

AI technologies in language education: Practical aspects and challenges of student usage

Aigerim Kereibayeva^{1,*†}, Fariza Abdraimova^{1,†}, Tolkyntoktarova^{1,†}, Dinara Dyussenova^{1,†}, and Dana Tsoy^{1,†}

¹International Information Technology University, Manas St. 34/1, Almaty, 050000, Kazakhstan

Abstract

This study explores the practical integration of artificial intelligence (AI) technologies in language education amidst rapid digital transformation. Survey data were collected from 116 students across four universities (RUDN, ADU, KazNU, IITU, SDU) spanning disciplines in Humanities (Philology) and Technical majors (IT, Engineering). Quantitative and qualitative analyses reveal that AI has become a routine academic tool, with approximately half of the participants reporting daily use, primarily for exam preparation, essay writing support, and translation tasks. Notably, distinct disciplinary differences emerged: students in language-focused disciplines exhibited cautious attitudes regarding AI's influence on authorship and creativity, whereas those in technical sciences generally regarded AI as a neutral assistant with minimal concern for ethical or cognitive implications. These contrasts indicate that academic culture and disciplinary context significantly shape student perspectives on AI use. The findings underscore the need for tailored approaches to AI literacy emphasizing critical thinking and stylistic independence in language-centric fields, and promoting awareness of ethical and cognitive risks in technical areas. This research contributes to a better understanding of differentiated educational strategies essential for nurturing responsible AI engagement across diverse academic disciplines.

Keywords

artificial intelligence, language education, digital literacy, academic culture, AI literacy

1. Introduction

Today the Artificial Intelligence is becoming a part of education, especially in such areas of language learning as understanding texts, speaking and intercultural communication. AI creates new possibilities for students through tools like automatic translators, writing assistance, language generating models and personalized chatbots. These innovative technologies are changing the way students perceive, learn and produce information. As a result, there is a growing need to understand how students experience and interact with AI tools during their language studies.

However, from our pedagogical practice, we have noticed that while AI can offer many benefits, it also presents challenges related to methodological, ethical, pedagogical and sociocultural concerns, which require serious attention of methodologists, instructors, and the students to this matter. Many recent studies are focused on the potential of AI in transformation of the education [1, 2, 3]. AI has a potential in managing personalized learning, adaptation of learning pathways to students individual needs, and providing instant feedback that can improve students learning outcomes.

Nonetheless, there is still insufficient empirical research that analyzes the challenges faced by students using AI in language learning process. Moreover, the existing scientific literature lacks comparative studies focused on gender and intercultural differences in AI usage within language preparation of students. Therefore, our study addresses this gap by examining the students' experiences from three countries — Kazakhstan (IITU, KazNU and SDU), Russia (RUDN), and

¹ AI 2025: Workshop on Artificial Intelligence, November 19-20, 2025, Almaty, Kazakhstan

* Corresponding author.

† These authors contributed equally.

✉ a.kereibaeva@iitu.edu.kz (A. Kereibayeva); f.abdraimova@iitu.edu.kz (F. Abdraimova); t.toktarova2008@gmail.com (T. Toktarova); d.dyussenova@iitu.edu.kz (D. Dyussenova); d.tsoy@iitu.edu.kz (D. Tsoy);

ORCID 0000-0002-0330-9033 (A. Kereibayeva); 0000-0002-6931-2315 (F. Abdraimova); 0000-0001-6674-3251 (T. Toktarova); 0000-0003-4514-9856 (D. Dyussenova); 0000-0003-0172-9760 (D. Tsoy);



© 2025 Copyright for this paper by its authors. Use permitted under Creative Commons License Attribution 4.0 International (CC BY 4.0).

(Language University) Azerbaijan, where digital platforms are becoming an integral part of higher education, that allows us to identify not only common but also specific challenges related to AI integration in language practice.

