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Zh.Y. Abdykhalykova, A.Y. Rymgaliyeva, F.Y. Abdykhalyk, U.B. Malik

L.N. Gumilyov Eurasian National University, Astana, Kazakhstan
(E-mail: zhakenti@mail.ru, vkook_17@mail.ru, fariza199706@gmail.com, malik.umit@mail.ru)

Digital literacy as a component of assessing prospective teachers readiness for professional activity

Abstract. *Nowadays, the ability to use modern digital tools is a prerequisite for teachers, given the fact that information and communication technologies are rapidly developing. Since digital literacy allows you to critically evaluate, select and effectively use information tools and platforms in the educational process, the digital transformation of education requires advanced preparation of future teachers to work in digital educational environments; mastering modern pedagogical technologies; developing readiness to use digital tools and resources.*

The purpose of the article is to identify the level of digital literacy of prospective teachers and determine the direction of target indicators for using digital technologies in the educational process.

The theoretical analysis identified elements of digital literacy; levels of digital literacy skills of prospective English language teachers.

To achieve the research question, thematic analysis was used, where methods such as open questioning and semi-structured interviews (questionnaire, interview) were used. The study revealed that future teachers were aware of a wide range of digital technologies and were able to use them for personal, educational and professional purposes. The definition of digital literacy by future teachers has several levels, ranging from basic knowledge to advanced, creative and collaborative degrees of application.

The results of the study can be used to develop educational programs for advanced training of future teachers and adjust the individual trajectory of professional development.

Keywords: *digital literacy, preparation of prospective teachers, professional activity, component of assessing, assessment, digital platforms in education, digital tools, educational process.*

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Introduction

Digital literacy is given special attention in Kazakhstan as the country strives to modernize its education system and adapt to the demands of the digital age. In this regard, the assessment of digital literacy of future teachers has become an essential component of their readiness for professional activities.

The educational landscape in Kazakhstan has seen marked improvements in recent years, with a particular focus on integrating technology into teaching and learning processes. The Digital Kazakhstan Program, launched in 2017, highlights the government's commitment to

developing a digitally literate society by investing in infrastructure, promoting digital skills, and encouraging innovation. As a result, there is growing recognition that teachers must have strong digital literacy skills in order to use technology effectively in the classroom and equip students with the necessary skills for the future professional activity [1].

In the modern world, information technologies penetrate all spheres of human life including industry, agriculture, medicine, management, art, science, and education. Nowadays, it is difficult to imagine human life and activity without information technologies, since people are just connected by the help of technologies. The responsibilities of language teachers are moving beyond the realm of merely instructing students in linguistic abilities as the means by which people communicate around the world becomes increasingly mediated by digital technology. In today's technologically linked world, language learners must engage their digital abilities in order to communicate effectively. As stated by Dudeney and Hockly, this newly emerging set of digital abilities can be defined as follows: "The phrase «digital literacies» serves as an umbrella word for these newly developed abilities and competencies. Being «digitally literate» relates to our capacity to make efficient use of the technologies that are available to us. This comprises not just the ability to perform technical tasks, but also, and perhaps more crucially, a comprehension of the social behaviors that accompany the appropriate use of recent technologies" [2].

The cultivation of abilities necessary for digital literacy is a learning objective that is widely recognized in a variety of language curricula [3]. As claimed by Dooly and O'Dowd, in societal realms that use digital content, conceptions of closeness and reality seem equivocal. As a result, language learners need to expertly mix their linguistic abilities with their digital abilities in order to interact and perform in these settings. A similar argument was made by Pegrum, who stated that people «who lack proper literacies hardly exist in digital culture and are doomed to hang on the outskirts of digital societies and digital economy» [4]. If learners are to avoid becoming soothed into complacent absorption, multidimensional texts that include music, images, animations, or video necessitate greater symbolic complexity and rational reasoning than before. Despite the fact that technological intervention makes it possible for «unique types of interpersonal encounters, contemporary varieties of groups, and innovative opportunities to learn,» it also demonstrates students of foreign languages with a number of significant challenges. In a similar vein, Kurek and Hauck highlight the importance of digital and collaborative literacy skills for language learners. These skills will allow language learners to engage in and create virtual groups as semantic innovators by making rational usage accessible semiotic systems [5].

