

Торайғыров университетінің
ҒЫЛЫМИ ЖУРНАЛЫ

НАУЧНЫЙ ЖУРНАЛ
Торайғыров университета

Торайғыров университетінің ХАБАРШЫСЫ

Педагогикалық сериясы
1997 жылдан бастап шығады



ВЕСТНИК ТОРАЙГЫРОВ УНИВЕРСИТЕТА

Педагогическая серия
Издается с 1997 года

ISSN 2710-2661

№ 3 (2026)

Павлодар

НАУЧНЫЙ ЖУРНАЛ
Торайгыров университета

Педагогическая серия
выходит 4 раза в год

СВИДЕТЕЛЬСТВО

о постановке на переучет периодического печатного издания,
информационного агентства и сетевого издания

№ KZ03VPY00029269

выдано

Министерством информации и коммуникаций
Республики Казахстан

Тематическая направленность

публикация материалов в области педагогики,
психологии и методики преподавания

Подписной индекс – 76137

<https://doi.org/10.48081/BTOUP3.2026/ISSN2710-2661>

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INVESTIGATING THE DIGITAL COMPETENCE AND READINESS OF ENGLISH PRE-SERVICE TEACHERS TO INTEGRATE INNOVATIVE TOOLS

The study employed a mixed-methods research design using a self-developed questionnaire based on the DigCompEdu framework. The questionnaire was adapted to meet the specific needs of pre-service English language teachers. The findings identified key challenges and areas where further support is needed for developing digital competence. Also, the results highlight the importance of targeted training programs and hands-on experience with innovative educational tools to develop the digital skills and confidence of future English language teachers.

This study explores the readiness of pre-service English language teachers to integrate innovative digital educational tools in developing their digital competence for teaching. Accordingly, the collected data were examined using the SPSS Statistics 23.0 with descriptive and inferential statistics. Descriptive statistics (percentages and frequencies) were used to examine differences between grades and universities, while the Mann–Whitney U-test was applied to compare independent groups, as the data were not normally distributed. The 16-item scale demonstrated good reliability ($\alpha = 0.855$). Findings revealed that while some students expressed low confidence in integrating technology into language teaching, the majority strongly agreed on the importance of digital competence for modern English teachers. No significant differences were observed between third- and fourth-

year students or across institutions. To support these results, qualitative interviews with six students (three from each university) provided additional insights into the challenges and needs associated with integrating innovative digital tools. These results highlight the need to strengthen digital competence programs that provide meaningful knowledge and practical support for pre-service English language teachers, many of whom lack sufficient training and confidence in using digital tools effectively.

Keywords: digital tools, digital competence, future English teachers, teacher education, digital readiness, technology integration.

Introduction

These days, our lives are increasingly digitalized and modernized, making it almost impossible to imagine daily activities or our surroundings without technology. Digitalization has transformed many aspects of life, replacing traditional jobs, automating manual tasks, and reshaping the way teaching is conducted in the education system.

At present, the overwhelming majority of teachers are expected to be digitally competent in order to remain effective and relevant in their profession. Nevertheless, only digitally skilled tutors are able to fully support learners and deliver lessons in a stimulating way. It is increasingly difficult to maintain students' attention through language instruction alone; therefore, their engagement requires the creative use of presentation slides, applications, and digital tools. There are numerous types of such resources, including gamification platforms, Artificial intelligence and communication or language-learning tools. However, although ICT courses are already included in teacher education curricula, most pre-service teachers still lack sufficient knowledge of how to use digital tools effectively. Consequently, ICT training alone cannot be considered adequate for preparing future teachers.

To guide this investigation, several well-established frameworks have been developed to enhance the digital competence of pre-service teachers, including the European Commission's DigCompEdu, the Technological Pedagogical Content Knowledge (TPACK) model, and UNESCO's ICT Competency Framework. These models provide a theoretical basis for evaluating existing levels of digital competence and for designing strategies to improve teacher education through the integration of innovative tools. Thus, the experimental part of the research study was derived from the Digital competence framework for educators (DigCompEdu), and qualitative interviews were conducted to obtain deeper insights about the issue. [1].

