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USING ARTIFICIAL INTELLIGENCE TECHNOLOGIES TO DEVELOP RESEARCH COMPETENCIES AMONG PRE-SERVICE ENGLISH TEACHERS

Annotation

Introduction. This study examines the perceptions, readiness, and attitudes of pre-service English teachers toward the use of artificial intelligence (AI) technologies for developing research competencies. The relevance of the study is determined by the need to equip students in teacher education programmes with data-handling skills, analytical thinking, source evaluation abilities, and evidence-based decision-making in the context of the digital transformation of education. The scientific problem lies in the lack of empirical data on the relationships between students' readiness to use AI, their levels of digital and information literacy, and their research skills. The purpose of the study is to identify how students enrolled in the programme "Teacher training of a foreign language: two foreign languages" perceive and relate to the use of AI in research activities.

Methodology. The research methodology included an online survey administered to 104 fourth-year students at O. Zhanibekov South Kazakhstan Pedagogical University. The questionnaire consisted of 35 items, including six Likert-type scales (1–6 points): attitudes toward using AI in research, development of research competencies with AI, information literacy and academic skills, ethical and responsible use of AI, integration of AI into teacher education, and understanding of research activity. Open-ended questions were also included, and their responses were analysed using qualitative content analysis. The objective of the research is to prepare pre-service English teachers in the context of educational digitalisation. The subject of the research is the use of AI technologies as a means of developing research competencies among pre-service English teachers.

Practical significance and results. The results of the study demonstrate that students with a high level of readiness and a positive attitude toward using AI view it as a valuable tool for enhancing research skills and increasing the efficiency of academic work. These findings may inform the development of AI-integrated curricula, support evidence-based teacher training, and guide universities in improving students' digital and research competencies.

Keywords: artificial intelligence, research competencies, pre-service teachers, digital literacy, teacher education, research activity, pre-service English teachers.

Introduction. In the context of the digital transformation of education and the growing importance of research activities in teacher preparation, the use of artificial intelligence (AI) technologies has become important. Pre-service English teachers are expected to develop not only linguistic and methodological competencies but also research competencies [1]. Firstly, it is the ability to formulate research problems, then analyse sources, interpret data, and justify pedagogical decisions.

Contemporary AI tools (generative models, intelligent search systems, and data-analysis platforms) offer new opportunities to enhance learning processes and support students' engagement in research [2]. Despite these advancements, the extent to which future teachers are prepared to use AI, their motivation, their attitudes towards AI and their understanding of research practices remain insufficiently investigated.

The findings of Ocupa-Cabrera and colleagues further support the importance of AI as a tool for developing research competencies [3]. Their Delphi-based study demonstrated that effective use of AI in educational research requires a complex set of competencies that go beyond technical proficiency. The authors identified four essential domains: cognitive, applied technical, applied research, and ethical skills. These skills together determine whether researchers can meaningfully and responsibly integrate AI into their work. These competencies include the ability to critically evaluate AI-generated information. Soon, recognise the strengths and limitations of different AI tools, apply AI to data analysis and literature review processes and ensure the credibility and ethical integrity of research outputs. Importantly, the study emphasises that AI has substantial potential to

enhance research activities, but this potential can only be realised if students as researchers are equipped with the necessary skills. These skills are to interpret, verify, and ethically apply AI-generated insights. In this sense, their conclusions align with the results of the present study, which show that while students perceive AI as highly useful, they still experience challenges that highlight the need for targeted training in AI literacy and ethical research practices.

The purpose of this study is to examine the perceptions, readiness, and attitudes of students in the "Teacher training of a foreign language: two foreign languages" programme regarding the use of AI technologies for developing research competencies. In addition, it seeks to identify which aspects of research activity students consider most effectively supported by AI tools.

Although several Kazakhstani scholars have examined different dimensions of AI use in education, the existing body of research still leaves important gaps. For example, Nauryzbayeva and Bimagambetova investigated the potential of ChatGPT as a linguo-creative resource in English language teaching [4]. Their mixed-methods study, which included interviews with teachers and learners as well as a large-scale online survey, demonstrated overall positive perceptions of AI-powered tools. The study identified both pedagogical opportunities and challenges specific to the Kazakhstani cultural and linguistic context. While this work contributes valuable insights into AI-assisted language education, its primary focus lies in linguistic creativity and language instruction, rather than the development of research skills among pre-service teachers.