In addition, digital literacy is now widely recognized as an essential component of blended learning environments, in which the level of success achieved in the blended learning conditions is directly correlated to the level of digital literacy practices exhibited by the students [6]. As a consequence of the expanding digital and multidimensional interaction, along with the significance of 21st century abilities in training, especially in teacher development, investigating potential teacher educators' abilities in digital literacy is a recent research issue. An evaluation of their current digital capabilities and literacy habits can assist in identifying their requirements, allowing them to utilize them to lead initiatives to change second language teacher development curriculum [7].

In the Kazakhstani context, the study of this topic is quite developed. The study, conducted in the Kazakh context, reflects various aspects of assessing the digital literacy of future teachers. A study by Akhmetova and Zhumagaliyeva examined the digital competence of undergraduate teachers in Kazakhstan and found that despite a common understanding of the importance of digital skills, there are gaps in their ability to integrate technology into teaching practice. The study highlights the need for teacher education programs to prioritize teaching digital literacy and provide opportunities for hands-on experience with educational technology [8].

In addition, a study by Mustafayeva and Turalaeva examined the level of digital literacy of practicing teachers in Kazakhstan. The study highlights the need for continuous professional development to enhance teachers' digital literacy skills and promote effective technology integration in the classroom [9].

Another study by Zhakupova, Kasymbekova and Syzdykova examined the challenges and opportunities for integrating digital literacy into teacher training programs in Kazakhstan. The results showed that despite the positive attitudes of prospective teachers towards integrating technology, there were concerns about lack of access to technology resources and limited learning opportunities [10].

Thus, the literature review highlights the growing importance of assessing the digital literacy of future teachers in the Kazakh context. Research in Kazakhstan highlights the need for teacher education programs to prioritize teaching digital literacy, addressing issues related to access to technology and resources, and providing opportunities for continuing professional development. By providing future teachers with strong digital literacy skills, Kazakhstan can ensure that educators are prepared to use technology and navigate the digital landscape effectively, ultimately enhancing the quality of education and preparing students for the demands of today's world.

The distinctive novelty of this study «Digital literacy as a component of assessing the readiness of future teachers for professional activities» lies in its focus on the Kazakh context. While there is a growing body of literature on digital literacy and its assessment in education, this study focuses on the unique challenges, opportunities, and demands of future teachers in Kazakhstan.

By recognizing context-specific factors, this study provides information that is directly applicable and relevant to the Kazakh educational system.

In order to determine the level of digital literacy of prospective teachers in Kazakhstani conditions, we identified the following research questions:

1. What exactly does the phrase «digital literacy» represent to prospective language teachers?
2. Which digital resources would prospective language teachers apply?
3. Which particular goals do prospective teachers use digital technologies for while teaching English?

Literature review

The phrase digital literacies, also known as new media literacies, refers to techniques for creating sense that are completed through digital media. This is in addition to the traditional literacies, which are the three Rs: reading, writing, and arithmetic. Literacies, when used in the plural, alludes to the variance in semiotic practices that can be found across different time periods, situations, communities, and cultural backgrounds. In addition to recognizing the diversity of cultural and linguistic backgrounds, the concept of multi literacies also emphasizes the growing significance of multidimensional conveying significance in digital communication.

After the publication of a manifesto in 1996 by The New London Group that emphasized a change in meaning-making, the arguments in favor of a pedagogy of multi literacies rose to prominence in the area of teaching. This transformation has been occurring concurrently with the emergence of new media, so it's possible to see new techniques for creating and preserving identities and relationships as well as for producing and consuming texts. People are now able to speak with a larger number of separate individuals more frequently via different kinds of social media thanks to the rise of new digital media. This has the effect of altering the breadth, depth, and context of human contact. The transition in pedagogy from conventional to cultural types of learning has been mirrored by the effects that new media has had not only on the co-construction of knowledge but also on collaborative efforts in this area [7].

Digital literacy/ies' concept and elements

Notwithstanding the strong consensus that constructing learners' and instructors' digital literacy methods would be both useful and essential, there doesn't seem to be a great deal of arrangement regarding what it signifies to be digitally literate, how it may be evaluated, or the procedures required to create these abilities. There are a great number of different conceptions

of what constitutes digital literacy, and there are a lot of different ways to define digital literacy. Conceptual conceptions of digital literacy are distinguished from standardized practical definitions of digital literacy by Lankshear and Knobe. Standardized operational definitions place more emphasis on the activities, actions, or skills involved, as opposed to conceptual definitions, which present an ideal. According to Lankshear and Knobel, digital literacy could be comprehended as a structure that integrates numerous distinct literacies and skills. They say this while admitting that there is a broad array of comprehension and meanings of digital skills. «Every effort to construct an encompassing description or encompassing framework of digital literacy will actually entail harmonizing the demands of many ideas of digital literacy, a real multitude of digital literacies,» they suggest and claim that this will be necessary in any attempt to define or frame digital literacy [8].

