

UDC 378

IRSTI 14.35.07

<https://doi.org/10.48371/PEDS.2026.80.1.027>

PERSONALIZED GAME SCENARIOS WITH AI SUPPORT AS A TOOL FOR DEVELOPING AUTONOMY IN LANGUAGE LEARNING

Kulgildinova T.A.¹, *Artykbayeva F.I.², Yussupova G.T.³, Tursynova G.I.⁴

¹KazUIR&WL named after Abilay khan, Almaty, Kazakhstan

*^{2,4}Zh.A.Tashenev University, Shymkent, Kazakhstan

³Khoja Akhmet Yassawi International Kazakh-Turkish University
Turkestan, Kazakhstan

Abstract. The article examines the potential of using personalised game-based scenarios supported by artificial intelligence (AI) to develop learner autonomy in foreign language education. The purpose of the study is to identify the impact of AI and gamification on students' motivation, self-regulation, and engagement, as well as to evaluate their effectiveness for independent learning. The scientific significance of the work lies in substantiating the pedagogical potential of integrating AI and game-based technologies into the educational process, while its practical significance is in the development of methodological recommendations for applying these tools in foreign language teaching. The study was conducted empirically through a quantitative survey of 259 students enrolled in the "Teacher Training in Two Foreign Languages" program at Zhumabek Tashenov University. The questionnaire included 25 items grouped into five thematic blocks: goal setting and planning with digital and AI tools, self-regulation and learning organisation, use of digital tools and AI, impact of AI and gamification on learning, and motivation and engagement. Data analysis showed a positive perception of AI and gamification among students, strong correlations between key aspects of autonomous learning, and mediation analysis revealed that motivation partially mediates the effect of AI on self-regulation. The results suggest that students perceive AI-supported and gamified learning environments as contributing to learner autonomy, motivation, and engagement, thereby supporting the development of digital and personalised foreign language learning approaches. The practical significance lies in the possibility of using the findings in the development of educational programs, digital courses, and methodological recommendations to enhance student autonomy in the context of the digital transformation of higher education.

Keywords: artificial intelligence, gamification, learner autonomy, motivation, self-regulation, foreign languages, digital learning

Introduction

Modern education is undergoing an active process of digital transformation, during which traditional teaching methods are increasingly complemented and replaced by innovative technologies aimed at improving quality, personalisation, and interactivity in learning. One of the priority directions in foreign language education is the integration of artificial intelligence (AI) and gamification technologies, which make it possible to create more flexible, adaptive, and motivating learning environments. In the context of the rapid development of digital tools, the issue of fostering learner autonomy—the ability to set learning goals, plan activities, evaluate one’s own progress, and take responsibility for the learning process—has become particularly relevant.

The relevance of this study lies in the need to identify effective pedagogical approaches that not only enhance students’ language proficiency but also promote the development of independence, critical thinking, and motivation for lifelong learning. The use of AI-supported personalised game-based scenarios opens new opportunities in this regard [1]: such scenarios enable the adaptation of learning materials to individual learner profiles, sustain engagement through game mechanics (points, levels, rewards), and provide personalised real-time feedback.

Contemporary research highlights the significant influence of AI on the field of language education, particularly in assessment and instructional design. For example, Alam et al. [2] investigated the role of the Intelligent Computer-Assisted Language Assessment (ICALA) system and its impact on teachers’ professional characteristics, such as *teacher immunity*, reflective practice, job satisfaction, and persistence in L2 teaching. Their findings demonstrate that AI technologies are transforming the pedagogical environment, affecting educators’ resilience and professional well-being. Although this study focuses on teachers, it underscores a broader trend—the transformation of language education under the influence of AI. Building on this context, the present research shifts the focus to a student-centred application of AI, specifically exploring the potential of AI-assisted personalised game scenarios to foster learner autonomy, engagement, and foreign language learning efficiency.

The use of AI in foreign language instruction has been widely discussed in the current literature. Scholars emphasise that AI technologies can act as virtual tutors, adapting to students’ knowledge levels, learning styles, and pace of progress [3, 4]. Gamification, in turn, is recognised as an effective tool for enhancing motivation, cognitive activity, and sustained interest in language learning [5, 6]. However, the integration of AI-driven personalisation and gamification strategies remains a relatively new and underexplored direction, especially in relation to developing learner autonomy.

AI itself is not merely an instrument of automation—it exerts a powerful influence on the emotional and motivational dimensions of learning. When

combined with pedagogical support and a gamified environment, it becomes a catalyst for enhancing learners' autonomy, engagement, and academic success [7]. Recent domestic studies further confirm the high potential of integrating AI technologies into foreign language learning [8, 9]: the implementation of intelligent learning and assessment systems has led to significant improvements in students' performance across all language skills—reading, listening, writing, and speaking—while also increasing both cognitive and behavioural engagement [10].

Recent meta-analyses indicate that adaptive systems and personalised learning approaches dominate the main directions of AI integration in higher education [11]. This finding underscores the promise of developing and implementing AI-supported personalised game-based learning scenarios as one of the most effective tools for fostering student autonomy. A significant example of such personalised technologies in language education is the emergence of advanced next-generation AI tools. The advent of solutions such as ChatGPT has radically transformed approaches to foreign language learning, opening new opportunities for personalised instruction and expanding students' learning strategies.

As noted by Lo, Yu, Xu, and colleagues [12], the use of ChatGPT in ESL/EFL instruction enhances learning motivation, broadens opportunities for personalised learning, and strengthens pedagogical support. The authors also discuss risks such as misinformation, academic integrity, and even confidentiality. A total of 70 empirical studies were analysed, and noted that the content emphasises developing writing skills. However, the impact of ChatGPT on reading, listening, and speaking has not yet been studied in depth.