The concept of digital competence has often been described using a variety of related terms in education. These include ICT skills, technology skills, information literacy, digital literacy and broader ideas such as 21st-century skills. While these

terms differ slightly in scope, all of them indicate that enough knowledge and the demanded skills are needed for all individuals to use digital tools effectively in a purposeful way. Likewise, every human being is required to develop digital literacy as it is one of the vital capabilities that must be improved in a digitalized environment. [2]. It is essential to point that using digital tools in education is not sufficient, it is essential to gain knowledge about integrating technology in training with pedagogical knowledge [3].

Therefore, DigCompEdu was developed to address the growing need for educators to integrate digital skills into their professional practice [4]. Outlining digital competence through structured frameworks serves multiple purposes at different levels of educational systems, including supporting teachers' professional development and enabling institutions to design targeted training. The theoretical structure of DigCompEdu not only guides research across educational levels but also provides opportunities for higher education institutions to assess needs and measure digital competence at an international level [5].

Furthermore, the Technological Pedagogical Content Knowledge framework (called TPACK) is one of the famous structures that were introduced to analyze knowledge of teachers with the use of digital integration [6].

In addition to this, TPACK offers a conceptual model for understanding how teachers integrate technology with pedagogy and subject knowledge. For this reason, earlier studies were based on the TPACK and found a few actual themes presenting both advances and difficulties that pre-service teachers face in developing digital competencies. [7].

Additionally, the UNESCO ICT Competency Framework for Teachers (ICT-CFT) was designed to support the development of national standards for teacher ICT competence [8]. It provides methodological guidance for adapting the framework to local contexts, ensuring that UNESCO member states can establish national standards tailored to their educational priorities. Together, these three frameworks provide a comprehensive basis for evaluating and fostering the digital competence of future teachers.

The successful implementation of gamification in higher education requires an appropriate system or platform. [9]. The study aimed to provide a clear review of gamification platforms available for higher education, highlighting the challenges and opportunities experienced by both teachers and students in their use. Furthermore, they presented five gamification platforms, which were assessed to assist educators in selecting the most suitable option for their teaching needs. Similarly, the emphasis on artificial intelligence (AI) represents a field of study characterized by significant achievements in technological innovation, particularly in developing systems with cognitive abilities such as learning,

adaptability, and decision-making [10]. Their review highlighted that AI has been extensively adopted in education across different institutional levels, supporting diverse learning and teaching processes. The use of WebQuests as tools for second language acquisition and foreign language learning was examined by [11]. The study aimed to guide teachers in designing effective teaching activities and to support researchers in conducting educational investigations on the use of WebQuests in language learning contexts. Based on the earlier study digital communication tools were found to enhance interaction, engagement, and access to authentic language materials [12]. The authors emphasized that such tools including social media platforms, language learning applications and video conferencing technologies play a significant role in supporting language learning and teaching practices. Scholars have previously conducted research on the use of online communication tools in teaching foreign languages [15]. Their findings revealed that the integration of such tools had significant positive effects on the formation and development of learners' written communication skills, thereby contributing to sustainable education practices.

Earlier research has conducted a study to investigate the extent to which pre-service English teachers were able to apply the methods, theories, and training acquired during their teacher education programs into actual classroom teaching. [13]. The results identified four major themes reflecting the challenges faced by participants: managing students in class, maintaining self-belief, interactions with supervisors, and navigating the school environment. These findings highlight the key difficulties and obstacles pre-service teachers encounter during their teaching practice. Previous researchers have explored the extent to which third-year EFL pre-service teachers were influenced by their observations in young learner classrooms [14]. The findings revealed both strengths and weaknesses in relation to teaching English to young learners, particularly regarding the impact of the course they attended and their experiences in young learner classroom settings. Scholars have analyzed the cognitions of future English language teachers regarding how they cope with common in-class difficulties in foreign language teaching [16]. The findings revealed three main strategies in their pre- and post-practicum cognitions, as well as changes in these cognitions due to the practicum experience. Additionally, courses in the teacher education program and pre-service teachers' personal learning experiences appeared as significant influences shaping their cognitions.

The reviewed literature has identified and explored various perspectives, concepts and challenges related to teacher education, digital tools and pre-service teacher development. However, a clear research gap remains. There is still a need for in-depth investigation into how innovative educational tools can be

systematically applied to develop the digital competence of pre-service English language teachers. While prior studies highlight the importance of digital literacy, classroom challenges, and the general role of technology in education, the present research has directly examined the targeted integration of innovative tools to foster digital competence specifically among future English language teachers.