Digital literacies, according to Dudeney and Hockly, are «the capacity of individuals to understand how and where to handle such [new technologies] and to use such safely, responsibly, and effectively» [2, P. 27]. They based their definition on Dudeney, Hockly, and Pegrum [9, P.19]. This particular concept of digital literacies serves as the beginning point for our discussion in this article for two reasons. To begin, it includes using the term in a plural sense, which implies that there is variation in the semiotic practices utilized by diverse cultures and languages, likewise through the use of a variety of digital modalities. Second, Dudeney and Hockly discuss the notion in connection to different environments in which individuals are learning a foreign language.

Contrary to popular belief, digital skills are not restricted to technological background or proficiency with ICT. This classification emphasizes the notion that digital competences or new media competences extend from technical knowledge to adaptability in accomplishing one's goals.

Tang and Chaw, using Gilster's [10] study, offer another illustration of the contrast between digital and technological skills: "*to be digitally literate, one must not only comprehend how to obtain online data, but also interpret and combine data from various print or online media. Digital literacy is more than just knowing how to use technologies" [5].*

In light of the distinction that exists between digital literacy and competence, Janssen posed the question to a panel of industry professionals, «How would you describe digital competence?» They noted that reading and writing were necessary components of literacy, and this notion was relevant in the early 1990s, which was a time when reading texts with hyperlinks was considered a literacy skill for users [11]. Therefore, while discussing the capabilities of the users, they choose to use the term «digital competence» instead. According to what they said, «competence is the designation of an area as a series of interconnected information, talents, and mindsets.» At the end of the research project, they uncovered a total of twelve different areas of digital competence. These areas ranged from general knowledge and abilities to concerns around privacy and security.

A report on digital competency in Europe was authored by Ferrari, Punie and Breko in 2013, who were also contributors to the aforementioned research conducted by Janssen. This paper was published in 2013. They proposed five categories of digital competence for active citizens: data, interaction, content production, security and issue solving.

The concept of digital literacy in this study was derived from two different viewpoints, namely, those of technical and functional competence. As researchers, we made an effort to integrate both functional and technical skills, such as understanding how to use various digital tools. We concentrated our efforts primarily on various digital literacies for language instructors.

Digital literacy experience in teaching language

Tapscott coined the phrase «Net Generation» in 1999 to represent the concept that the following generation will be adept consumers of technology improvements since they are inextricably linked to their devices throughout all of their daily activities, starting with fairly popular utilization of smartphones. Tapscott believed that this would result in the new generation

being able to effectively utilize new technologies. In a similar vein, Prensky's fundamental difference between digital natives and digital immigrants suggested that while those who were conceived into a technologically advanced society would naturally be skilled users, those who were not native to it would need to learn how to incorporate technological advances into their daily lives in order to do so [12].

A decade later, in 2011, White and Le Cornu questioned the validity of this distinction and claimed that the primary factor that characterized digital talents was not age but rather the amount of time and effort spent developing those skills. They came up with the labels «digital residents» and «digital visitors» as a result of this [13].

Prensky identified such individuals as being digital natives, but it doesn't seem like they've yet evolved into digital residents. Over 20 years after Prensky originally defined digital natives, this is still the truth. This might be because of the premise that despite the widespread incorporation of digital technologies into our day-to-day lives, these technologies do not appear to have reached a state of normalization, particularly in official and vocational settings [14]. According to the findings of a number of academics, the social skills required for involvement in virtual forums as well as the application of latest tech to create meaning don't really easily translate to official settings. professional settings, nor are they directly applicable in these settings. Whenever it relates to training settings, this is without a doubt the case. People tend to create cultures of use in relation to the digital tools they use in their day-to-day activities, and these cultures of use might not be compatible with the usage of similar aids in instructional settings. To clarify, L2 students may be able to utilize and manipulate digital tools to suit their goals in casual contexts determined by the linguistic capabilities and constraints faced by a particular platform, yet they might have no ability to convert the «pragmatic, sociocultural usage innovation to a more stringent, didactical use,» requiring training for the proper, indicative, and essential usage modern media in digital language learning [15].