These findings give the need for pedagogical solutions. For example, the integration of AI-assisted personalized game-based learning as a means to enhance learner autonomy [13]. In this context, Kazimova and Adekenova [14] examine the implementation of personalised adaptive learning based on artificial intelligence technologies. The authors justify the automation of the educational process through an AI-supported educational portal and present a prototype system developed with the assistance of ChatGPT, including a chatbot consultant module. Their study demonstrates practical approaches to embedding AI technologies into teaching, assessment, and individualised learning pathways.

The novelty of the present study lies in examining artificial intelligence-supported personalised game-based learning as an integrated pedagogical approach to developing learner autonomy in foreign language education. While previous studies have mainly investigated artificial intelligence or gamification separately, this research analyses their combined influence within a unified learning framework. In addition, the study empirically tests a structural model of autonomous learning that includes goal setting, self-regulation, use of digital and

AI tools, perceived impact of AI and gamification, and motivation and engagement. A mediation analysis is applied to reveal the psychological mechanism through which motivation mediates the relationship between perceived AI impact and learners' self-regulation.

Based on this research gap, the present study aims to investigate the role of AI-supported personalised game-based scenarios in fostering learner autonomy in foreign language education.

The study investigates the potential of AI-supported personalised game-based scenarios as a tool for promoting learner autonomy in foreign language education. The aim is to identify the levels of learner autonomy, engagement, and attitudes toward the use of gamification and AI in the learning process, as well as to examine their perceived contribution to independent learning.

The scientific significance of the research lies in substantiating the pedagogical potential of integrating AI and gamification in language education and in developing methodological foundations for their application in fostering student independence. The findings can be applied to the design of educational programs, the development of digital courses, and the enhancement of teaching methods for foreign languages in the context of the digital transformation of higher education.

Materials and methods

This study is empirical in nature and aims to examine students' perceptions of using AI-supported personalised game-based scenarios in foreign language learning, as well as their impact on learner autonomy, motivation, and engagement. The research was conducted using a quantitative survey design based on a Likert-scale questionnaire.

The survey was administered at Tashenov University (Shymkent, Republic of Kazakhstan) among students enrolled in the "Teacher Training in Two Foreign Languages" program at the Department of World Languages. Data collection was carried out online using Google Forms. A total of 272 students participated in the survey; however, some respondents did not complete all 25 items. In the final dataset, 259 fully completed questionnaires. Anonymous student responses were used to interpret the results and adhered to ethical frameworks.

Figure 1 shows the distribution of participants by undergraduate. The largest group consisted of second-year students (48.5%), followed by first-year students (20.2%). The majority are "newcomers" to the university. They formed the basis for understanding how digital tools with AI promote independence at this stage of learning. Third-year students (21.3%) and fourth-year students (9.9%) constitute the next category of students.

Нешінші курста оқисыз?
What is your year of study?

272 ответа

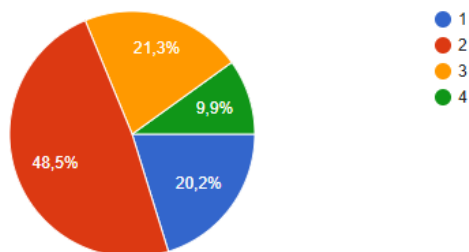


Figure 1 – Distribution of students by course of study

The questionnaire consisted of 25 statements divided into thematic sections. These sections reflected key components of autonomous learning in the context of artificial intelligence and gamification.

The responses were rated on a five-point Likert scale, where:

1 - *Strongly disagree*

2 - *Disagree*

3 - *Neutral*

4 - *Agree*

5 - *Strongly agree*

The questionnaire was structured into five thematic blocks:

Block I Goal Setting and Planning with Digital and AI Tools – focusing on learners’ ability to set goals and plan their learning using digital and AI-supported tools. Example item: *“I use digital resources and AI recommendations to set my language learning goals.”*

Block II Self-Regulation and Self-Organisation in AI-Gamified Learning – examining students’ self-regulatory behaviours and ability to organise their learning in AI-supported gamified environments. Example item: *“I continue learning even when tasks are suggested by AI without teacher involvement.”*

Block III Use of Digital Tools and AI Resources – exploring the frequency and diversity of students’ use of digital platforms and AI resources for language learning. For example: *“I actively use online platforms and AI applications to learn a language.”*

Block IV Impact of AI and Gamification – assessing students’ perceptions of the influence of AI and gamification on their learning outcomes. Example item: *“Gamified tasks with AI support help me understand the material better.”*

Block V Motivation and Engagement in AI-Gamified Learning – evaluating AI and gamified learning environments’ influence on students’ motivation and engagement. Example item: *“I feel satisfied when I complete AI-based tasks on my own.”*

A link to the student survey (Google Forms) was sent through general chats during classes (September 2025). Anonymity and voluntary participation were stated in the first survey section. Questions were presented in Kazakh and English and took an average of 10-15 minutes to complete.

The reliability of the research instrument was assessed using Cronbach’s alpha, which showed an exceptionally high internal consistency for the full 25-item scale ($\alpha = 0.957$, $N = 259$).

The collected data were analysed using IBM SPSS Statistics (Version 29) through several statistical procedures. Descriptive statistics (means and standard deviations) were calculated to identify overall trends in students’ perceptions of AI-supported and gamified language learning. Pearson’s correlation analysis examined relationships among five key constructs—goal setting and planning, self-regulation, use of digital tools, perceived impact of AI and gamification, and motivation—revealing strong, significant positive correlations ($p < .01$). To explore the underlying mechanism, a mediation analysis using Hayes’ PROCESS macro (Model 4, 5,000 bootstrap samples) tested *Motivation* as a mediator between *Impact of AI and Gamification* and *Self-Regulation*, confirming a significant partial mediation effect ($ab = 0.3626$, 95% CI [0.2372, 0.5180]).