The relevance of this study stems from the urgent need to examine the challenges that arise when AI is applied in universities language education. The main challenges students face is unconscious use of AI, lack of motivation to practice speaking, overreliance on AI generated texts, the risk of plagiarism, limited digital skills and misunderstanding of AI's limitations. Because of the globalization and digitalization of higher education, there is a need to develop approaches that consider technology alongside with educational, cultural and gender characteristics of the learners.

Our observation show that students actively use AI in their language learning activities, however their awareness, critical thinking and digital skills greatly vary. Additionally, the effect of gender differences on student's intensity of AI use in language education remains insufficiently studied.

The object of this study is the process of language leaning within higher education, especially in the context of using Artificial intelligence (AI). The subject of the study is the challenges and specific aspects related to how students use AI tools in the language learning process, taking into account gender and cultural differences of students. The novelty of this research is in its empirical identification of the challenges and barriers faced by students from different countries when using AI in language learning.

Our survey was conducted among students of International Information Technology University (IITU), Al-Farabi Kazakh National University (KazNU), Suleyman Demirel University (SDU) in Kazakhstan, the Peoples' Friendship University of Russia (RUDN) in Russia, and Azerbaijani Language University in Azerbaijan. This wide range of approaches helped us to consider cultural, educational and gender differences in how students use AI. The analysis of the results revealed that, despite having access to technology, students often encounter technical, cognitive and ethical challenges. The main aim of this study is to address these obstacles students face while using AI in their language learning process, taking into account the differences between universities, cultures and genders.

2. Literature review

Recent studies in Artificial Intelligence (AI) demonstrate a growing interest among educators in integrating technologies, such as ChatGPT, into the language learning process. Researchers have explored how these tools assist learners in mastering new languages by offering personalized feedback and supporting student engagement [2, 4]. In the context of broader digital transformation, academic platforms – including mobile e-learning tools and augmented reality platforms developed in the Central Asian context have demonstrated tangible potential for increasing learner engagement [5], while AI-powered chatbots such as ChatGPT similarly enhance self-regulated learning in science disciplines [3]. Daineko et al. demonstrated that a multilingual mobile application integrating augmented reality technology, developed at IITU in Kazakhstan, successfully enhanced student engagement in distance learning of physics across secondary and higher educational institutions – illustrating the broader potential of technology-enriched academic platforms in the region [5].

Authors such as Paiva and Bittencourt highlight the necessity of adapting teaching methods to these new technologies, advocating for human-AI hybrid approaches where AI serves as a major component in the classroom [6]. However, despite the optimistic predictions regarding AI's adoption, scholars such as Tukumov [7] and Yiğit [8] raise significant concerns regarding ethical challenges and the potential negative impact on students' critical thinking skills. A recurring theme in the literature is that AI may successfully automate rote or repetitive tasks, but it cannot substitute for the essential human interaction in pedagogy. Furthermore, Yiğit [8] stresses that AI fundamentally changes the traditional roles of teachers and students, requiring both parties to develop strong digital skills to succeed in this evolving environment.

Beyond general academic performance, AI significantly influences the development of students' communicative and social skills within multicultural contexts, particularly in the professional sphere.

Recent findings by Zhang, Meng, and Ma [9] suggest that AI tools in EFL (English as a Foreign Language) settings can impact student enjoyment, anxiety levels, and their overall willingness to communicate. Similarly, Nazarbekova [10] identifies new horizons in language acquisition through AI, though she notes that the effectiveness of these tools depends on how they are integrated into the curriculum.