More broadly, Jandildinov and Yersultanova conducted a comprehensive scoping review of AI-assisted scholarly writing in education between 2019 and 2024 [5]. Synthesising empirical and review studies, they highlighted the increasing interest in generative AI tools and automated writing evaluation systems. They also noted generally positive student perceptions of AI-supported academic writing. However, the authors also emphasised persistent gaps, including the scarcity of theoretically grounded studies and the lack of large-scale or longitudinal research. Although their review offers an important overview of AI in academic writing, it does not specifically address how AI might enhance research competencies — such as problem formulation, data interpretation, or methodological reasoning — within teacher education programmes.

A more recent quantitative study by Zhunusbekova and Askarkyzy examined student perceptions of AI use in higher education and its implications for academic integrity [6]. Surveying 840 undergraduates from major Kazakhstani universities, the authors found widespread AI adoption for essay writing, problem-solving, and idea production. It highlighted both students' ethical concerns and their demand for institutional policies on AI use. While this study provides valuable evidence regarding students' ethical awareness and patterns of AI usage, it does not explore how students perceive AI in relation to research training, nor does it examine their readiness to integrate AI into research activities.

Taken together, these studies reveal a growing interest in AI within Kazakhstan's educational landscape; however, they also highlight several critical gaps. First, despite the attention to language education and academic writing, there remains insufficient empirical evidence on how future teachers evaluate the role of AI in developing research competencies, as opposed to supporting general academic or language-related tasks. Second, only a limited number of studies examine the ethical dimensions of AI use by pre-service teachers and their actual readiness to incorporate AI into research-oriented tasks.

Third, there is a noticeable shortage of comprehensive conceptual or empirical models linking key components such as

- attitudes toward AI,
- the level of AI literacy,
- research skills, and
- students' motivation to engage in inquiry-based learning.

Thus, while both international and local scholarship increasingly address AI in education, research that conceptualises AI as a tool for fostering research skills among pre-service English teachers — particularly within the Kazakhstani context – remains scarce and requires further

systematic investigation. In this way, the relevance of the present study is reinforced by four key factors.

First, the digitalisation of education [7] has led to widespread integration of technological tools in schools, making it essential for future teachers to be competent in using AI for both teaching and research.

Second, the increasing demands for research competencies require English teachers to analyse data, conduct small-scale studies, and work with academic sources [8] – processes that can be significantly enhanced through AI assistance.

Third, the insufficient readiness of pre-service teachers to employ AI tools contributes to a gap between the expectations of modern schools and the actual competencies of future educators [9].

Finally, the rapid advancement of AI technologies [10] including generative AI systems such as ChatGPT, Claude, Perplexity, and Gemini — continues to reshape pedagogical practices and research approaches. Understanding how students perceive these tools, therefore, becomes strategically important for teacher education programmes.

Object of the research: the preparation of pre-service English teachers in the context of the digitalisation of education.

Subject of the research: the use of artificial intelligence technologies as a means of developing research competencies among pre-service English teachers.

The study builds on the contemporary approaches of Bahtilla and Huang [2, p. 1] and Potocan et al. [7, p. 12] to the development of research activities and digital literacy in teacher education. In general, research competence consists of cognitive, methodological, digital, and ethical components [3, p. 42]. At the same time, recent studies emphasise that the effective use of artificial intelligence in education depends not only on technical skills but also on students' ability to critically evaluate information obtained using AI and responsibly integrate AI tools into academic and research practices [9, p. 4; 10, p. 2]

Conceptual framework of the study. The presented study, which views artificial intelligence not only as a digital support tool, demonstrates it as a pedagogical mechanism for promoting the development of research competencies in pre-service English teachers. It is hypothesised that AI technologies support key components of research activity, including information retrieval, data analysis, academic writing, and critical evaluation of research results. Within this framework, students' level of AI literacy, their attitudes toward AI, and frequency of AI use influence the development of research competencies, while readiness to use AI acts as a mediating factor in this relationship (Figure 1).