As claimed by Dudeney and Hockly, English teachers can assist learners' purchase of digital literacy skills as an aspect of learners' language acquisition process by utilizing activities and tasks that incorporate technologies. This can be accomplished through the usage of technologies in language-learning experiences. However, in order for them to effectively ensure their pupils' involvement with digital literacy abilities, it is necessary for them to themselves have a great level of digital literacy. Therefore, they argue that prospective and in-service teacher training programs should not only target to empower instructors who not only possess the requisite technical abilities but also understand the innovations, their significance, and how to use them in language instruction. Together with providing instructors with the requisite technical capabilities, this objective is also pursued.

Assessing prospective language instructors' digital literacy skills

The multiplicity of methods that try to test digital literacy practices is reflected in the multitude of definitions and conceptualizations of what it is to have digital literacies. One such instrument is the Digital Literacy Survey, which may be obtained online at http://www.digitalliteracy.eu. This survey was developed especially for the citizens of Europe by the foundation for the European Computer Driving Licence (ECDL). This research is divided into two parts: the first component asks participants about their views, while the second component asks about everyday practices; nevertheless, it does not go beyond testing technical skills. Both sections feature questions for the participants. In a similar manner, Tyger creates observed levels of digital literacy for assessing digital literacy of teacher candidates. However, merely some ICT concepts, like spyware, weblogs, and labeling, are asked about in the measurement scales, concentrating primarily on participants' perceptions of their own ICT expertise. Several comparable tools also employ ICT competency scales [16].

A study by Covello for a study named «Analysis for Human Performance Technological Decisions» demonstrates this propensity to emphasize ICT capabilities for the measuring of

digital literacies [17]. The paper also highlights the need for ongoing tool revision as a result of the ongoing development of both technology and students' digital activities.

In light of the difficulties associated with determining the digital literacy of PTs and the lack of measurement tools that go beyond ICT competencies, there is a need to conduct a thematic analysis on the selected research topic.

Research methods

The approach utilized in this research is known as qualitative research. The goal of this research is to evaluate the digital literacy of PTs and look at the techniques that they use technology to enhance their instruction. When the semi-structured interviews with a portion of the participants who'd already responded by e - mail to 4 open-ended questions were finished, the other participants were analyzed. A qualitative analysis was performed on the responses.

Participants and context

The respondents to this research were prospective English language teachers in university. Participants came from two universities. Table 1 shows the characteristics of the participants.

Table 1

The characteristics of the participants

University	Total	Male	Female
Pavlodar State University	22	2	20
Shakarim State University	26	1	25

In terms of participation, 48 senior students from these two universities' Departments of Foreign Language Theory and Practice participated in the research during the autumn semester of the 2021-2002 academic year.

Written open-ended questions were used to obtain data. There were five primary considerations that led to the selection of open-ended written questions. To begin, at the time that the data were being collected, the accessible digital literacy measures and surveys were for the most part field-specific. In addition, there was not a reliable and accurate scale that could be used to assess the digital literacy levels of PTs in Kazakhstan. Second, the digital literacy scales that were available placed a strong focus on technical ICT abilities, a few of which were device dependent. Thirdly, the great portion of the measures' components were antiquated instruments, many of which were no longer in use. In the fourth place, it was determined that a qualitative method of research design would be more relevant in order to obtain an insight of the perspectives that participants have on digital literacies and to receive their own evaluation of their skills. Last but not least, it was impossible to carry out individual interviews with every participant since there was not enough time and there were not enough resources.

As a result, the PTs were proceeded the opportunity to respond to the 4 following open-ended questions which were created on Google Forms:

1. What digital aids do you utilize and why do you employ them? Give examples, please.
2. What social media platforms and how do you utilize them? What kinds of things (educational, private matters, merely communication) do you utilize them for?
3. What promise do you see for using digital technologies in teaching English? Please provide specifics and examples.
4. What does the term «digital literacy» mean to you? Do you consider yourself to be technologically literate? as a future teacher who is tech savvy? In what way(s)? Please be specific and provide evidence.