Results

Table 1 presents the descriptive statistics for all 25-questionnaire items measuring learners’ perceptions of using digital and AI-based tools in gamified language learning. The mean values range from 3.81 to 4.37, indicating generally positive attitudes toward the integration of AI and gamification in the learning process. The highest mean score ($M = 4.37$) was observed for the statement “*I find language learning more interesting when it is presented as a game*”, suggesting that gamified approaches strongly enhance learners’ engagement.

Conversely, slightly lower mean values (around 3.81–3.85) were recorded for items related to self-regulation and independent organisation of study time, such as “*I can organise my study time according to recommendations provided by the digital platform.*” This indicates that while students appreciate AI tools, they may still experience challenges in autonomous learning management.

Standard deviations ranged between 0.85 and 1.17, reflecting moderate variability among participants’ responses. Overall, the results suggest that learners perceive AI-supported and gamified environments as effective, motivating, and beneficial for their language learning process.

Table 1. Descriptive Statistics for the Questionnaire Items (N = 259)

Statement	Mean	Standard Deviation
1. I use digital resources and AI recommendations to set my language learning goals.	4.04	1.01

2. AI helps me understand which language skills I need to develop first.	4.04	1.03
3. I can plan my learning process based on AI suggestions and feedback.	3.99	1.14
4. Gamified platforms help me clearly formulate my learning tasks.	3.85	1.12
5. Digital tools and AI make planning my learning more effective.	4.20	1.06
6. I continue learning even when tasks are suggested by AI without teacher involvement.	3.82	1.17
7. I can organise my study time according to recommendations provided by the digital platform.	3.81	1.10
8. Feedback from AI helps me analyse my mistakes and improve.	4.31	0.96
9. I can track my progress using AI-generated analytics and reports.	4.04	1.09
10. I take responsibility for my learning results even if tasks are assigned by AI.	4.15	1.04
11. I actively use online platforms and AI applications to learn a language.	4.08	1.09
12. I independently search for digital resources (apps, chatbots, websites) to support my learning.	4.25	0.98
13. I use AI tools to check my knowledge and control my progress.	4.20	0.91
14. I can choose the digital tools that best suit my learning goals.	4.16	0.95
15. AI makes the language learning process more effective and convenient.	4.25	0.98
16. Gamified tasks with AI support help me understand the material better.	4.13	1.01
17. Personalised tasks motivate me to study more actively.	4.17	1.00
18. AI provides quick and useful feedback during gamified learning activities.	4.22	1.01
19. Game elements (points, levels, rewards) make learning more engaging and less boring.	4.36	0.91
20. AI-adapted scenarios develop my independent learning skills.	4.22	0.96
21. I feel satisfied when I complete AI-based tasks on my own.	4.08	1.00
22. I find language learning more interesting when it is presented as a game.	4.37	0.93
23. I practice more often when tasks are adapted to my level by AI.	4.17	0.98
24. I feel that AI and gamification help me achieve my personal learning goals.	4.08	0.96
25. I am willing to continue learning languages using AI platforms and gamified tasks.	4.31	0.85

Correlation analysis was conducted to identify the relationships among the key components of the AI-supported and gamified learning model. The analysis aimed to examine how closely the five studied constructs were interrelated.

The results (Table 2) revealed statistically significant positive correlations across all variable pairs ($N = 259$, $p < .01$), with correlation coefficients ranging

from $r = .652$ to $r = .818$. The strongest correlation was observed between *Impact of AI and Gamification on Learning* and *Motivation and Engagement in AI-Gamified Learning* ($r = .818, p < .001$), suggesting that students who perceive AI and gamification as beneficial tend to demonstrate higher motivation and engagement levels. Another strong association was found between *Self-Regulation* and *Use of Digital Tools and AI Resources* ($r = .779, p < .001$), indicating that active use of AI-based and digital tools is closely linked with learners' ability to self-regulate their learning process.

Table 2. Pearson Correlation Matrix Between the Five Key Constructs (N = 259)

Variables	1	2	3	4	5
1.Goal Setting & Planning with Digital/AI Tools	1	.712**	.652**	.672**	.682**
2.Self-Regulation & Self-Organization in AI-Gamified Learning	.712**	1	.779**	.761**	.763**
3.Use of Digital Tools and AI Resources	.652**	.779**	1	.754**	.755**
4.Impact of AI and Gamification on Learning	.672**	.761**	.754**	1	.818**
5.Motivation and Engagement in AI-Gamified Learning	.682**	.763**	.755**	.818**	1

To examine the mechanism by which the perception of AI influence and gamification tools affects the development of students' self-regulation, a mediation analysis was conducted using the PROCESS macro (Model 4, Hayes, 2022). The perception of AI influence (Impact) was treated as the independent variable, self-regulation level (Self) as the dependent variable, and academic motivation (Motiv) as the mediator. The analysis employed a bootstrap procedure (5,000 resamples, 95% confidence interval), allowing for the assessment of the robustness of the indirect effect.

The results (Figure 2) indicated that the perception of AI influence had a strong and statistically significant effect on motivation ($B = 0.7628, SE = 0.0334, p < .001$), accounting for approximately 67% of its variance ($R^2 = .6697$). In turn, motivation significantly predicted self-regulation ($B = 0.4753, SE = 0.0732, p < .001$), even when controlling for the effect of Impact. The direct effect of AI influence on self-regulation, controlling for motivation, remained significant ($B = 0.4316, SE = 0.0682, p < .001$), indicating partial mediation. The total effect of AI influence on self-regulation, without accounting for the mediator, was also highly significant ($B = 0.7941, SE = 0.0422, p < .001$), and the overall model explained 63.85% of the variance in self-regulation scores ($R^2 = .6385$).