Research competencies are considered a construct of cognitive, methodological, digital, and ethical components. The cognitive component refers to the ability to critically analyse and interpret research information, evaluate research results, and formulate research questions. The methodological component includes research design, the selection of appropriate research methods, and data collection and analysis. The digital component reflects the ability to use digital and artificial intelligence tools for information retrieval, data processing, and academic writing. The ethical component includes the responsible and ethical use of artificial intelligence technologies, adherence to academic integrity, and the proper citation of sources.

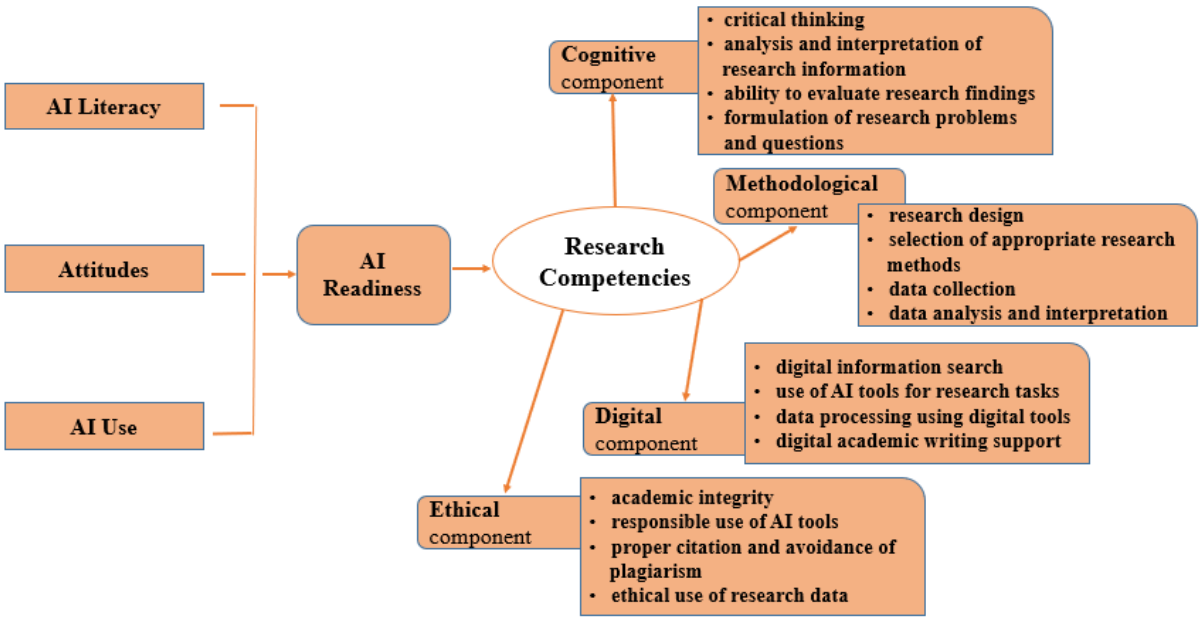

Figure 1. Conceptual framework of AI readiness and research competency development
Source: authors' own elaboration

Methods and materials. This study employed a quantitative-qualitative mixed-methods design based on an online survey. The primary aim was to examine the perceptions, readiness, and attitudes of students enrolled in the educational programme 6B01703 – "Teacher training of a foreign language: two foreign languages" regarding the use of AI technologies for developing research competencies. The design enabled the collection of both numerical data (Likert-scale responses) and descriptive data (open-ended responses), providing a comprehensive understanding of students' views.

The participants were fourth-year students from O. Zhanibekov South Kazakhstan Pedagogical University. All respondents were pre-service English teachers preparing for professional work in foreign language education.

Participation was voluntary and fully anonymous. A total of 104 students completed the questionnaire on Google Forms.

