaction, and assess the quality of the final product. For instance, learning analytics platforms (Edmodo Insights and ClassDojo AI) allow tracking student's progress, identifying strengths and weaknesses in completed projects and generating individualized recommendations for subsequent learning activities.

An illustrative example of the practical application of AI in project-based learning is provided by the work of a student group from the Institute of International Relations at S. Kuznets KhNUE, specializing in Economics and International Economic Relations (CI). Within the framework of foreign language classes oriented toward professional communication, the students implemented the project «Development of a Startup Business Plan» (English).

1. *Preparing and Defining the Task.*

At the initial stage, students generated ideas for a prospective startup, defined its concept and formulated the overarching goal, specific objectives and directions for project implementation. To facilitate this process, students employed artificial intelligence tools such as ChatGPT and Google Gemini that supported generating innovative ideas and structuring the content. As an outcome, a preliminary business plan model was developed, including an executive



summary, marketing strategy and financial plan. *This stage resulted in forming a clear project concept and a detailed work plan.*

2. Collecting and Analysing Information.

At this stage, students conducted searching and systematizing scientific sources related to business models and market analysis. To streamline this process, they utilized the Consensus AI tool that significantly accelerated developing the project's theoretical foundation. Financial calculations, including profitability and cost assessments, were performed with the support of Excel Copilot, ensuring both the accuracy and clarity of the results. *The outcomes of this stage included preparing a literature review and completing the financial section of the business plan.*

3. Organizing and Implementing the Project.

This stage represented a crucial phase of teamwork as it involved drafting the business plan and preparing presentation materials. To optimize the process, students employed several digital tools. Notion AI was used to organise notes, coordinate tasks and distribute roles among team members, while Tableau AI facilitated interactive diagrams creation and high-quality visualizations. As a result, the group produced a coherent document with clearly structured sections, supported by graphic materials and professional visualizations, thereby significantly enhancing the overall quality and professional level of the project.

4. Presenting Results.

The final stage of the project focused on developing a modern pitch deck, incorporating infographics and other elements designed to capture the interest of potential investors. For this purpose, students utilized multiple AI-powered tools: Canva AI supported the design of visually engaging graphic materials, Gamma enabled to generate well-structured presentations, and Synthesia allowed integrating multimedia components in the form of video presentations. *The outcome of this stage was a comprehensive multimedia product that combined textual, graphical and audiovisual elements, thereby improving both the communicative effectiveness and the investment appeal of the project.*

5. Assessment and Reflection.

At this stage, team interaction was monitored and the individual contribution of each participant was assessed. The use of ClassDojo AI supported the teacher by facilitating the tracking of student progress and reducing the workload associated with evaluation. In addition, students engaged in both self-assessment and peer assessment with the assistance of ChatGPT that generated checklists to guide the process.

This example illustrates that integrating artificial intelligence tools across different stages of project-based learning substantially enhances the efficiency of the educational process and fosters the targeted development of professional competencies. Specifically, the AI tools applications expand research opportunities, streamlines routine operations such as information search, analysis and visualization and creates favourable conditions for effective team collaboration. Furthermore, AI-supported practices promote self-reflection and the cultivation of critical thinking skills, thereby aligning with the contemporary requirements for preparing competitive specialists in higher education.

Despite the considerable advantages of artificial intelligence (AI) in education, concerns remain regarding potential threats to academic integrity, technological dependency and the possible displacement of teachers from the learning process. However, recent studies suggest that such concerns are often overstated. AI is not intended to replace educators but to serve as an auxiliary tool that reduces routine workload and allows instructors to devote more attention to scientific and methodological work, as well as to building meaningful communication with students.

Accordingly, the primary responsibility of educators is to guide students in the ethical and effective use of AI, thereby ensuring compliance with academic integrity principles. Research indicates that AI can both challenge and reinforce academic integrity: while misuse may facilitate misconduct, structured frameworks and institutional policies enable AI to support transparent and responsible learning practices. Furthermore, the role of the teacher is undergoing an evolutionary transformation from a transmitter of knowledge to a facilitator, coordinator and mentor who promotes authentic learning experiences.

It is also essential to emphasize that AI cannot replicate uniquely human qualities such as emotional intelligence, empathy, or creative thinking. Thus, the teacher remains indispensable in fostering personal development and cultivating socially significant competencies, ensuring that the integration of AI contributes to, rather than undermines, the quality and integrity of higher education.



The integration of a project-based approach with AI technologies fundamentally transforms the educational environment, fostering independent research, collaborative teamwork and adaptability to the demands of the digital age. AI proves to be an indispensable tool across all stages of project work from planning and preparation to research execution and presentation of results enhancing both the efficiency and the quality of learning. Consequently, the systematic incorporation of digital technologies into project-based learning is not merely desirable but essential for ensuring its practical relevance and effectiveness.

In the context of foreign language training, AI integration enables students to develop critical competencies, including digital literacy, analytical skills, foreign language communicative proficiency and domain-specific professional skills. Beyond optimizing traditional project-based approaches, AI facilitates personalized learning pathways, increases student engagement and cultivates the capacity to employ innovative tools in professional contexts. This positions AI not as an auxiliary addition but as a transformative agent that elevates the outcomes of project-based learning and prepares students for the challenges of a digitally mediated professional environment.

Furthermore, the integration of AI fundamentally reshapes the role of the teacher. Educators are increasingly transitioning from the position of knowledge transmitters to that of facilitators, coordinators and mentors who guide students in the ethical and effective use of AI. By relieving instructors of routine tasks, AI allows them to focus on fostering critical thinking, creativity and social-emotional competencies qualities that remain uniquely human and central to higher education. Thus, the combination of AI and project-based learning not only enhances student outcomes but also empowers teachers to assume more strategic, interactive, and pedagogically sophisticated roles.

The present overview underscores the urgent need for further research to evaluate the effectiveness of specific AI tools at different stages of project-based learning. Such research will be pivotal in refining pedagogical strategies, maximizing the benefits of AI and ensuring that higher education institutions can fully leverage technological innovations to develop competitive, skilled, and adaptable graduates while redefining the teacher's professional function.

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