The indirect effect via motivation was statistically significant ($ab = 0.3626, BootSE = 0.0714, 95\% CI [0.2372, 0.5180]$), confirming the presence of a mediating pathway. The proportion of mediation indicated that approximately 46% of the total effect of AI perception on self-regulation is mediated

through motivation. These findings suggest that motivation serves as a critical psychological mechanism through which AI and gamification practices influence the development of students' autonomous behavior.

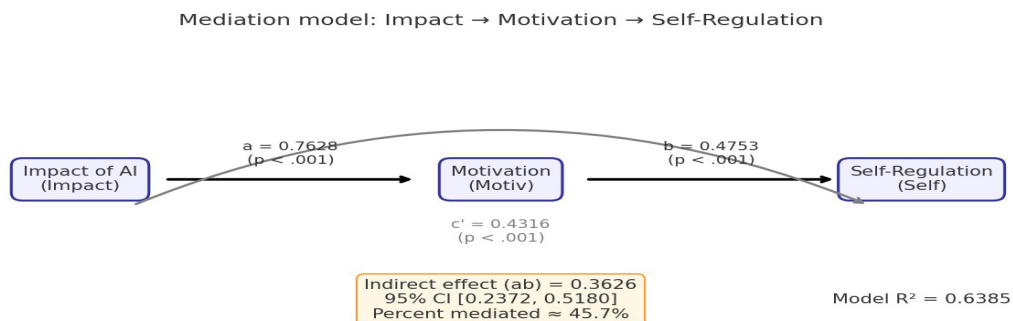


Figure 2 – Mediation model of the effect of AI perception on self-regulation through motivation

Discussion

Recent studies have highlighted the transformative impact of artificial intelligence (AI) on language education, particularly in assessment and instructional design. Alam et al. [2], for instance, examined the role of an Intelligent Computer-Assisted Language Assessment system and its influence on teachers' professional characteristics such as pedagogical immunity, reflective practice, job satisfaction, and persistence in L2 instruction. Their findings demonstrated that AI technologies substantially reshape the pedagogical environment, affecting teachers' resilience and professional well-being. Although their research focuses on the teaching perspective, it underscores a broader trend of transformation within language education driven by AI integration.

Building on this context, the present study shifts attention toward a learner-centred application of AI—exploring the potential of personalised AI-supported gamified scenarios to foster learner autonomy, engagement, and effectiveness in foreign-language learning. The literature indicates that AI can function as a virtual tutor, adapting to learners' proficiency levels, learning styles, and pacing preferences [3, 4]. Gamification, in turn, has been widely recognised as an effective strategy for enhancing motivation, cognitive engagement, and sustained interest in learning [5, 6]. However, the combined application of AI-driven personalisation and gamified learning remains a relatively new and under-researched area, especially regarding its contribution to developing learner autonomy.

AI is not merely a tool for automation; it directly influences the emotional-motivational dimension of learning. When integrated with pedagogical support and gamified environments, AI can be considered a potential catalyst for supporting autonomy, engagement, and academic success from the learners' perspective [7].

Contemporary meta-analyses confirm that intelligent learning and assessment systems significantly improve students' performance across receptive and productive language skills, while simultaneously strengthening their cognitive and behavioural engagement [8]. Moreover, adaptive and personalised learning systems remain among the most promising directions of AI implementation in higher education [9].

The emergence of next-generation AI tools such as ChatGPT has further revolutionised language learning, enabling unprecedented levels of personalisation in the educational process [10]. As Lo, Yu, Xu et al. emphasise, ChatGPT use in ESL/EFL contexts enhances learning motivation, expands opportunities for self-directed learning, and strengthens pedagogical support. Nevertheless, these authors also highlight potential challenges—such as misinformation, data privacy risks, and academic dishonesty—necessitating ongoing research into pedagogically sound and ethical AI integration. These insights substantiate the need to explore new instructional models, including AI-supported gamified learning scenarios, as instruments for fostering learner autonomy.

The results of the Pearson correlation analysis revealed strong and statistically significant relationships among all five constructs of the model—goal setting and planning, self-regulation, use of digital tools, perceived impact of AI and gamification, and motivation ($r = .652-.818, p < .01$). The strongest association was observed between the perceived impact of AI/gamification and motivation ($r = .818, p < .001$), supporting the assumption that motivational mechanisms play a central role in learners' positive perception of educational technologies.

To further explore these interrelations, a mediation analysis using Hayes' PROCESS macro (Model 4; 5,000 bootstrap samples) was conducted. The analysis tested the hypothesis that motivation mediates the relationship between perceived AI impact and self-regulation. The results confirmed a partial mediation effect: perceived AI impact significantly predicted motivation ($B = 0.7628, p < .001$), and motivation, in turn, significantly predicted self-regulation ($B = 0.4753, p < .001$). The direct effect of perceived AI impact on self-regulation remained significant ($B = 0.4316, p < .001$), while the indirect effect via motivation was also significant ($ab = 0.3626, 95\% \text{ CI } [0.2372, 0.5180]$). Approximately 46% of the total effect was mediated by motivation.

These findings suggest that learners who perceive AI tools as beneficial and meaningful tend to demonstrate higher learning motivation, which subsequently enhances their self-regulatory capacity and autonomy. The persistence of a significant direct effect indicates that additional mechanisms—such as cognitive planning, organizational strategies, or the use of digital progress-tracking tools—may also contribute to the development of autonomy.

From a practical standpoint, the identified mechanism underscores the importance of designing digital learning environments with a strong focus on motivational affordances. Features such as adaptive feedback, progress visualisation, challenge, and reward systems can strengthen intrinsic motivation, thereby supporting self-regulation and learner independence. Motivation thus emerges as a key mediating factor linking technological innovation to the cultivation of learner autonomy in language education.

It should be noted that the present study is cross-sectional in design, which limits causal inference. Consequently, the mediation model should be interpreted probabilistically and validated in future longitudinal or experimental research. Furthermore, the reliance on self-reported measures may introduce subjective bias. The reliability of our results is supported by theoretical consistency with the dispersion results, despite limitations.