The research instrument was a structured online questionnaire consisting of 35 items, organised into six thematic scales reflecting key aspects of AI use in research activities:

1. Attitudes toward Using AI in Research (5 Likert-scale items assessing perceived usefulness, efficiency, motivation, and confidence)
2. Development of Research Competencies with AI (5 items evaluating the perceived role of AI in formulating research questions, analysing data, planning projects, structuring texts, and evaluating sources)
3. Information Literacy and Academic Skills (5 items measuring AI's contribution to academic writing, digital literacy, source search, and independent work)
4. Ethical and Responsible Use of AI (5 items examining students' understanding of academic integrity, plagiarism avoidance, and responsible AI practices)
5. Integration of AI into Teacher Education (5 items addressing the need for AI training, readiness for AI use in future teaching, and perceived relevance of AI in pedagogical preparation)
6. Understanding Research Activity (5 Likert-scale items + open-ended questions assessing conceptual understanding of research, its stages, and perceived significance)

Additionally, the instrument contained an informational block (university, course, programme, prior AI experience, frequency of AI use, experience with research).

Students participating in the study used available digital tools to support their research activities. These included generative language models, AI-powered writing tools (Jenni AI, QuillBot), and academic search engines (Elicit, Google Scholar). These technologies are commonly used by students

to search for information, generate ideas, structure academic texts, summarise research materials, and support academic writing. The inclusion of AI-related constructs in the questionnaire was based on the relevance of these tools to key stages of research, including searching for academic sources, analysing information, and preparing research texts.

All Likert-scale items were measured on a 6-point agreement scale (from 1 – Strongly disagree to 6 – Strongly agree).

The data analysis consisted of two stages:

1. *Quantitative Analysis*

Quantitative data from the six Likert-based scales were analysed using the Statistical Package for the Social Sciences (SPSS). The following procedures were conducted: Descriptive statistics (mean, standard deviation) for all six scales; Reliability analysis (Cronbach's alpha) to determine internal consistency of each scale. All values exceeded acceptable thresholds, confirming high reliability; Correlation analysis (Pearson) to explore relationships between readiness indicators (AI experience, frequency of use, prior research experience) and attitudes toward AI.

These analyses allowed us to evaluate how students' readiness relates to their perception of AI's usefulness in research.

2. *Qualitative Content Analysis*

Open-ended responses in 6 Section were analysed using qualitative content analysis, which included: core categories, representative meaning.

The qualitative analysis produced themes regarding students' understanding of research activity, skills developed through research, perceived challenges, and the role of AI in supporting research tasks.

Results and discussion. To ensure that the scales used in the questionnaire were suitable for further statistical analyses, we first examined their internal consistency using Cronbach's Alpha. Reliability testing demonstrated that all six scales achieved acceptable to excellent reliability coefficients (α ranging from .788 to .897), indicating that the items within each construct were internally consistent and measured the same underlying concept (Table 1). This confirms that the scales can be confidently used in subsequent analyses, including correlation analysis.

Table 1. Reliability Statistics for the Six Scales (Cronbach's Alpha)

Scale	Cronbach's Alpha (α)	Number of Items (N)	Interpretation
Attitudes toward Using AI in Research	**.876**	5	Excellent reliability
Development of Research Competencies with AI	**.822**	5	Good reliability
Information Literacy and Academic Skills	**.853**	5	Very good reliability
Ethical and Responsible Use of AI	**.788**	5	Acceptable – Good reliability
Integration of AI into Teacher Education	**.836**	5	Good reliability
Understanding of Research Activity	**.897**	5	Excellent reliability

Source: Author's own survey "Use of artificial intelligence technologies for developing research competencies of pre-service English teachers" (Google Forms, 2025).

To gain an initial understanding of students' perceptions of AI across the six measured constructs, descriptive statistics were calculated for each composite scale (Table 2). The results demonstrate consistently high mean scores across all dimensions (M = 4.68–4.82 on a 6-point scale), indicating generally positive attitudes toward AI use in research, academic work, and teacher education. Median values ranged from 4.8 to 5.0, and the mode for most scales was 5, suggesting that the majority of students selected the upper Likert categories. Standard deviations were moderate (SD ≈ 0.75–0.79), reflecting a relatively homogeneous distribution of responses. The minimum values across scales ranged from 2.6 to 3.2, while all maximum values reached 6, demonstrating that some students expressed the strongest possible agreement. Overall, these descriptive indicators suggest that

students perceive AI as useful, supportive, and relevant for developing research competencies and academic skills.