Despite these advancements, a significant gap remains regarding the application of AI in technical universities. Existing research often focuses on general teaching issues without addressing the specific needs of technical education. Furthermore, the challenge of motivating students in specialized tracks, such as English for Specific Purposes (ESP), remains a critical hurdle [11]. While recent scholarship has explored AI integration in English language teaching more broadly, applied research on AI-tailored professional communication for engineering and IT disciplines remains scarce [12, 13]. While previous scholarship has focused on ICT-based instruction, there is a lack of applied research regarding AI-tailored professional communication for engineering and IT disciplines. Manapbayeva et al. identified the key motivational factors influencing students enrolled in ESP programs and proposed practical pedagogical approaches, underscoring that traditional motivational strategies must be adapted to the specific goals and professional orientation characteristic of technical and specialized disciplines – a gap that AI-assisted methods are only beginning to fill [11].

3. Research methodology and procedure

This study employed a mixed-methods research design to examine the integration of artificial intelligence (AI) in the language learning processes of undergraduate students across Kazakhstan, Russia, and Azerbaijan. The participant pool consisted of students from five prominent institutions: the International University of Information Technologies (IITU, Almaty), Al-Farabi Kazakh National University (KazNU), Suleyman Demirel University (SDU), the Peoples' Friendship University of Russia (RUDN), and the Azerbaijani Language University.

A total of 116 undergraduate students (Years 1–4) were recruited via convenience sampling, comprising 36 students from IITU, 20 from KazNU, 15 from SDU, 25 from RUDN, and 20 from the Azerbaijani Language University. Quantitative data were gathered through a structured questionnaire designed to evaluate AI tool preferences, frequency of use, perceived pedagogical effectiveness, and ethical awareness. The instrument consisted of 10 closed-ended items (utilizing Likert scales and multiple-choice formats) and 5 open-ended qualitative questions. A pilot test ($n=20$) confirmed the instrument's internal consistency, yielding a Cronbach's alpha of 0.81. The final survey was administered digitally via Google Forms following informed consent protocols.

To deepen the interpretative richness of the study, qualitative data were collected through semi-structured interviews with 35 purposefully selected students. These sessions were conducted via the Zoom platform, recorded with participant permission, and transcribed verbatim for thematic analysis.

Quantitative analysis was performed using SPSS Version 26 and Microsoft Excel 365. Beyond descriptive statistics (means, standard deviations, and frequency distributions), inferential techniques including correlation analysis were applied to test the relationship between disciplinary backgrounds and AI engagement patterns. Qualitative data from open-ended responses and interviews underwent inductive thematic coding to identify core themes related to pedagogical impact, cognitive challenges, and the sociocultural factors influencing AI adoption.

The authors acknowledge several limitations inherent in this exploratory research. First, the sample size ($n=116$) and the use of convenience sampling may restrict the generalizability of the results to the broader global student population. Second, the reliance on self-reported data introduces the possibility of social desirability bias, particularly concerning academic integrity and ethical usage. Finally, while this study establishes clear disciplinary trends, future longitudinal research is required to track the evolution of these attitudes as institutional AI policies become more formalized.

4. Results

4.1. Student usage patterns and attitudes toward AI tools in language learning: A quantitative analysis

This section analyzes how 116 students across Kazakhstan, Russia, and Azerbaijan adapt AI within their disciplines, evaluating the link between academic culture and technology perception. Findings reveal a systematic "epistemic" divide: technical majors embrace AI as a pragmatic "co-author" to optimize efficiency, while philology students maintain a cautious, reflexive stance to protect authorship and originality.

This contrast suggests that disciplinary traditions not just individual preference – drive AI attitudes. Students actively negotiate AI's role based on their field's ethical standards. Consequently, these distinct conceptualizations prove that "one-size-fits-all" digital literacy models are insufficient for the diverse landscape of higher education.