The purpose of this research is to investigate the role of innovative educational tools in improving the digital competence of future English language teachers. Thus, the study further aims to examine the extent to which future English teachers are prepared to integrate such tools into their teaching practice and to identify the kinds of support they require for further training.

In line with the purpose of this study the answers to the following research questions were investigated:

1 What is the current level of digital competence among pre-service English language teachers?

2 Do the digital competence levels of students differ according to their education level and the universities they study in?

3 What challenges do pre-service teachers face when using educational tools?

Materials and methods

This study employed a mixed method research design, using a Likert-scale questionnaire to investigate pre-service English language teachers' digital competence and readiness to integrate innovative tools in their teaching, and an interview to gain deeper information.

The survey consisted of 16 items designed to evaluate pre-service teachers' digital competence and readiness to integrate innovative tools into teaching. Moreover, the survey was guided by the DigCompEdu framework and the statements in the questionnaire form were designed according to DigCompEdu's six digital competence areas, with a focus on digital resources, teaching and learning, professional engagement, and empowering learners. The items were not directly taken from the original instrument. Instead, they were adapted to the context of pre-service English language teachers and focused on innovative tools. The items addressed abilities such as using digital tools for lesson preparation, designing interactive teaching materials, managing digital classroom platforms, and handling technical issues. Additionally, items concentrated on the use of applications such as gamification apps, AI tools, engaging digital tools like Padlet, Jamboard, and multimedia technology. In addition, the questionnaire explored students' willingness to experiment with new digital tools, their motivation, confidence levels, perceived difficulties, and training needs. All items were presented in a five-point Likert-scale format with response options: 1 (Strongly disagree), 2 (Disagree), 3 (Neutral), 4 (Agree), and 5 (Strongly agree).

The questionnaire was distributed online via Google Forms. Informed consent was obtained directly within the form: respondents were notified that their participation was voluntary, their responses would remain anonymous and the data would be used solely for research purposes. By completing the survey, they agreed to contribute to the study.

To obtain deeper insights into the research findings, a small qualitative component was also included by asking five open-ended questions to six students (three from each university).

Convenience sampling method was employed to conduct the survey in this study. Convenience sampling is a non-probability method in which participants are chosen from the target population based on accessibility [17]. Therefore, both quantitative and qualitative methods were applied.

On top of that, the responses of the respondents were collected and examined using SPSS Statistics 23.0. In the study, the scale demonstrated good internal consistency ($\alpha = .855$), indicating that the data collected was reliable for analysis. Question 13 (I do not feel confident integrating technology into language teaching) was reverse-coded, as it was written in negative form. Hence, in the study descriptive and inferential statistics were applied.

Results and discussion

Table 1 – Distribution of students by grade

Grades	Frequency	Percent
3 grade	54	47,4
4 grade	60	52,6
Total	114	100,0

As presented in Table 1, a total number of respondents who participated in the study was 114, 54 third-year students (47.4 %) and 60 fourth-year students (52.6 %).

Table 2 – Distribution of participants by university

	Frequency	Percent
South Kazakhstan Pedagogical University named after O. Zhanibekov	88	77,2
Peoples' Friendship University named after Academician A. Kuatbekov	26	22,8
Total	114	100,0

According to Table 2, 88 students (77.2 %) were from South Kazakhstan Pedagogical University named after O. Zhanibekov, while 26 students (22.8 %)

were from Peoples' Friendship University named after Academician A. Kuatbekov, reflecting the accessibility of participants.

To address the first research question, What is the current level of digital competence among pre-service English language teachers?, descriptive statistics were computed to provide an overall picture of the participants' competence levels.