Table 2. Six Composite Scales and Their Descriptive Statistics

Scale	Mean	SD	Min	Max	N
1. Attitudes toward Using AI in Research	4.82	0.79	2.8	6	104
2. Development of Research Competencies with AI	4.79	0.75	3.2	6	104
3. Information Literacy and Academic Skills	4.76	0.77	3.0	6	104
4. Ethical and Responsible Use of AI	4.68	0.79	2.6	6	104
5. Integration of AI into Teacher Education	4.78	0.77	2.6	6	104
6. Understanding of Research Activity	4.75	0.76	3.0	6	104

Source: Author's survey "Use of AI technologies for developing research competencies of pre-service English teachers" (Google Forms, 2025).

Descriptive statistics reveal that students hold very positive attitudes towards AI and have a strong belief in AI's potential for promoting the development of research competencies. Students possess an overall good understanding of research activity. The high mean indicates that AI is believed to be at least useful and supportive in the research and teacher education process. Moderate standard deviations indicate low variability, meaning that these positive attitudes are shared by most respondents.

These findings confirm previous research showing that students generally perceive AI technologies as useful for academic tasks such as information retrieval and academic writing [9, p. 2; 10, p. 4]. In particular, Zhunusbekova and Askarkyzy [6, p. 1] also reported effective integration of AI in higher education. At the same time, our results clarify that despite these positive perceptions, students still experience difficulties in evaluating sources and analysing information, which supports the conclusions of Ocupa-Cabrera and colleagues [3, p. 36] about the need for analytical, methodological, and ethical competencies when using AI in research. However, unlike previous studies focusing mainly on language learning or academic performance [4, p. 171; 10, p. 5], the present study highlights the role of AI literacy and frequent interaction with AI tools as key factors influencing students' engagement in AI-supported research activities.

To examine how students' readiness to use artificial intelligence relates to their attitudes toward AI in research, three correlation tests were conducted. The results revealed clear and consistent patterns (Table 3).

Table 3. Correlations Between Readiness Indicators and Attitudes Toward AI Use in Research (N = 104)

Variables	1	2	3	4
1. Experience_AI	—	**.398****	.176	—
2. Frequency_AI	**.406****	—	—	—
3. AI_Research_Use (Yes/No)	.176	—	—	—
4. Attitudes_AI	**.398****	**.406****	.176	—

Source: Author's own survey "Use of Artificial Intelligence Technologies for Developing Research Competencies of pre-service English Language Teachers" (Google Forms, 2025).

First, there was a moderate, statistically significant positive correlation between students' experience with AI and their attitudes toward AI use in research ($r = .398$, $p < .01$). This suggests that students who have more experience working with AI tend to perceive these technologies more positively. Similarly, frequency of AI use was also moderately and significantly correlated with students' attitudes ($r = .406$, $p < .01$), indicating that students who use AI more often demonstrate more favourable perceptions of its usefulness, convenience, and relevance for research. The correlation between prior use of AI specifically for research tasks and students' attitudes was positive but not statistically significant ($r = .176$, $p = .074$). This means that simply having used AI for research

in the past does not necessarily lead to more positive perceptions. Rather, it is ongoing, frequent, and confident usage – not an isolated experience. That contributes to students' favourable attitudes.

These findings highlight that readiness to use AI – expressed through both experience and frequency – plays an important role in shaping students' attitudes toward AI in academic settings. Similar results have been reported in previous studies, which show that regular interaction with AI technologies contributes to more positive perceptions of their usefulness in academic work [9, p. 8].

To further examine the relationships proposed in the conceptual framework (Figure 1), a multiple linear regression analysis was conducted to identify which AI-related factors predict the development of research competencies among pre-service English teachers. The overall regression model was statistically significant ($F(4, 99) = 78.13$, $p < .001$) and explained a substantial proportion of variance in research competency development ($R^2 = .759$), indicating strong explanatory power.

Among the predictors, information literacy and academic skills emerged as the strongest significant predictors of research competency development ($\beta = .386$, $p < .001$). Students' attitudes toward using AI in research also demonstrated a significant positive effect ($\beta = .271$, $p = .001$), while frequency of AI use showed a moderate but statistically significant contribution ($\beta = .212$, $p = .018$). In contrast, the perceived integration of AI into teacher education did not significantly predict research competency development ($\beta = .087$, $p = .357$).