The findings indicate the perceived pedagogical potential of integrating AI and gamification in supporting the development of student autonomy. The results suggest that students perceive AI-supported learning environments as contributing to their self-regulation without reducing motivational engagement.

Limitations of the study

The results reported in this study do not establish a causal relationship between the use of AI-enabled game-based learning environments and the development of learner autonomy. They only determine students' attitudes toward using such environments. It is possible that students had individual differences in their self-assessment, as the questionnaire was self-reported.

Furthermore, the study sample was limited to students from a single university, which may limit the generalizability of the results to other educational contexts and institutions.

The reliance on a single self-report instrument may also lead to common method bias.

Future studies could address these limitations through longitudinal or experimental designs. They could also include objective measures of learning effectiveness and recruit participants from multiple universities and educational institutions.

Conclusion

The study explored students' perceptions of the role of AI-supported gamified learning in fostering learner autonomy in foreign language education. Students participating in a comprehensive survey had positive attitudes toward AI and gamification. Self-directed learning using these tools was perceived as motivational and engaging.

Correlation and mediation analyses confirmed that motivation partially mediates the relationship between perceived AI impact and learners' self-

regulation. This suggests that AI-driven environments were perceived as supporting learner autonomy both directly and through increased motivation.

The overall results suggest the pedagogical potential of integrating AI and gamification to enhance motivation and self-regulated learning. Digital transformation and feedback-enabled learning environments may support educators in fostering students' autonomy.

Funding information

This article was prepared within the framework of the project “Integration of Digital Technologies and Gamification in Foreign Language Learning Based on Artificial Intelligence: New Horizons of Language Competence” under grant funding for scientific and/or scientific-technical projects for 2025–2027 (AP 26197519).

REFERENCES

[1] Pape R., Steinbach A. Personalized and individualized Russian learning enabled by AI: The pilot of the Language Coach // *Slavische Sprachen Unterrichten (SlavUn)*. – 2025. – Pp. 57–75. – Access mode: URL: <https://doi.org/10.20377/slavun-19> [Date of access: 12.01.2026].

[2] Alam S., Vadivel B., Banu S., et al. Reflecting the voices of EFL teachers in the world of Intelligent Computer-Assisted Language Assessment (ICALA): an insight into teacher immunity, reflective teaching, job satisfaction, and L2-teacher grit // *Language Testing in Asia*. – 2024. – Vol. 14. – P. 43. – Access mode: URL: <https://languagetestingasia.springeropen.com/articles/10.1186/s40468-024-00314-z> [Date of access: 12.01.2026].

[3] Zhumatayeva Z., Mametkarim Z., Dosanova A. The role of artificial intelligence in forming communicative competence in foreign language lessons // *Scientific Journal of Pedagogy and Economics*. – 2024. – Vol. 412, No. 6. – Pp. 119–130. – Access mode: URL: <https://doi.org/10.32014/2024.2518-1467.858> [Date of access: 12.01.2026].

[4] Спирина Е.А., Казимова Д.А., Турмуратова Д.А., Копбалина С.С., Турсынғалиева Г.Н. Персонализированное обучение на основе искусственного интеллекта: мнение студентов // *Өрлеу. Үздіксіз білім жаршысы – Вести непрерывного образования*. – 2025. – № 1 (48). – С. 56–63. – Режим доступа: URL: <https://doi.org/10.69927/PNMI6835> [Дата обращения: 12.01.2026].

[5] Duisenova M., Zhorabekova A. Gamification and its application in the process of teaching English in primary school // *Вестник КазНПУ имени Абая. Серия: Педагогические науки*. – 2024. – Vol. 81, No. 1. – Pp. 406–417. – Access mode: URL: <https://doi.org/10.51889/2959-5762.2024.81.1.035> [Date of access: 12.01.2026].

[6] Жакупова А., Еркебаева С., Каримова Р., Тезел Шахин Ф. Геймификация в образовании: проблемы применения и перспективы развития // *Педагогика и психология*. – 2022. – № 4 (53). – С. 198–207. – Режим доступа: URL: <https://journal-pedpsy.kaznpu.kz/index.php/ped/article/view/1278> [Дата обращения: 13.10.2025].

[7] Elsayed A.M., Kholikov A., Abdullayeva I., et al. Teacher support in AI-assisted exams: an experimental study to inspect the effects on demotivation, anxiety management, L2 learning experience, and academic success // *Language Testing in Asia*. – 2024. – Vol. 14. – P. 53. – Access mode: URL: <https://languagetestingasia.springeropen.com/articles/10.1186/s40468-024-00328-7> [Date of access: 12.01.2026].

[8] Seitova M., Halmatova Z., Kazykhankyzy L. A research on teachers' views on the use of artificial intelligence in teaching English // *Вестник КазНПУ имени Абая. Серия: Педагогические науки*. – 2024. Vol. 81, No. 1. Pp. 69–78. – Access mode: URL: <https://doi.org/10.51889/2959-5762.2024.81.1.007> [Date of access: 27.02.2026].

[9] Temirkhan Zh., Yelubay A.B., Ibrayeva Zh.K The features of using the learning apps platform for developing students' foreign language vocabulary in the context of the digital education paradigm // *Известия КазУМОиМЯ имени Абылай хана. Серия «Педагогические науки»*. – 2025. Vol. 77 – No. 2. – Pp. 667–683. – Access mode: URL: <https://doi.org/10.48371/PEDS.2025.77.2.040> [Date of access: 27.02.2026].

[10] Cao S., Phongsatha S. An empirical study of the AI-driven platform in blended learning for business English performance and student engagement // *Language Testing in Asia*. – 2025. – Vol. 15. – P. 39. – Access mode: URL: <https://languagetestingasia.springeropen.com/articles/10.1186/s40468-025-00376-7> [Date of access: 12.01.2026].