Table 1

Comparative attitudes toward AI among humanities and technical students (n=116)

Survey dimension	Humanities (Philology)	Technical majors (IT, Engineering)	Illustrative quotes
Authorship (AI metaphor)	Emphasize self as true author; AI as tool. Concerned about loss of originality.	More likely to view AI as co-author or assistant shaping output.	Hum: "AI shows the direction, but the painting is still mine." Tech: "If AI helps me build the text, why not share the authorship?"
First action with AI-generated text	Critical reflection, rephrasing, compare with own draft.	Direct use, minimal edit for plagiarism check.	Hum: "if this is really my perspective." Tech: "I just change some words to avoid plagiarism and submit." Hum: "I would argue with it, to test its limits."
If AI were a classmate...	Dialogue, critique, "teach it creativity."	Utilitarian: copy answers or ask for explanation.	Tech: "I'd copy its answers during a test."
Academic integrity	More likely "Yes, it violates integrity," stressing ethical risks.	Many say "Depends on assignment," higher pragmatic tolerance.	Hum: "Frequent reliance weakens my own voice." Tech: "It depends – if the task is routine, why not use AI?" Hum: "Asking the question is half the answer."
Formulating queries	Stress asking own questions, linking to critical thinking.	AI can ask questions; focus on efficiency.	Tech: "Yes, AI can ask back – it saves me time."
Ethical and conscious use	Suggest training in critical thinking, clear rules, limitations.	Request technical workshops, guidelines, "more freedom."	Hum: "Teach us to see AI as helper, not replacement." Tech: "We need examples when AI helps and when it fails."
AI's role (metaphors)	Compass and Artist: guide and inspire, student walks the path.	Navigator and Mechanic: efficiency, correction, optimization.	Hum: "AI inspires, but ideas must be mine." Tech: "AI fixes mistakes when I go off track."

Table 1 highlights consistent contrasts between humanities and technical students in their attitudes toward AI. Humanities students emphasize authorship, critical distance, and the risks of dependency. They tend to engage with AI dialogically, treating it as an entity to question and challenge. Their responses reflect disciplinary habits of interpreting meaning, scrutinizing sources, and defending originality. Conversely, technical students take a pragmatic approach, prioritizing efficiency over

originality. They describe AI as a problem-solver, shortcut to correct answers, or time-saving tool. While aware of ethical concerns, they tend to frame them conditionally (“depends on assignment”) and exhibit greater tolerance for substituting routine effort with AI. These findings underline the significant role of disciplinary context.

Philology fosters skepticism and a strong sense of authorship, while technical education encourages trust in systems and optimization. For AI pedagogy, this suggests discipline-specific strategies: enhancing critical literacy to mitigate over-reliance among technical majors, and demonstrating practical benefits to alleviate humanities students’ fears of “losing voice”. Together, these results emphasize that AI literacy is a nuanced negotiation of trust, control, and authorship, varying across academic cultures. Both groups recognize AI’s usefulness, but philologists remain skeptical and reflective, while IT and engineering students tend to embrace AI as a neutral, non-threatening resource. Thus, AI literacy training should be discipline-sensitive, focusing on ethical and authorship issues for technical students and creativity-enhancing applications for humanities students.

4.2. AI tools, usage purposes, behaviors, and attitudes (n = 116)

Table 2

AI Tools, Usage Purposes, Behaviors, and Attitudes (n = 116)

Variable	Category	% of Respondents
AI tools used	ChatGPT	86.2%
	Grammarly	17.2%
Primary purposes of AI use	Exam preparation	62.1%
	Essay writing/editing	52.6%
Behavior toward AI-generated text	Critically review	45.7%
	Rewrite independently	28.4%
Interaction if AI were a classmate	Collaborate and ask explanations	61.2%
	Copy answers without understanding	11.2%
View on AI and academic integrity	Depends on assignment	58.6%
Frequency of AI use in studies	Every day	50.0%
	Several times a week	42.9%

Table 2 provides a detailed overview of students' actual use of AI tools in their academic work. ChatGPT is overwhelmingly the most utilized platform, with 86.2% of respondents reporting its use, while Grammarly is used by a smaller segment (17.2%). The primary motivations for engaging with AI are exam preparation (62.1%) and essay writing/editing (52.6%), indicating that AI is predominantly employed in high-stakes academic contexts. Regarding interactions with AI-generated text, 45.7% of students critically review and amend the content, and 28.4% independently rewrite AI outputs, demonstrating a relatively high degree of digital literacy.