Table 3 – Descriptive statistics results

Questions	N	Min	Max	Mean	Std. De- viation
1 Which university are you studying at?	114	1,00	5,00	3,6842	0,81268
2 What is your current year of study?	114	1,00	5,00	3,6316	0,88511
3 I am able to use digital tools to prepare teaching materials.	114	1,00	5,00	3,3596	0,79964
4 I am able to use online learning platforms (such as Google Classroom or Moodle)	114	1,00	5,00	3,6316	0,73187
5 I am proficient in handling technical issues that may arise during teaching.	114	2,00	5,00	3,7193	0,71034
6 I am ready to integrate digital tools into my lessons.	114	1,00	5,00	3,7544	0,82614
7 I use gamification applications (e.g., online quiz or game-based learning apps) in teaching.	114	1,00	5,00	3,5702	0,77539
8 I am ready to use AI-based tools (e.g., ChatGPT, Grammarly) to support lesson planning.	114	2,00	5,00	3,7895	0,72226
9 I am able to use collaborative digital tools (such as Padlet, Jamboard or similar platforms) to engage students.	114	2,00	5,00	3,7632	0,73235
10 I can use multimedia resources (such as videos and interactive activities) effectively in my lessons.	114	1,00	5,00	3,8333	0,79730

11 I am willing to experiment with new digital tools for language teaching.	114	1,00	5,00	3,1754	0,85441
12 I believe that digital tools improve lesson effectiveness and student engagement.	114	1,00	5,00	3,5439	0,76587
13 I do not feel confident integrating technology into language teaching.	114	1,00	4,00	2,3070	0,73022
14 I need further training in using digital tools for teaching.	114	1,00	5,00	3,8070	0,78568
15 I feel motivated to use innovative tools regularly in future classrooms.	114	2,00	5,00	3,6842	0,73250
16 I agree that digital competence is essential for modern English teachers.	114	1,00	5,00	3,8158	0,78217
Total	114	2,06	4,75	3,5669	0,43783

As depicted in Table 3, for the first research question: What is the current level of digital competence among pre-service English language teachers?, a Test of Normality was computed to determine whether parametric or non-parametric tests were appropriate for the data analysis. In addition, the results demonstrated that for Question 13 (I do not feel confident integrating technology into language teaching), the mean score was 2.3070 with a standard deviation of 0.73022, whereas for Question 16 (I agree that digital competence is essential for modern English teachers), the mean score was 3.8158 with a standard deviation of 0.78217.

Table 4 – Tests of Normality (Kolmogorov–Smirnov and Shapiro–Wilk)

Kolmogorov-Smirnova			Shapiro-Wilk		
Statistic	df	Sig.	Statistic	df	Sig.
0,126	114	<0,001	0,962	114	,002

*P=0.05

As highlighted in Table 4, the results of the Kolmogorov–Smirnov test indicated a significance value of 0.001, suggesting that the data were not normally distributed. Therefore, a non-parametric test, the Mann–Whitney U test was employed to compare independent groups.

In relation to the second research question: Do the digital competence levels of students differ according to their education level and the universities they study in?, the Mann–Whitney U test was conducted to examine these differences.

Table 5 – The comparison of the participants based on their grades

grade	N	Mean Rank	U	P
3 grade	54	51,07	1273,000	,048*
4 grade	60	63,28		

*P=0.05

As supported in Table 5, the results of the Mann–Whitney U test indicated a statistically significant difference between the levels of the students depending on their grades ($U = 1273.0$, $p = 0.048$). The mean rank of third-year students was 51.07 ($n = 54$), while the mean rank of fourth-year students was 63.28 ($n = 60$). This suggests that fourth-year students demonstrated higher digital competence compared to third-year students.

The next analysis examined whether there were differences in participants' levels of digital competence based on the universities in which they studied.

Table 6 – Differences in participants' levels of digital competence by university

University	N	Mean Rank	U	P
South Kazakhstan Pedagogical University named after O.Zhanibekov	88	59,56	962,500	0,219
Peoples' Friendship University named after Academician A. Kuatbekov	26	50,52		

*P=0.05

According to Table 6, the results of the Mann–Whitney U test indicated no statistically significant difference in digital competence levels between the two universities ($U = 962.50$, $p = 0.219$). The mean rank for students from South Kazakhstan Pedagogical University named after O. Zhanibekov ($N = 88$) was 59.56, while the mean rank for students from Peoples' Friendship University named after Academician A. Kuatbekov ($N = 26$) was 50.52. Although the mean ranks suggest a slight difference, this was not statistically significant, which may also reflect the unequal number of students due to accessibility and availability.

For the third research question: What challenges do pre-service teachers face when using educational tools? - The findings were determined through the analysis of interview data collected using a qualitative method.