PTs were invited to describe their views in detail and presented their responses in writing form via Google Forms. A smaller set of participants was approached to take part in semi-

structured online interviews after the replies on Google Forms were analyzed. These semi-structured inquiries were used to help in triangulation and to gain more information. The semi-structured interviews were conducted with 21 volunteer students. To acquire a deeper and more comprehensive picture of the topic, all survey participants were encouraged to participate in online interviews. However, only 21 participants gave a good response. All of these prospective teachers were questioned in semi-structured online interviews utilizing semi-structured questions from the survey. In interviews, they were asked to elaborate on difficulties mentioned during the first stage of data collecting. The questions were based on Dudeney and Hockly's taxonomy. The interviews allowed the researchers to go further into the survey results and obtain a more deep comprehension of them. During the interviews, the following issues were discussed:

Table 2

Questions of semi-structured open-ended interview

Type of literacy	Example of a question
Printing	What kind of internet communication do you utilize with your friends?
Texting literacy	Are you familiar with web contractions like CU and G8?
Hyperlinking	Whenever you post on the Internet, do you make hyperlinks to other websites?
Multimedia presentation and media	Do you ever produce, capture, and post pictures, music recordings, or movies on the Internet? How and why?
Game and mobile	Do you participate in internet gaming and utilize your smartphone for learning? How?
Code and technology	Could you modify the website's style or add a file?
Searching	How do you begin seeking out data of any sort?
Analyzing	How do you assess the data that you get from the internet, particularly from social networking systems?
Labeling	Do you categorize, tag, save, and recover websites and data? How?
Individual	Have you created a virtual identity/profile?
Network	What kinds of organizations do you belong to? Could you offer any evidence?
Interactive	Do you publish your writing online? Could you provide any evidence?
Cross-cultural	Do you communicate with individuals from various countries on the internet? How?
Re(designing)	Are you able to manipulate picture, audio, and media files? How and why?
For teaching English	Which advanced technologies do your institution lecturers utilize?

Thematic analysis was used to sort through the data [18]. Initial coding, axial coding, and theoretical coding are the three steps of the coding process that were utilized for the data in accordance with Saldaa's framework for thematic analysis [19]. Each of the five researchers did their own separate coding of the data using descriptive phrases, which led to all of the conceivable outcomes. Axial coding involved the organization of codes into categories and subcategories for the purpose of identifying points of agreement between the various scholars. The adoption of axial coding also reduced the amount of codes. The key codes and subcategories were grouped and contrasted to «pre-existing theories» throughout the conceptual coding stage, which are previously proposed taxonomies for digital literacies. This was done in order to determine whether or not the main codes and sections were consistent with the «pre-existing theories.» Every researcher was involved in the annotation and coding process in the meantime and engaged in every step. Through the use of numerous online collaborative coders, we were able to guarantee the intercoder reliability of the emergent themes as well as the credibility of our findings.

Results

All of the research questions will be addressed in the following chapters. The genuine names of the individuals are not being revealed for security concerns, and the nicknames used in the excerpts.

Research question 1: What exactly does the phrase «digital literacy» represent to prospective language teachers?

After conducting qualitative research, we were able to identify five overarching themes that pertain to PTs comprehension of digital literacy. These themes are as follows: (1) being open to new data; (2) digital reading and writing; (3) gaining an understanding of and making use of data; (4) producing, sharing, and working together; and (5) critical thinking and assessment. Table 3 contains illustrative examples of the data associated with these codes.

Table 3

Data examples for the reported codes

Code	Examples
Receiving new data	For me, digital literacy entails studying extensively, being updated, and learning what it means to be analytical while also embracing new concepts and knowledge.
Digital reading and writing	According to this definition, digital literacy refers to reading and writing in the internet world.
Comprehension and application	I believe that digital literacy is the comprehension of online technologies and their successful and intentional use.
Producing, sharing and cooperating	It does not only imply utilizing; it also implies comprehending and applying knowledge, as well as generating and disseminating it.
Critical thinking and assessment	'Digital literacy,' in my perspective, is the capacity to utilize data, locate relevant data, produce data, and assess data.

Above mentioned replies indicate that PTs had some level of awareness regarding the premise of digital literacy. They believed that one of the features of individuals who were digitally literate was the ability to embrace new information and be open to new ideas. They came to this conclusion as a consequence of the fact that to make effective use of digital technologies, people need to be open to new points of view. Some of the PTs demonstrated restricted comprehension of the phrase «digital literacy,» as they connected the concept to reading and writing on digital platforms when discussing their comprehension of the notion. Other PTs emphasized the capability to comprehend and make efficient use of information found on digital platforms, which implied that there are multiple digital literacy levels. The capacity to produce, share, and collaborate was identified as the fourth overarching theme that emerged from the data. These are all talents that are regarded as essential for the twenty-first century. According to the definition that was proposed by the National Council of Teachers of English, in order to be successful and active participants in the global society of the twenty-first century, one must have the ability to produce, manage, analyze, design, and share information in order to fulfill a variety of purposes [20]. The results revealed a final theme that was connected to critical thinking and assessment, and it showed that certain PTs affiliated digital literacy with criticality. The ability to think critically is considered to be among the greatest levels of thinking abilities, and some PTs stated that to make successful use of digital tools, a person should have the ability to think critically.