[11] Bond M., Khosravi H., De Laat M., et al. A meta-systematic review of artificial intelligence in higher education: a call for increased ethics, collaboration, and rigour // *International Journal of Educational Technology in Higher Education*. – 2024. – Vol. 21, No. 4. – Access mode: URL: <https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-023-00436-z> [Date of access: 12.01.2026].

[12] Lo C.K., Yu P.L.H., Xu S., et al. Exploring the application of ChatGPT in ESL/EFL education and related research issues: a systematic review of empirical studies // *Smart Learning Environments*. – 2024. – Vol. 11. – P. 50. – Access mode: URL: <https://slejournals.springeropen.com/articles/10.1186/s40561-024-00342-5> [Date of access: 12.01.2026].

[13] Жумабекова Г.Б., Жусупова Р.Ф., Нуржанова А.Р., Жаникеева Д.Е. AI-усиленный проектный метод как средство развития автономии обучающихся у будущих учителей английского языка // *Известия*

КазУМОиМЯ имени Абылай хана. Серия «Педагогические науки». – 2025. – № 3 (78). – С. 329–345. – Режим доступа: URL: <https://doi.org/10.48371/PEDS.2025.78.3.021> [Дата обращения: 12.10.2025].

[14] Казимова Д. А., Адекенова А. Н. Реализация персонализированного адаптивного обучения в системе образования на основе технологии искусственного интеллекта // Вестник Карагандинского университета. Серия «Педагогика». – 2025. – № 1 (117). – С. 200–211. – Режим доступа: URL: <https://doi.org/10.31489/2025ped1/200-211> [Дата обращения: 28.02.2025].

REFERENCES

[1] Pape R., Steinbach A. Personalised and individualised Russian learning enabled by AI: The pilot of the Language Coach, *Slavische Sprachen Unterrichten (SlavUn)*, 2025, pp. 57–75, URL: <https://doi.org/10.20377/slavun-19> (Accessed: 12.01.2026).

[2] Alam S., Vadivel B., Banu S., et al. Reflecting the voices of EFL teachers in the world of Intelligent Computer-Assisted Language Assessment (ICALA): an insight into teacher immunity, reflective teaching, job satisfaction, and L2-teacher grit, *Language Testing in Asia*, 2024, vol. 14, p. 43, URL: <https://languagetestingasia.springeropen.com/articles/10.1186/s40468-024-00314-z> (Accessed: 12.01.2026).

[3] Zhumatayeva Z., Mametkarim Z., Dosanova A. The role of artificial intelligence in forming communicative competence in foreign language lessons, *Scientific Journal of Pedagogy and Economics*, 2024, vol. 412, No. 6, pp. 119–130, URL: <https://doi.org/10.32014/2024.2518-1467.858> (Accessed: 12.01.2026).

[4] Spirina E. A., Kazimova D. A., Turmuratova D. A., Kopbalina S. S., Tursyngaliyeva G. N. Personalizirovannoe obuchenie na osnove iskusstvennogo intellekta: mnenie studentov (Personalized learning based on artificial intelligence: students' perspectives), *Örleu. Üzdiksiz bilim zharshysy – Vestnik nepreryvnogo obrazovaniya (Orleu. Bulletin of Continuing Education)*, 2025, No. 1 (48), pp. 56–63, URL: <https://doi.org/10.69927/PNMI6835> (Accessed: 12.01.2026) [in Rus.].

[5] Duisenova M., Zhorabekova A. Gamification and its application in the process of teaching English in primary school, *Vestnik Abai KazNPU. Seriya: Pedagogicheskie nauki (Bulletin of Abai Kazakh National Pedagogical University. Pedagogical Sciences Series)*, 2024, vol. 81, No. 1, pp. 406–417, URL: <https://doi.org/10.51889/2959-5762.2024.81.1.035> (Accessed: 12.01.2026).

[6] Zhakupova A., Yerkebayeva S., Karimova R., Tezel Shakhin F. Geimifikatsiya v obrazovanii: problemy primeneniya i perspektivy razvitiya (Gamification in education: problems of implementation and development prospects), *Pedagogika zhâne psikhologiya (Pedagogy and Psychology)*, 2022, No. 4 (53), pp. 198–207, URL: <https://journal-pedpsy.kaznpu.kz/index.php/ped/article/view/1278> (Accessed: 12.01.2026) [in Rus.].

[7] Elsayed A. M., Kholikov A., Abdullayeva I., et al. Teacher support in AI-assisted exams: an experimental study to inspect the effects on demotivation, anxiety management in exams, L2 learning experience, and academic success, *Language Testing in Asia*, 2024, vol. 14, p. 53, URL: <https://languagetestingasia.springeropen.com/articles/10.1186/s40468-024-00328-7> (Accessed: 12.01.2026).

[8] Seitova M., Halmatova Z., Kazykhankyzy L. A research on teachers' views on the use of artificial intelligence in teaching English, *Vestnik Abai KazNPU. Seriya: Pedagogicheskie nauki* (Bulletin of Abai Kazakh National Pedagogical University. Pedagogical Sciences Series), 2024, vol. 81, No. 1, pp. 69–78, URL: <https://doi.org/10.51889/2959-5762.2024.81.1.007> (Accessed: 27.02.2026).

[9] Temirkhan Zh., Yelubay A. B., Ibrayeva Zh. K. The features of using the Learning Apps platform for developing students' foreign language vocabulary in the context of the digital education paradigm, *Izvestiya KazUMOiMYa imeni Abilay khana. Seriya Pedagogicheskie nauki* (Bulletin of Ablai Khan Kazakh University of International Relations and World Languages. Series: Pedagogical Sciences), 2025, vol. 77, No. 2, pp. 667–683, URL: <https://doi.org/10.48371/PEDS.2025.77.2.040> (Accessed: 27.02.2026).