The challenges pre-service teachers experienced were related mainly to technical issues. For instance, at school there may not be enough interactive whiteboards and many digital platforms have restrictions, as free versions only include basic tools and for further features students have to pay money. Another issue was algorithms and searching skills, as well as low internet connection in villages compared to the city. Some language learning apps also require payment and interviewees noted that internet connection problems appear most often. At the same time, students mentioned challenges with using digital tools properly, such as signing up to platforms or making payments. Additionally, the interviewees mentioned that they use digital tools such as Kahoot, Jamboard, Padlet, Quizizz and game platforms:

(P.1): Quizzes helps us to evaluate students at the end of semester or like at the end of year because we may give a text and give like a text to every question and it helps us to make kind of criteria and everything like that. Also Kahoot and Quizlet.

(P.2): Well, I can say that I have explored this kind of digital tools really deeply because I'm using it since first year and when I first kind of got acquainted with this digital platforms it was kind of a bit challenging.

(P.3): Firstly, I guess its technical issues.

(P.4): Internet connection, it's hard to connect to some platforms with low internet.

(P.5): Low internet, because I come from the village, but when I am in the city there's no problem. Also some apps require payment, and free versions are basic.

The survey data collected through a Likert-scale instrument and the qualitative interview results support the conclusions of existing literature, showing that pre-service English language teachers actively use digital applications in their teaching and learning. Participants emphasized the importance of digital tools for making lessons more effective and highlighted digital competence as an essential skill. Both third- and fourth-year students from the two universities recognized the high importance of digital competence.

The Mann-Whitney U test was applied after the Kolmogorov-Smirnov test confirmed non-normality, showed no major differences between the universities, although only 26 students participated from Peoples' Friendship University named after Academician A. Kuatbekov. The internal reliability of the instrument was satisfactory, with Cronbach's $\alpha = 0.855$.

In addition, the qualitative findings revealed three main categories of challenges: (1) rural-urban difficulties in internet access, (2) financial barriers due to paid applications and (3) limitations of free versions of tools. Students reported frequent use of platforms such as Kahoot, Quizlet, Quizizz, gamification tools and also mentioned ChatGPT as part of their studies and teaching practice. In the study, a Test of Normality was used to check if the survey data were normally distributed.

Since the data were not normally distributed, the non-parametric Mann–Whitney U test was used. For Question 13 (I do not feel confident integrating technology into language teaching), the mean score was 2.3070, which is below the midpoint of the Likert scale (1–5), indicating that, on average, students do not feel very confident integrating technology into language teaching. For Question 16 (I agree that digital competence is essential for modern English teachers), the mean score was 3.8158, above the midpoint, indicating that students recognize digital competence as essential for modern English language teachers. These findings suggest a research gap between awareness and practical confidence, highlighting the need for further training and support in using innovative technology effectively.

In checking grade-level differences between third and fourth-year students, 4th-year learners scored higher in digital competence. The main reason may be due to more teaching and learning experience and exposure to digital platforms. Additionally, maturity may cause a higher level of digital literacy.

Prior research has demonstrated, research interviews with teacher educators emphasized the importance of professional development programs and curriculum in developing digital competencies for both teacher educators and pre-service teachers [5]. Similarly, Artificial intelligence in education demonstrated and explained diverse ways in which it makes contributions to the education system, including the profits and impacts on teaching and learning [10]. In addition, the findings of the study showed direct effects and benefits of AI tools in education and outweighed the drawbacks. Also, other data were collected from 110 junior-level learners in one of the state institutions in Turkey using a mixed-methods approach [14]. Therefore, quantitative data were analyzed using descriptive and inferential statistics, while qualitative data were analyzed through coding.

The results demonstrated the strengths and weaknesses of pre-service teachers in relation to teaching English during their teaching practice, and indicated the usefulness for their professional growth and development. In the research study, there were no significant differences between the grades and universities, only minor ones. From the findings, it is clear that even minor differences indicate a need for digital support and training in using educational tools. Some students also reported feeling not confident in using tools effectively. Additionally, the small sample size from Peoples' Friendship University named after Academician A. Kuatbekov (26 students) may have reduced statistical power, which was due to student access and availability. For future research, larger and more balanced samples across universities are recommended.

Conclusion

The integration of innovative educational tools in language teaching plays a crucial role, especially as technology continues to develop. Furthermore,

frameworks such as the European Commission's DigCompEdu, the Technological Pedagogical Content Knowledge (TPACK) model, and UNESCO's ICT Competency Framework provide a theoretical basis for assessing and developing digital competence.