The PTs were requested to conduct a self-assessment that they should also demonstrate their personal level of digital literacy offering a concept of what digital literacy is. The statements made by PT revealed varying degrees of self-evaluation on their parts. There were some PTs who exuded self-assurance and had a favorable opinion of their level of digital literacy. As seen by the

quotes that follow, the primary emphasis of these PTs was placed on the affective benefits that may have originated from the use of technologies, both for the presenters and their students.

PT 1: I consider myself to be a digitally literate individual. Because I enjoy working with computers, learning new programs, and putting them to use (Participant 5)

PT 2: I have fun while trying digital tools and consider myself to be competent in this area. I enjoy discovering new tools and incorporating them into my courses. Lessons become more enjoyable and appealing as a result of this (Participant 1)

Some PTs, on the other hand, did not consider themselves to be digitally literate, especially given that they had no curiosity about technology, preferred to employ more conventional methods, and were unable to properly use digital tools. The following quotations give examples of these evaluations:

Unfortunately, I do not consider myself to be a digitally literate individual because I do not utilize tools efficiently. I consider myself to be somewhat traditional, but it does not mean that I have never used or won't apply them. It's just that we're so used to utilizing digital aids that we complain about how hard it is to prepare, how long it takes, and so on (Participant 3)

I cannot say that I am a technologically savvy person since I do not utilize technology in my everyday life. I am aware that I must utilize technology in my classroom even when I don't want to since my students need to so that I may master its capabilities. Digital tools are simple to use (Participant 17).

These findings were given even more credence by the examination of the follow-up interviews, which were only semi-structured. Despite the fact that some of the participants still favored more conventional modes of instruction and study, the large percentage of the participants considered themselves as digitally literate. Nevertheless, the PTs who were interviewed exhibited a positive attitude toward digital literacy practices and a motivation to improve their own digital literacy abilities to a higher level before they begin their careers as teachers.

The perceptions of the PTs' competencies in connection to the tasks that they are capable of doing on digital platforms are related to the degrees of competence listed in Table 4. Since these codes were derived just after axial coding was outlined in the part on data gathering, the quantity of instances stated in the information cannot be presented.

Table 4

PTs' recognized capabilities

Understanding digital tools
Understanding digital tools and the virtual world
The ability to employ digital tools
The ability to utilize digital technologies and communicate with them
The ability to use digital technologies for language instruction
The ability to use digital technologies for a variety of applications
The ability to do whatever you desire
Being cognizant of the objectives and risks

According to these self-perceived capabilities, digital literacy for PTs is not limited to having information about digital technologies; rather, it encompasses having knowledge of the digital environment as well. In addition, in order for PTs to be considered digitally literate, they needed to be able to apply digital technologies for communication, instruction, and a variety of other purposes. In conclusion, critical thinking was an essential component of digital literacy, particularly in terms of being aware of the benefits and risks associated with applying digital tools.

Research question 2: Which digital resources would prospective language teachers apply?

The usage of digital tools by pre-service teachers was the subject of the study's second research question. The numerous digital instruments indicated by the PTs were categorized according to their purposes. Table 5 presents the findings and the quantity of citations.

Table 5

Digital aids used by PTs

The digital aids used	
Social media tools	110
Learning management tools	25
Quiz activities	12
Material design	10
Presentation	8
Online storage	5

Social networking apps including Facebook, Twitter, Instagram, and WhatsApp, not surprisingly, were the most regularly utilized digital tools. The vast majority of students who took part in this research project had active social media profiles, and WhatsApp was pre-loaded on each and every participant's smartphone. 97% of participants reported using at least one social media tool, while the remaining 60% of participants did not reveal using any form of social media. During the course of our investigation, we counted a total of 360 references to various social media tools, which we determined to be equivalent to between three and four unique social media tools being utilized by each PT. This finding was substantiated by the findings of the semi-structured interviews, which also uncovered the fact that virtually all PTs have at minimum one web page. of the many social platforms. PTs reported that they did personal file sharing, recording, and/or video creation for educational and/or self-development purposes, and that they were conscious of the stuff they published and who they discussed it with.