These findings suggest that individual factors related to AI literacy, attitudes, and active engagement with AI tools play a more substantial role in developing research competencies than institutional integration alone. Overall, the regression results provide empirical support for the proposed conceptual model of AI-supported research competency development.

This finding is consistent with previous research indicating that students' digital literacy and active engagement with AI tools significantly influence their academic performance and research practices [9, p. 5; 3, p. 36].

Taken together, these results indicate that students' general familiarity with and exposure to AI technologies are much stronger predictors of positive attitudes than one-time research-related usage. The finding has important implications for teacher education programs: the more systematically students interact with AI tools, the more open and motivated they become to apply these technologies in research and academic activities.

Similar conclusions have been reported in earlier studies emphasising that regular interaction with AI technologies increases students' confidence and willingness to integrate AI into academic tasks [9, p. 4].

In addition to quantitative findings, qualitative responses provided deeper insights into students' understanding of research activity.

After analysing all the responses, it became clear that the respondents (pre-service English teachers) had a structured understanding of research (Table 4). Students perceived research as a systematic, analytical process. This process involves collecting accurate information, critically evaluating data, and formulating fact-based conclusions. Respondents emphasised that research develops core academic and professional skills. These skills also included critical thinking, problem solving, information literacy, academic writing, and time management.

Research values matter, but many students report difficulties finding reliable sources, analysing information, and understanding academic texts. These difficulties reveal gaps in students' methodological and academic preparation. Notably, it appears in evaluating sources and analysing data. Therefore, these areas become more demanding, which makes the lack of training valuable.

Students collectively emphasise that AI tools greatly facilitate research. This applies to information retrieval, research planning, improved academic writing, and idea creation. AI is seen as a productivity tool that helps overcome common barriers in research.

These perceptions correspond with earlier studies showing that AI technologies support academic writing, information retrieval, and idea generation in higher education [10, p. 4].

Table 4. Open-Ended Responses and core categories (Q 1-5)

Open-ended question	Main themes (core categories)	Representative meaning
1. How do you define research activity?	-Systematic investigation (data collection → analysis → conclusion) -Critical & analytical thinking -Information search and evaluation	Students emphasise curiosity, logic, and working with sources. Their view of research is structured and evidence-based. Data collection is followed by analysis and the drawing of conclusions.
2. What skills does research activity develop?	-Critical thinking -Analytical and problem-solving skills -Information literacy -Academic writing -Time management	Scientific activity develops several skills: cognitive (the ability to work with information), creativity, organisational skills, communication skills and autonomy in learning.
3. What difficulties do you experience in research?	-Finding sources (reliability) -Lack of quality materials (internet garbage) -Difficulties in data analysis -Time constraints -The specific structure of academic writing	Students have difficulty finding reliable sources. The vast literature, lacking an academic structure, confuses students in choosing the appropriate methods for interpretation.
4. How can AI help in research activity?	-Fast information retrieval -Summarizing & simplifying texts -Data analysis support -Academic writing assistance -Idea generation & structuring research	AI is an assistant in searching for information, analysing it, and bringing it to academic standards.
5. Is research activity necessary for pre-service English teachers? Why?	-Improving teaching methods -Understanding learner needs -Professional development & modern trends -Critical thinking & reflective practice	Most students are convinced that research is a modern lever of pedagogical knowledge.

Source: Author's survey "Use of AI technologies for developing research competencies of pre-service English teachers" (Google Forms, 2025).

Finally, the majority strongly affirm that research is necessary for pre-service English teachers, as it enhances teaching methods, supports informed pedagogical decisions, and contributes to continuous professional growth. Research is viewed not only as an academic requirement but also as a core component of becoming a competent, reflective, and modern language teacher.

The results of this study demonstrate that pre-service English teachers show high readiness, positive attitudes, and a clear understanding of the role of artificial intelligence in research activities. All six scales demonstrated good to excellent reliability (α = .788–.897), confirming that the instrument consistently measured students' perceptions. Descriptive statistics showed uniformly high mean values (M = 4.68–4.82), indicating that students broadly view AI as useful for research, academic skills, and teacher education.