The findings of this study confirm that digital competence is essential in the education system and future English teachers should master the skills to integrate technology efficiently in teaching and learning. In addition, digital literacy is a required skill for all pre-service teachers in order to grow professionally, enhance their teaching abilities, meet the demands of modern society, and motivate their students in their future teaching careers. Thereby, basic ICT knowledge is insufficient, as both previous research and the present study indicate that pre-service teachers face challenges in using digital tools effectively and therefore need hands-on practice and support.

Consequently, the aim of this study was to identify the underlying causes of these challenges and to explore the role of innovative educational tools in developing digital competence. The research highlighted the specific challenges pre-service teachers' experience, emphasizing the need for targeted support and training. Finally, future research should focus on designing curricula or educational programs to evaluate the effectiveness of gamification platforms and other innovative educational tools, using pre and post-tests to measure their impact on enhancing educators' digital competence.

References

1 **Redecker, C., Punie Y.** Digital competence of educators [Text] // Edited by Yves Punie. – 2017. – [Electronic resource] – URL: <https://publications.jrc.ec.europa.eu/repository/handle/JRC107466>

2 **Pettersson, F.** On the issues of digital competence in educational contexts – a review of literature [Text] // Education and Information Technologies. – 2018. – Vol. 23, No. 3. – P. 1005–1021. – <https://doi.org/10.1007/s10639-017-9649-3>

3 **Dias-Trindade, S., Moreira, J. A., Ferreira, A. G.** Assessment of university teachers on their digital competences [Text] // QWERTY – Open and Interdisciplinary Journal of Technology, Culture and Education. – 2020. – Vol. 15, No. 1. – P. 50–69. – [Electronic resource] – URL: <https://hdl.handle.net/10316/113467>

4 **Caena, F., Redecker, C.** Aligning teacher competence frameworks to 21st century challenges: The case for the European Digital Competence Framework for Educators (DigCompEdu) [Text] // European Journal of Education. – 2019. – Vol. 54. – P. 356–369. – <https://doi.org/10.1111/ejed.12345>

5 **Bayrak Karsli, M., Küçük S., Kılıç, R., Albayrak-Ünal, Ö.** Assessment of digital competencies of teacher educators with the DigCompEdu framework [Text] // International Journal of Curriculum and Instructional Studies. – 2023. – Vol. 13, No. 1. – P. 67–94. – [Electronic resource] – URL: <https://files.eric.ed.gov/fulltext/EJ1395263.pdf>

6 **Brantley-Dias, L., Ertmer, P. A.** Goldilocks and TPACK: Is the construct ‘just right?’ [Text] // Journal of Research on Technology in Education. – 2014. – Vol. 46, No. 2. – P. 103–128. – <https://doi.org/10.1080/15391523.2013.10782615>

7 **Wang, W., Schmidt-Crawford D., Jin, Y.** Preservice Teachers’ TPACK Development: A Review of Literature [Text] // Journal of Digital Learning in Teacher Education. – 2018. – Vol. 34, No. 4. – P. 234–258. – <https://doi.org/10.1080/21532974.2018.1498039>

8 **Midoro, V.** Guidelines on adaptation of the UNESCO ICT Competency Framework for Teachers [Text] // UNESCO Institute for Information Technologies in Education. – Moscow, 2013. – [Electronic resource] – URL: <https://iite.unesco.org/publications/3214726/>

9 **Goshevski, D., Veljanoska, J., Hatzia Apostolou, T.** A review of gamification platforms for higher education [Text] // Proceedings of the 8th Balkan Conference in Informatics (BCI '17). – ACM, 2017. – Article 28. – P. 1–6. – <https://doi.org/10.1145/3136273.3136299>

10 **Chen, L., Chen, P., Lin, Z.** Artificial Intelligence in Education: A Review [Text] // IEEE Access. – 2020. – Vol. 8. – P. 75264–75278. [Electronic resource] – <https://ieeexplore.ieee.org/abstract/document/9069875>

11 **Aydin, S.** WebQuests as language-learning tools [Text] // Computer Assisted Language Learning. – 2015. – Vol. 29, No. 4. – P. 765–778. – <https://doi.org/10.1080/09588221.2015.1061019>