The category of learning management systems was mentioned by PTs the second most frequently, and some of the examples they provided included Google Classroom and Edmodo. Because these applications made after-school contacts feasible, this is one of the most crucial discoveries that came out of this research. It showed that institutional professors were using these websites in order to engage with students, collect assignments, and make announcements. Interviews with a semi-structured format produced results that were comparable. A substantial portion of PTs acknowledged that in order to access the lesson materials, submit assignments, and stay informed regarding major innovations in their individual classes, they needed to be in internet communication with their teachers and fellow students. Even a relatively small percentage of PTs who traditionally favored print resources and had minimal participation in online activities recognized the necessity of utilizing online learning management systems.

While the replies were analyzed, it was shown that prospective teachers (PTs) utilized these tools during their studies in practice teaching and had a great deal of fun doing so. In addition, PTs claimed that they learnt how to utilize these technologies from their professors, after observing how their professors used digital tools in their own classrooms. The number of PTs who apply digital aids for vocational advancement is rather low despite the availability of a wide variety of digital systems for vocational advancement. The PTs who participated in our research did not make use of the aforementioned platforms and tools in order to enhance their instructional and linguistic abilities.

The last two technologies that were discussed by the PTs were presentation tools, such as Microsoft Office Powerpoint and Prezi, as well as online storage solutions. It's possible that these devices weren't as common as the academics had anticipated them to be because their application has become commonplace [14]. Additionally, it is possible that they are no longer seen as a component of the emerging digital realm and are instead regarded as old-fashioned forms of technology.

Research question 3: Which particular goals do prospective teachers use digital technologies for while teaching English?

Due to the fact that the research's respondents were fourth-year students who were familiar with language teaching techniques, we wanted to focus on the particular objectives for employing

digital technology for teaching English during the final question. We also questioned PTs to forecast how they will utilize new platforms in the future as instructors in their successful careers. Our main concern was the degree to which PTs might use digital technologies into instructional platforms. Specific language and educational objectives were split into two groups in the PTs' remarks. Table 6 lists the several subgroups that each objective falls under.

Table 6

Aims of applying digital tools in teaching language

Utilization digital technologies for particular grammatical goals	Utilization digital technologies for academic reasons
Teaching skills	Individual learning
Screening and evaluation	Encouraging independent learning
Providing and receiving criticism	Boosting motivation
Getting recognition	Promoting curiosity and uniqueness
Generating target cultural models	Promoting engagement and involvement Fostering teamwork Fostering expertise in digital design

The semi-structured interviews were also analyzed to be acknowledged more about the reasons for utilizing digital tools. In terms of using digital tools to improve specific language skills, PTs concentrated on teaching specific skills. In addition to evaluation and feedback, using a variety of digital tools to teach reading, writing, speaking, and listening was one of them. To emulate the subject content and give additional experience to authentic language use, digital tools were also deployed. In terms of additional pedagogical goals, PTs concentrated on how to improve the educational atmosphere in order to develop instruction, such as enhancing student motivation or growing learner autonomy. Individualized learning, engagement, involvement, creativity, imagination, group collaboration, and digital design were all promoted using digital resources.

Discussion

The survey's respondents characterized digital literacy in a number of ways. Several PTs were just focused on technical knowledge and the capacity to read and write online, whereas others had a broader understanding of digital literacy that extended beyond web reading and writing. For these people, being digitally literate implies having the capacity to work with others and exercise critical thought.

Based on Dudeney and Hockly, «the capacity of individuals to understand how and where to handle these digital instruments, and to utilize them securely, sensibly, and effectively,» as well as «a grasp of the cultural structures that accompany the correct use of new technology» [13, P.57]. The advanced features of digital literacy according to Dudeney & Hockly's taxonomy include remixing and creation. Before they may remix or produce new knowledge, they must understand how to do it. To remix or create new knowledge, people must comprehend and critically evaluate the information that is currently available before embracing or dismissing it. This is among the highest degrees of digital literacy. As stated by Chapelle, «today's second-language instructors must be able to choose, use, and, in certain circumstances, restrict technology for their students» [21]. To put it another way, teachers should be knowledgeable of and possess the critical thinking abilities necessary to evaluate the usefulness of technology for their goals.

A consensus on what defines digital literature has not yet been reached, as noted in the literature review. The concept has uncertain meanings according to our respondents. Considering their perception of what it means to be digitally literate, it is conceivable to assume that PTs' self-evaluation of their digital literacy abilities matched the many and different meanings. While

some PTs just claimed to be familiar with and apply digital tools, others claimed to be able to use them for meaningful communication with others and in their teaching. Several PTs also displayed an overconfidence in their abilities as well as a lack of awareness of the risks associated with internet safety. Respondents, on the other hand, barely highlighted the requirement for multimodal competences in online making-meaning or the ability to form communities of practice. The characteristics of a digitally literate individual in the 21st century also emphasize cooperation with others, typically in online groups of practitioners, and this should be promoted. We think more research is required to establish a standard term for digital competences that can be utilized to direct the instruction of these skills. In Kazakhstan, a framework for evaluating the literacy growth of teachers is also required.