Analysis of open-ended responses supports the quantitative findings. Students describe research as a systematic analytical process, and recognise that it develops critical thinking, problem-solving, and information literacy. Although many report difficulties such as finding reliable sources, analysing data, and structuring academic texts, they consistently note that AI helps overcome these challenges by accelerating information search, summarising texts, generating ideas, and improving academic writing. Most students also confirm that research is essential for pre-service English teachers. It helps teachers improve their teaching process and develop professional competencies. This observation also supports previous research highlighting the pedagogical potential of AI technologies for enhancing research skills and academic literacy among university students [9, p. 13].

Limitations of the study. This study has several limitations that should be considered when interpreting the findings. First, the sample was limited to pre-service English teachers from one educational context, which may restrict the generalisability of the results. Second, the data relied on self-reported perceptions rather than direct observation of students' research practices. Future studies

could involve larger and more diverse samples and examine how AI tools influence actual research performance and learning outcomes.

Conclusion. This study explored the perceptions, readiness, and attitudes of future foreign language teachers toward AI for developing research competencies. Findings indicate that pre-service English teachers have a positive attitude toward AI and view it as a valuable tool for supporting research activities. AI supports the improvement of academic writing and contributes to teacher education overall. Respondents demonstrated high average scores across the indicators selected for the study: attitude, competencies, literacy, responsibility, integration, and understanding. Responses to open-ended questions confirmed that AI improves information retrieval, resume and academic writing, and idea generation.

A correlation analysis of the frequency of AI use and students' previous experience revealed that regular and confident interaction with AI contributes to more positive perceptions. The use of AI for research tasks was not a significant factor in attitude, suggesting that broader digital awareness plays a decisive role rather than isolated research-related experience. Students' positive attitudes are key, but they do not prevent difficulties from arising. These include finding reliable sources, analysing data, structuring academic text, and managing time. Focusing on these issues reveals gaps for further study: developing research skills, AI literacy, and an ethical understanding of the beneficial use of AI.

From a pedagogical perspective, these findings suggest that teacher education programs should provide systematic opportunities for students to interact with AI tools across different academic tasks. Regular engagement with digital technologies may foster confidence, critical awareness, and responsible use of AI in research and teaching practice. Therefore, integrating AI-supported activities into research methodology courses may help future teachers develop both research competence and digital literacy.

The stated goal at the beginning of the study of perceiving AI as an auxiliary and effective tool for research highlighted the need to improve AI literacy and develop research-oriented training within teacher education programs in the context of digitalisation.

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БОЛАШАҚ АҒЫЛШЫН ТІЛІ МҰҒАЛІМДЕРІНІҢ ЗЕРТТЕУ ҚҰЗЫРЕТТЕРІН ДАМЫТУДАҒЫ ЖАСАНДЫ ИНТЕЛЛЕКТ ТЕХНОЛОГИЯЛАРЫН ҚОЛДАНУ

Аңдатпа

Кіріспе. Осы зерттеу болашақ ағылшын тілі мұғалімдерінің зерттеу құзыреттерін дамыту мақсатында жасанды интеллект (ЖИ) технологияларын пайдалануға қатысты олардың қабылдауын, дайындық деңгейін және көзқарасын зерттеуге арналған. Зерттеудің өзектілігі педагогикалық білім беру бағдарламалары студенттерінде деректермен жұмыс істеу дағдыларын, аналитикалық ойлауды, ақпарат көздерін бағалау қабілетін және білім берудің цифрлық трансформациясы жағдайында негізделген шешім қабылдау құзыреттерін қалыптастыру қажеттілігімен айқындалады. Ғылыми проблема студенттердің ЖИ-ды қолдануға дайындық деңгейі, олардың цифрлық және ақпараттық сауаттылығы мен зерттеушілік дағдылары арасындағы байланысқа қатысты эмпирикалық деректердің жеткіліксіздігімен сипатталады. Зерттеудің мақсаты — «Шетел тілі: екі шетел тілі мұғалімін даярлау» білім беру бағдарламасы студенттерінің зерттеу қызметінде ЖИ технологияларын қолдануға деген көзқарасы мен қабылдау ерекшеліктерін анықтау.