However, a minority (11.2%) admit to copying AI-generated answers without deeper engagement, raising potential concerns about academic integrity. When prompted to envision AI as a classmate, most students (61.2%) favored collaborative approaches, such as seeking explanations, while few (11.2%) would copy answers outright. This analogy suggests that students generally perceive AI as a supportive peer rather than a substitute for instructors. Ethical perspectives further underscore this ambiguity, with 58.6% expressing that the acceptability of AI use depends on the nature of the assignment, reflecting the ongoing negotiation of institutional policies.

Lastly, AI has become deeply ingrained in student academic routines, with half using it daily and nearly as many several times weekly. These findings highlight AI’s transition from novelty to a

normalized component of academic culture, albeit with evolving perceptions about its proper role and limitations.

4.3. Students’ perspectives on AI in language learning: Qualitative results (n = 116)

The survey and interviews gave students space to describe their own experiences with AI tools in language learning. While the quantitative part of the study captured frequency and patterns of use, the open-ended responses (n = 116) and interviews (n = 35) shed light on how students actually think about AI, how they use it in practice, and what concerns they raise. Several themes appeared repeatedly across the answers.

Some students see AI simply as a supportive assistant, much like a dictionary or calculator. Others describe it as a kind of co-author, admitting that they sometimes rely on it more than they would like. A third group focus on the tension between efficiency and creativity, noting that AI helps them finish tasks faster but may reduce originality. Ethical questions about academic integrity also came up often, with students divided on whether using AI counts as cheating. Finally, many emphasized the role of formulating clear queries, pointing out that the quality of AI’s answers depends heavily on how the prompt is written. Table 3 illustrates these themes with representative student comments. Combined, these qualitative findings complemented the quantitative data, providing a thorough and nuanced evaluation of AI’s role and impact in enhancing language education within universities in Kazakhstan, Russia, and Azerbaijan.

Table 3
AI Tools, Usage Purposes, Behaviors, and Attitudes (n = 116)

Theme	Sample quotes
AI as a supportive assistant	“For me, AI is like a dictionary or calculator—it helps but doesn’t replace me.” / “It checks grammar and polishes my work.”
AI as co-author or substitute	“Sometimes AI feels like the real author of my text.” / “It’s teamwork: I decide the direction, but AI executes it.”
Convenience vs. creativity	“I finish faster, but I brainstorm less now.” / “Too much reliance makes my style less original.”
Academic integrity concerns	“For essays it depends—sometimes it’s cheating, sometimes it’s just a tool.” / “Teachers aren’t always clear on what’s allowed.”
Awareness of query formulation	“If I ask vaguely, AI gives me vague answers.” / “Learning to write precise prompts is a skill by itself.”

The qualitative data summarized in Table 3 reveal that students are active, discerning users of AI technologies rather than passive recipients. Most regard AI as a supportive assistant are helpful for tasks like grammar correction, structuring texts, or providing quick explanations to facilitate their learning process. Concurrently, a smaller subset openly perceives AI as a co-author, particularly when facing tight deadlines that necessitate relying on ready-made text to meet academic demands.

The most pronounced ambivalence concerns creativity. Students acknowledge that AI saves time and minimizes errors, yet many express concern that excessive dependence may diminish their original ideas and personal writing style. This recurring tension, knowing AI’s limitations while continuing its use, reflects a nuanced, often conflicted relationship with the technology. Ethical considerations add another layer of complexity. Some students view AI-generated essays as a form of plagiarism, whereas others regard their acceptability as conditional, dependent on the specific assignment and context. The absence of uniform institutional policies compels students to navigate these ethical boundaries individually, resulting in varied interpretations and self-regulation practices.