12 Shodhgyan. Digital communication tools in language learning and teaching // Shodhgyan. – 2020. – Vol. 1, No. 1. – P. 1–10. [Electronic resource] – URL: <https://shodhgyan.org/index.php/shodhgyan-nu/article/view/20>

13 **Fhaeizdhyall, M. A.** The effectiveness of teacher education program: Identifying the difficulties and challenges faced by the pre-service English teachers [Text] // International Journal of English Language Teaching. – 2017. – Vol. 6, No. 1. – P. 1–17. [Electronic resource] – URL: <https://www.researchgate.net/publication/322095482> (Access date: 10.05.2026).

14 **Camlibel-Acar, Z.** Teaching English to young learners: Some challenges faced by pre-service teachers [Text] // The Eurasia Proceedings of Educational and Social Sciences. – 2016. – Vol. 5. – P. 323–327. – URL: <https://dergipark.org.tr/en/download/article-file/384203>

15 **Martyushev, N., Shutaleva, A., Malushko, E., Nikonova, Z., Savchenko, I.** Online Communication Tools in Teaching Foreign Languages for Education Sustainability [Text] // Sustainability. – 2021. – Vol. 13, No. 19. – Article 11127. – <https://doi.org/10.3390/su131911127>

16 **Çimen, Ş. S., Daloğlu, A.** Dealing with in-class challenges: Pre-service teacher cognitions and influences [Text] // Journal of Language and Linguistic Studies. – 2019. – Vol. 15, No. 3. – P. 754–772. – <https://doi.org/10.17263/jlls.631499>

17 **Golzar J., Noor S., Tajik O.** Convenience Sampling [Text] // International Journal of Education & Language Studies. – 2022. – Vol. 1, No. 2. – P. 72–77. – <https://doi.org/10.22034/ijels.2022.162981>

Received 15.10.25.

Received in revised form 04.05.26.

Accepted for publication 03.08.26.

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15.10.25 ж. баспаға түсті.

04.05.26 ж. түзетулерімен түсті.

03.08.26 ж. басып шығаруға қабылданды.

БОЛАШАҚ АҒЫЛШЫН ТІЛІ МҰҒАЛІМДЕРІНІҢ ЦИФРЛЫҚ ҚҰЗЫРЕТТІЛІГІ МЕН ИННОВАЦИЯЛЫҚ ҚҰРАЛДАРДЫ ЕНГІЗУГЕ ДАЙЫНДЫҒЫН ЗЕРТТЕУ

Зерттеуде DigCompEdu негізінде әзірленген сауалнаманы пайдалана отырып, аралас әдісті зерттеу дизайны қолданылды. Сауалнама ағылшын тілі мұғалімдерінің нақты қажеттіліктеріне бейімделген. Нәтижелер цифрлық құзыреттілікті дамыту үшін қосымша қолдауды қажет ететін негізгі мәселелер мен салаларды анықтады. Сондай-ақ, алынған нәтижелер болашақ ағылшын тілі мұғалімдерінің цифрлық дағдылары мен сенімділігін дамыту үшін инновациялық білім беру құралдарымен мақсатты оқыту бағдарламалары мен практикалық тәжірибенің маңыздылығын көрсетті.

Бұл зерттеу ағылшын тілі мұғалімдерінің инновациялық цифрлық білім беру құралдарын пайдалану арқылы цифрлық құзыреттіліктерін дамытуға дайындығын зерттейді. Тиісінше, жинақталған деректер SPSS Statistics 23.0 көмегімен сипаттамалық және қорытынды статистиканы пайдалана отырып талданды. Курстар мен университеттер арасындағы айырмашылықтарды тексеру үшін сипаттама статистикасы (пайыз бен жиіліктер) пайдаланылды, ал тәуелсіз топтарды салыстыру үшін Mann–Whitney U test пайдаланылды, себебі деректер қалыпты түрде таралмаған. 16 тармақтан тұратын шкала жақсы сенімділікті көрсетті ($\alpha = 0,855$). Нәтижелер кейбір білім алушылар тілді оқыту үдерісінде технологияны біріктіруге төмен сенім білдіргенімен, көпшілігі қазіргі ағылшын тілі мұғалімдері үшін цифрлық құзыреттіліктің маңыздылығымен толық келіскенін көрсетті. Үшінші және төртінші курс білім алушылары арасында немесе әртүрлі оқу орындарында айтарлықтай айырмашылықтар байқалмады. Осы нәтижелерді растау үшін алты білім алушыдан (әр университеттің үшеуі) алынған сапалы сұхбатта инновациялық цифрлық құралдарды біріктіруге байланысты мәселелер мен қажеттіліктер туралы қосымша түсініктер берді. Бұл нәтижелер болашақ ағылшын тілі мұғалімдеріне мазмұнды білім мен практикалық қолдау көрсететін цифрлық құзыреттілік бағдарламаларын нығайту қажеттілігін көрсетеді, олардың көпшілігінде цифрлық құралдарды тиімді пайдалануға жеткілікті дайындық пен сенімділікке ие емес екендіктерін айқындады.