[8] Cao S., Phongsatha S. An empirical study of the AI-driven platform in blended learning for business English performance and student engagement, *Language Testing in Asia*, 2025, vol. 15, p. 39, URL: <https://languagetestingasia.springeropen.com/articles/10.1186/s40468-025-00376-7> (Accessed: 12.01.2026).

[9] Bond M., Khosravi H., De Laat M., et al. A meta-systematic review of artificial intelligence in higher education: a call for increased ethics, collaboration, and rigour, *International Journal of Educational Technology in Higher Education*, 2024, vol. 21, No. 4, URL: <https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-023-00436-z> (Accessed: 12.01.2026).

[10] Lo C. K., Yu P. L. H., Xu S., et al. Exploring the application of ChatGPT in ESL/EFL education and related research issues: a systematic review of empirical studies, *Smart Learning Environments*, 2024, vol. 11, p. 50, URL: <https://slejournals.springeropen.com/articles/10.1186/s40561-024-00342-5> (Accessed: 12.01.2026).

[13] Zhumabekova G. B., Zhusupova R. F., Nurzhanova A. R., Zhanikeyeva D. E. AI-usilennyi proektnyi metod kak sredstvo razvitiya avtonomii obuchayushchikhsya u budushchikh uchitelei angliiskogo yazyka (AI-enhanced project method as a means of developing learner autonomy in pre-service English teachers), *Izvestiya KazUMOiMYa imeni Abilay khana. Seriya "Pedagogicheskie nauki"* (Bulletin of Ablai Khan Kazakh University of International Relations and World Languages. Series: Pedagogical Sciences), 2025, No. 3 (78), pp. 329–345,

URL: <https://doi.org/10.48371/PEDS.2025.78.3.021> (Accessed: 12.01.2026) [in Rus.].

[14] Kazimova D. A., Adekenova A. N. Realizatsiya personalizirovannogo adaptivnogo obucheniya v sisteme obrazovaniya na osnove tekhnologii iskusstvennogo intellekta (Implementation of personalised adaptive learning in the education system based on artificial intelligence technology), *Vestnik Karaganda University. Seriya: Pedagogika* (Bulletin of Karaganda University. Pedagogy Series), 2025, No. 1 (117), pp. 200–211, URL: <https://doi.org/10.31489/2025ped1/200-211> (Accessed: 28.02.2025) [in Rus.].

ЖЕКЕ ТҮЛҒАҒА БЕЙІМДЕЛГЕН ЖАСАНДЫ ИНТЕЛЛЕКТ ҚОЛДАУЫМЕН ОЙЫН СЦЕНАРИЙЛЕРІ ТІЛ ҮЙРЕНУДЕ АВТОНОМИЯНЫ ДАМУ ТҰРАЛЫ РЕТІНДЕ

Кульгильдинова Т.А.¹, *Артықбаева Ф.І.², Юсупова Г.Т.³, Тұрсынова Г.И.⁴

¹Қазақ Халықаралық қатынастар және Әлем тілдері университеті,
Алматы, Қазақстан

*^{2,4}Ж.А. Тәшенев атындағы университеті, Шымкент, Қазақстан

³Х.А.Яссави атындағы Халықаралық қазақ-түрк университеті,
Түркістан Қазақстан

Аңдатпа. Мақалада жасанды интеллект (ЖИ) қолдауымен персоналдандырылған ойын сценарийлерін шет тілін оқытуда оқушының автономиясын дамытуға пайдалану мүмкіндіктері қарастырылады. Зерттеудің мақсаты – ЖИ мен геймификацияның студенттердің мотивациясына, өзін-өзі реттеуіне және белсенді қатысуына әсерін анықтау, сондай-ақ олардың тәуелсіз оқуға тиімділігін бағалау. Ғылыми мәні – ЖИ мен ойын технологияларын білім беру үдерісіне біріктірудің педагогикалық әлеуетін негіздеу, практикалық мәні – осы құралдарды шет тілін оқытуда қолдану үшін әдістемелік ұсыныстар әзірлеуде. Зерттеу Ж.А. Ташенов атындағы университеттің «Екі шет тілін оқыту мұғалімдерін даярлау» бағдарламасы бойынша оқитын 259 студент арасында сандық сауалнама арқылы эмпирикалық түрде жүргізілді. Сауалнама 25 пункттен тұрып, бес тақырыптық блокқа бөлінген: цифрлық және ЖИ құралдарымен мақсат қою және жоспарлау, өзін-өзі реттеу және оқу ұйымдастыру, цифрлық құралдар мен ЖИ қолдану, ЖИ мен геймификацияның оқуға әсері, мотивация және белсенділік. Деректерді талдау студенттердің ЖИ мен геймификацияны оң қабылдайтынын, автономды оқудың негізгі аспектілері арасында жоғары корреляция бар екенін көрсетті; медиаторлық талдау мотивация ЖИ-ның өзін-өзі реттеуге әсерін ішінара делдалдық жасайтынын анықтады. Нәтижелер студенттердің жасанды интеллект пен геймификацияны біріктіруді оқушы автономиясын, мотивациясын және оқу үдерісіне

қатысуын қолдайтын фактор ретінде қабылдайтынын көрсетеді, бұл шет тілін оқытудың цифрлық және персоналдандырылған әдістемесін дамытуға мүмкіндік береді. Практикалық мәні – алынған нәтижелерді білім беру бағдарламаларын, цифрлық курстар мен әдістемелік ұсыныстарды әзірлеуде студенттердің автономиясын арттыру үшін қолдану мүмкіндігінде.