Әдіснама және әдістер. Зерттеу әдістемесі Ө. Жәнібеков атындағы Оңтүстік Қазақстан педагогикалық университетінің 4-курсында оқитын 104 студент арасында онлайн-сауалнама жүргізуді қамтыды. Анкета 35 сұрақтан тұрды, оның ішінде Лайкерт шкаласындағы (1–6 балл) алты өлшем қамтылды: зерттеу қызметінде ЖИ қолдануға көзқарас, ЖИ көмегімен зерттеу құзыреттерін дамыту, ақпараттық және академиялық сауаттылық, ЖИ-ды этикалық және жауапты қолдану, болашақ мұғалімдерді даярлауда ЖИ интеграциясы, зерттеу қызметін түсіну. Сонымен қатар, ашық сұрақтар енгізіліп, олардың жауаптары сапалық контенттік талдау әдісімен өңделді. Зерттеу объектісі — білім берудің цифрлануы жағдайында болашақ ағылшын тілі мұғалімдерін даярлау. Зерттеу пәні — болашақ ағылшын тілі мұғалімдерінің зерттеу құзыреттерін дамыту құралы ретінде ЖИ технологияларын қолдану.

Практикалық маңызы мен нәтижелер. Зерттеу нәтижесінде студенттер ЖИ-ды қолдануға жоғары дайындық пен оң көзқарас танытып, оны зерттеу дағдыларын қалыптастыру және академиялық қызметтің тиімділігін арттыру үшін құнды құрал ретінде бағалады.

Түйінді сөздер: жасанды интеллект, зерттеу құзыреттері, болашақ мұғалімдер, цифрлық сауаттылық, педагогикалық білім беру, зерттеу қызметі, болашақ ағылшын тілі мұғалімдері.

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ИСПОЛЬЗОВАНИЕ ТЕХНОЛОГИЙ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА ДЛЯ РАЗВИТИЯ ИССЛЕДОВАТЕЛЬСКИХ КОМПЕТЕНЦИЙ У БУДУЩИХ УЧИТЕЛЕЙ АНГЛИЙСКОГО ЯЗЫКА

Аннотация

Введение. В данном исследовании изучаются представления, готовность и отношение будущих учителей английского языка к использованию технологий искусственного интеллекта (ИИ) для развития исследовательских компетенций. Актуальность исследования определяется необходимостью оснащения

студентов педагогических программ навыками работы с данными, аналитическим мышлением, способностью оценивать источники информации и принимать решения на основе фактических данных в контексте цифровой трансформации образования. Научная проблема заключается в отсутствии эмпирических данных о взаимосвязи между готовностью студентов к использованию ИИ, их уровнем цифровой и информационной грамотности и исследовательскими навыками. Цель исследования – выявить, как студенты, обучающиеся по программе «Педагогическая подготовка по иностранному языку: два иностранных языка», воспринимают и относятся к использованию ИИ в исследовательской деятельности.

Методология. Методология исследования включала онлайн-опрос, проведенный среди 104 студентов четвертого курса Южно-Казахстанского педагогического университета им. О. Жанибекова. Анкета состояла из 35 пунктов, включая шесть шкал типа Лайкерта (1–6 баллов): отношение к использованию ИИ в исследованиях, развитие исследовательских компетенций с помощью ИИ, информационная грамотность и академические навыки, этичное и ответственное использование ИИ, интеграция ИИ в педагогическое образование и понимание исследовательской деятельности. В анкету также были включены открытые вопросы, ответы на которые анализировались с помощью качественного контент-анализа. Объект исследования – подготовка будущих учителей английского языка в контексте цифровизации образования. Предмет исследования – использование технологий ИИ как средства развития исследовательских компетенций у будущих учителей английского языка.

Практическая значимость и результаты. Результаты исследования показывают, что студенты демонстрируют высокий уровень готовности и позитивное отношение к использованию ИИ, рассматривая его как ценный инструмент для повышения исследовательских навыков и эффективности академической работы. Эти выводы могут способствовать разработке учебных программ, интегрированных с ИИ, поддержке научно обоснованной подготовки учителей и помочь университетам в повышении цифровых и исследовательских компетенций студентов.

Ключевые слова: искусственный интеллект, исследовательские компетенции, будущие учителя, цифровая грамотность, педагогическое образование, исследовательская деятельность, будущие учителя английского языка.

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