Finally, the emphasis on formulating precise prompts reveals that students are independently cultivating digital literacy skills. They recognize that how they frame questions significantly influences AI's utility. This process, in turn, encourages more deliberate and nuanced thinking about language and meaning. In sum, the qualitative data portray a student cohort actively negotiating AI's role in their academic work in real time: appreciative of its practical benefits, cognizant of its potential drawbacks, and continually seeking a balance between assistance and intellectual autonomy.

5. Discussion

This study set out to explore how students across different institutions and majors perceive and engage with AI tools in language learning. The results indicate both convergence and divergence in attitudes. On the one hand, there is a shared recognition of AI's utility for quick information retrieval, drafting, and overcoming writer's block. On the other, students remain cautious about over-reliance, particularly when it comes to questions of authorship and academic integrity. Beyond these general patterns, our comparative analysis underscores a clear disciplinary divide. Humanities students consistently foreground authorship, originality, and the intellectual risks of outsourcing thinking. Technical majors, in contrast, frame AI as a pragmatic collaborator, often comfortable with shared authorship and routine substitution.

These findings resonate with prior work on epistemic cultures in higher education, where humanities tend to privilege reflexivity and critical distance, while technical fields emphasize efficiency and problem-solving. Yet our data go further: the divergence is not limited to isolated questions but is systematic, shaping perceptions of authorship, integrity, and even the metaphors students choose to describe AI. This suggests that AI literacy cannot be taught as a uniform skill set but requires discipline-sensitive approaches. Overall, the data highlight that attitudes toward AI are not only shaped by individual preferences or institutional culture, but also by disciplinary worldviews that influence how students interpret the risks and rewards of intelligent tools.

6. Conclusion

The results of this study demonstrate that artificial intelligence technologies hold substantial potential to enrich language education by offering personalized learning opportunities, timely feedback, and flexible access to resources. Students actively use AI tools for exam preparation, text editing, and grammar support, recognizing these technologies as valuable educational aids. However, findings also reveal that excessive or uncritical reliance on AI may undermine student autonomy and creativity, while raising ethical and cognitive challenges that necessitate pedagogical intervention and the development of digital literacy.

A key insight of this research is that students are far from passive adopters of AI; they actively negotiate its role in their learning, weighing convenience against concerns about authenticity, originality, and critical thinking. Despite widespread use, uncertainty remains regarding AI's ethical boundaries and its long-term impact on educational outcomes. Significantly, the study reveals distinct disciplinary differences. Humanities students emphasize authorship, creativity, and the intellectual risks of outsourcing thinking, requiring AI training that supports innovation without compromising critical voice. Technical majors tend to adopt a pragmatic stance, viewing AI as a collaborative assistant focused on efficiency, thus benefiting from pedagogical approaches that cultivate reflection and ethical awareness to counterbalance tendencies toward uncritical use.

Taken together, these findings argue for differentiated AI literacy frameworks flexible, discipline-sensitive strategies rather than a uniform model responsive to the epistemic cultures of different academic fields. Addressing this divide is essential for universities aiming to equip graduates with both the efficiency valued in technical domains and the critical discernment fostered in the humanities. By acknowledging both commonalities and divergences across disciplines, higher education can better prepare students to use AI not as a crutch, but as a tool that complements, rather

than replaces, human agency and intellectual growth. To this end, it is recommended that curriculum designers and educators develop methodologically robust programs incorporating interactive tasks, critical engagement with AI outputs, and support for digital literacy, all aligned with specific disciplinary goals and AI capabilities.

Finally, future research should explore pedagogical models balancing AI use across key language skills reading, writing, and speaking and investigate cross-cultural differences in AI perceptions and applications, thereby optimizing AI's role in diverse educational settings.

Acknowledgements

This research is funded by the International Information Technology University in Almaty, Kazakhstan, and is conducted as part of the internal project “Integrating Artificial Intelligence (AI) in the Development of Professional Competencies of IITU Students through Language Education.” (Order No. 102-P dated May 2, 2025).