Кілтті сөздер: цифрлық құралдар, цифрлық құзыреттілік, болашақ ағылшын тілі мұғалімдері, мұғалімдердің білімі, цифрлық дайындық, технологияларды интеграциялау.

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Поступило в редакцию 15.10.25.
Поступило с исправлениями 04.05.26.
Принято в печать 03.08.26.

ИЗУЧЕНИЕ ЦИФРОВОЙ КОМПЕТЕНТНОСТИ И ГОТОВНОСТИ БУДУЩИХ УЧИТЕЛЕЙ АНГЛИЙСКОГО ЯЗЫКА К ИНТЕГРАЦИИ ИННОВАЦИОННЫХ ИНСТРУМЕНТОВ

В исследовании использовался смешанный метод исследования с использованием самостоятельно разработанной анкеты на основе структуры DigCompEdu. Анкета была адаптирована для удовлетворения конкретных потребностей будущих преподавателей английского языка. Результаты исследования выявили ключевые проблемы и области, в которых необходима дальнейшая поддержка для развития цифровой компетентности. Также, полученные результаты подчеркивают важность целевых программ обучения и практического использования инновационных образовательных инструментов для развития цифровых навыков и уверенности в себе у будущих учителей английского языка.

В данном исследовании рассматривается готовность будущих преподавателей английского языка, использовать инновационные цифровые образовательные инструменты для развития своей цифровой компетентности в преподавании. Соответственно, собранные данные были проанализированы с использованием SPSS Statistics 23.0 с применением описательной и инференциальной статистики. Для изучения различий между курсами и университетами использовались описательные статистические данные (процентные соотношения и частоты), а для сравнения независимых групп применялся Mann–Whitney U test, поскольку данные обычно не распределялись. Шкала из 16 пунктов продемонстрировала хорошую надежность ($\alpha = 0,855$). Результаты показали, что, хотя некоторые студенты выразили низкую уверенность в интеграции технологий в преподавание языка, большинство полностью согласилось с важностью цифровой компетентности для современных преподавателей английского языка. Существенных различий между студентами третьего и четвертого курсов или между учебными заведениями не наблюдалось. Чтобы подтвердить эти результаты, качественные интервью с шестью студентами (по три из каждого университета) позволили получить дополнительное представление о проблемах и потребностях, связанных с интеграцией инновационных цифровых инструментов. Эти результаты подчеркивают необходимость усиления программ повышения цифровой компетентности, которые

предоставляют значимые знания и практическую поддержку будущим преподавателям английского языка, многим из которых не хватает достаточной подготовки и уверенности в эффективном использовании цифровых инструментов.

Ключевые слова: цифровые инструменты, цифровая компетентность, будущие преподаватели английского языка, педагогическое образование, цифровая готовность, интеграция технологий.

Теруге 03.08.2026 ж. жіберілді. Басуға 14.09.2026 ж. қол қойылды.

Электронды баспа

6,45 МБ

Шартты баспа табағы 49,9

Компьютерде беттеген З. Ж. Шокубаева

Корректорлар: А. Р. Омарова, Д. А. Қожас

Тапсырыс № 4597

Сдано в набор 03.08.2026 г. Подписано в печать 14.09.2026 г.

Электронное издание

6,45 МБ, Усл.п.л. 49,9.

Компьютерная верстка З. Ж. Шокубаева

Корректоры: А. Р. Омарова, Д. А. Қожас

Заказ № 4597

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