Тірек сөздер: жасанды интеллект, геймификация, оқушының автономиясы, мотивация, өзін-өзі реттеу, шет тілдері, цифрлық оқыту

ПЕРСОНАЛИЗИРОВАННЫЕ ИГРОВЫЕ СЦЕНАРИИ С ПОДДЕРЖКОЙ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА КАК ИНСТРУМЕНТ РАЗВИТИЯ АВТОНОМИИ В ИЗУЧЕНИИ ЯЗЫКОВ

Кульгильдинова Т.А.¹, *Артықбаева Ф.І.², Юсупова Г.Т.³, Турсынова Г.И.⁴

¹КазУМОиМЯ им. Абылай хана, Алматы, Казахстан

*^{2,4}Университет имени Ж.А. Ташенева, Шымкент, Казахстан

³Международный казахско-турецкий университет имени Ходжи Ахмета Яссави, Туркестан, Казахстан

Аннотация. В статье рассматривается потенциал использования персонализированных игровых сценариев с поддержкой искусственного интеллекта (ИИ) для развития автономии обучающихся в изучении иностранных языков. Цель исследования – выявить влияние ИИ и геймификации на мотивацию, саморегуляцию и вовлеченность студентов, а также оценить их эффективность для самостоятельного обучения. Научная значимость работы заключается в обосновании педагогического потенциала интеграции ИИ и игровых технологий в образовательный процесс, а практическая – в разработке методических рекомендаций для применения этих инструментов при обучении иностранным языкам. Исследование проведено эмпирически на базе количественного опроса 259 студентов программы «Подготовка учителей двух иностранных языков» университета имени Ж.А. Ташенева. Анкета включала 25 пунктов, сгруппированных по пяти тематическим блокам: постановка целей и планирование с цифровыми и ИИ-инструментами, саморегуляция и организация обучения, использование цифровых инструментов и ИИ, влияние ИИ и геймификации на обучение, мотивация и вовлеченность. Анализ данных показал положительное восприятие студентами ИИ и геймификации, высокую корреляцию между ключевыми аспектами автономного обучения, а медиаторный анализ выявил, что мотивация частично медирует влияние ИИ на саморегуляцию. Результаты исследования показывают, что студенты воспринимают интеграцию технологий искусственного интеллекта и геймификации как фактор, способствующий развитию самостоятельности, мотивации и вовлечённости в процесс обучения, что поддерживает развитие

методологии цифрового и персонализированного обучения иностранным языкам. Практическое значение работы заключается в возможности использования полученных данных при разработке образовательных программ, цифровых курсов и методических рекомендаций, направленных на развитие автономии студентов в условиях цифровой трансформации высшего образования.

Ключевые слова: искусственный интеллект, геймификация, автономия обучающихся, мотивация, саморегуляция, иностранные языки, цифровое обучение

Received / Мақала түсті / Статья постуила: 08.10.2025.

Accepted / Жариялауга қабылданды / Принята к публикации: 26.03.2026.

Information about the authors:

Kulgildinova Tulebike – Doctor of Pedagogical Sciences, Professor, Abilaikhan Kazakh University of International Relations and World Languages (KazUIR&WL), Almaty, Republic of Kazakhstan, e-mail: tulebike@mail.ru

Artykbayeva Fazila – PhD, Head of the Department of World Languages, Institute of World Languages, Zh.A. Tashenev University, Shymkent, 160000, Republic of Kazakhstan, e-mail: artykbaieva.fazila@mail.ru

Yussupova Guzal – PhD student of Khoja Akhmet Yassawi International Kazakh-Turkish University, Turkestan, Republic of Kazakhstan, e-mail: guzal.yussupova@inbox.ru

Tursynova Guldar – Master, Senior Lecturer of the Department of World Languages, Institute of World Languages, Zh.A. Tashenev University, Shymkent, 160000, Republic of Kazakhstan, e-mail: guldar.tursynova.74@mail.ru

Авторлар туралы мәлімет:

Кульгильдинова Төлебике Әлімжанқызы – педагогика ғылымдарының докторы, профессор, Абылай хан атындағы Қазақ халықаралық қатынастар және әлем тілдері университеті, Алматы қ., Қазақстан Республикасы, e-mail: tulebike@mail.ru

Артықбаева Фазила Ілмарқызы – PhD, «Әлем тілдері» кафедрасының меңгерушісі, Әлем тілдері институты, Ж.А. Тәшенев атындағы университеті, Шымкент қ., Қазақстан Республикасы, e-mail: artykbaieva.fazila@mail.ru

Юсупова Гузал Таджиханқызы – Қожа Ахмет Яссауи атындағы Халықаралық қазақ-түрік университетінің PhD докторанты, Түркістан қ., 161200, Қазақстан Республикасы, e-mail: guzal.yussupova@inbox.ru

Тұрсынова Гүлдар Исмайқызы – магистр, «Әлем тілдері» кафедрасының аға оқытушысы, Әлем тілдері институты, Ж.А. Тәшенев атындағы университеті, Шымкент қ., Қазақстан Республикасы, e-mail: guldar.tursynova.74@mail.ru

Информация об авторах:

Кульгильдинова Тулебике Алимжановна – доктор педагогических наук, профессор, Казахский университет международных отношений и мировых языков имени Абылай хана, Алматы, Республика Казахстан, e-mail: tulebike@mail.ru

Артыкбаева Фазила Илмаровна – PhD, заведующий кафедрой «Мировые языки», Институт мировых языков, Университет имени Ж.А. Ташенева, Шымкент, 160000, Республика Казахстан, e-mail: artykbaieva.fazila@mail.ru

Юсупова Гузал Таджихановна – PhD докторант Международного казахско-турецкого университета имени Ходжи Ахмета Яссави, Туркестан, 161200, Республика Казахстан, e-mail: guzal.yussupova@inbox.ru

Турсынова Гулдар Исмаиловна – магистр, старший преподаватель кафедры «Мировые языки», Институт мировых языков, Университет имени Ж.А. Ташенева, Шымкент, 160000, Республика Казахстан, e-mail: guldar.tursynova.74@mail.ru