Declaration on Generative AI

During the preparation of this work, the authors used ChatGPT and Grammarly in order to: Grammar and spelling check and stylistic refinement of the manuscript. After using these tools and services, the authors reviewed and edited the content as needed and take full responsibility for the publication's content.

References

- [1] Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *IEEE Access*, 8, 75264–75278. <https://doi.org/10.1109/ACCESS.2020.2988510>.
- [2] Hussain, S. M., Satti, S. M. J., Khan, Z., & Um-e-Safia (2024). AI-powered personalized learning: Advancing language education in the digital era. *Journal of Social Signs Review*, 2(4), 730–740.
- [3] Ng, D. T. K., Tan, C. W., & Leung, J. K. L. (2024). Empowering student self-regulated learning and science education through ChatGPT: A pioneering pilot study. *British Journal of Educational Technology*, 55(4), 1328–1353. <https://doi.org/10.1111/bjet.13454>.
- [4] Lytras, M. D., Serban, A. C., Alkhaldi, A., Aldosemani, T., & Malik, S. (2024). Transformative learning for future higher education: The artificial intelligence-enabled learning revolution 2035. *Digital Transformation in Higher Education, Part B*. pp. 231–241. <https://doi.org/10.1108/978-1-83608-424-220241009>.
- [5] Daineko, Y., Tsoy, D., Seitnur, A., & Ipalakova, M. (2022). Development of a mobile e-learning platform on physics using augmented reality technology. *International Journal of Interactive Mobile Technologies (ijIM)*, 16(5), pp. 4-18. <https://doi.org/10.3991/ijim.v16i05.26961>.
- [6] Paiva, R., & Bittencourt, I. I. (2020). Helping teachers help their students: A human-AI hybrid approach. In *International Conference on Artificial Intelligence in Education* (pp. 448–459). Cham: Springer. https://doi.org/10.1007/978-3-030-52237-7_37.
- [7] Tukumov, E. (2024). The role of artificial intelligence in education and science: Global and national aspects. *Gosudarstvennoye upravleniye i gosudarstvennaya sluzhba*, (2(89)), 59–70. <https://doi.org/10.52123/1994-2370-2024-118>.
- [8] Yiğit, G. (2024). Development of artificial intelligence technologies and language learning. *Artificial Intelligence in Educational Research*, 1(1), 54–64. <https://doi.org/10.5281/zenodo.11243867>.
- [9] Zhang, C., Meng, Y., & Ma, X. (2024). Artificial intelligence in EFL speaking: Impact on enjoyment, anxiety, and willingness to communicate. *System*, 121, Article 103259. <https://doi.org/10.1016/j.system.2024.103259>.
- [10] Nazarbekova, G. A. (2025). Studying English through artificial intelligence: New horizons of learning. *Vestnik KazNPU imeni Abaya. Seriya: Filologicheskiye nauki*, 91(1), 111–125. <https://doi.org/10.51889/2959-5657.2025.91.1.012>.

- [11] Manapbayeva, Zh., Kabdrgalinova, S., Kenzhebekova, A., Mirzoyeva, L., & Daineko, Y. (2024). Motivating students in learning English for specific purposes (ESP). *CEUR Workshop Proceedings*, 3680.
- [12] Al-Khresheh, M. H. (2024). Bridging technology and pedagogy from a global lens: Teachers' perspectives on integrating ChatGPT in English language teaching. *Computers and Education: Artificial Intelligence*, 6, 100218. <https://doi.org/10.1016/j.caeai.2024.100218>.
- [13] Baskara, R., & Mukarto, M. (2023). Exploring the implications of ChatGPT for language learning in higher education. *Indonesian Journal of English Language Teaching and Applied Linguistics*, 7(2), 343–358. <http://dx.doi.org/10.21093/ijeltal.v7i2.1387>.