Another research question was to determine which digital aids PTs employed in their individual and educational lives, in their early teaching methods. An evaluation of the digital tools utilized by PTs revealed that they used social media platforms often, as well as LMS and quizzes, whether as students in academic subjects or as professors in vocational programs. This has ramifications for university teacher educators, implying that they should be technologically literate and demonstrate proper actions.

The study's third research topic looked into why prospective teachers used digital technologies. In semi-structured interviews, PTs stated that they use social media technologies extensively in their private and academic lives for a variety of objectives, including communication, entertainment, academics, and language learning. They additionally asserted that digital technologies could be employed in their classes as instruments to boost motivation, independence, originality, cooperative learning, and involvement, as well as resources to enhance intake and advancement opportunities. These positive outcomes demonstrate both the effectiveness of using digital tools in the preparation of language teachers and the normalcy of their usage of Kazakh teacher preparation programs in providing prospective teachers with the skills they will need in the future.

Conclusion

With the rapid advancement of ICT, language instructors and PTs must not only know how to utilize existing digital tools, but also have the ability to critically assess such instruments and platforms for responsible, beneficial, and safe usage. PTs should be able to change current digital content for their particular context in some circumstances, a process that starts during first teacher education and lasts via ongoing vocational advancement. In this research, we looked into how PTs think about digital literacy. This involved investigating how PTs defined the notion, the aids they used, and the purposes for which they desired to use digital aids. As a result, we were able to determine PTs' perceptions of their digital literacy levels in Kazakhstan.

Our findings revealed that PTs knew about a wide range of digital technologies and believed they were capable of using them for private, academic, and vocational objectives. Their definition of digital literacy seems to have several degrees, ranging from knowledge to application, as well as critical, creative, and collaborative applications. While we primarily concentrated on PTs' views of digital literacy and their utilization of digital tools, future research may also incorporate actual usage studies or exercises in which PTs are given a challenge to solve utilizing digital resources. This might offer a more thorough view of PT's state of digital literacy.

Furthermore, we discovered that university instructors play a significant effect in the growth of PTs' digital literacy skills. Professors that utilize digital aids in their classes appear to be role models for PTs, who expect to employ digital technologies in their practices and further teaching. Future research can look at university instructors to see how digitally literate they are and how they use technology into their classrooms from this standpoint.

Future research should look into how PTs use social media for professional growth. Although some PTs see social media as a tool for professional growth, they would benefit from greater instruction on how to apply social media platforms in an amount of ways to advance their skills.

The incorporation of digital practice groups into bachelor teacher education courses should be researched in order to enhance future language teachers' digital literacy.

The recent digital competences of PTs in Kazakhstan are examined in this study. However, if it is followed up with more research in other nations, it may help to establish a foundation for comparison that enables for generalizations. It would be advantageous to take a broader look at this problem to see how different definitions of digital literacy are; what similarities or discrepancies are between If it is ever feasible to develop a clear and cohesiveness of both the concept and elements of digital literacy that'd inform schooling, as well as their level of digital literacy and the types and purposes of the digital technologies they utilize. Additional research could be able to help foster growth of a framework for measuring digital literacy skills in language teachers by investigating such questions.

References

1. State Program «Digital Kazakhstan» dated December 20, 2019 No. 949. [Web resource] – URL: www.adilet.zan.kz (accessed 01.03.2023).

2. Dudeney G., Hockly N. Literacies, technology and language teaching. The Routledge handbook of language learning and technology. – London: Routledge, 2016. – P. 115-126.

3. Godwin-Jones R. Contributing, creating, curating: Digital literacies for language learners. Language Learning & Technology. – 2015. – Vol. 19(3). – P. 8-20.

4. Pegrum M. Modified, multiplied, and Remixed: Social media and digital literacies. Digital education: Opportunities for social collaboration. – New York, NY: Palgrave Macmillan, 2011. – P. 9-35.

5. Kurek G., Hauck M. Closing the 'digital divide' – A framework for multiliteracy training. Digital literacies in foreign and second language education: Research, perspectives, and best practice, CALICO Monograph Series 12. – Texas: CALICO, 2014. – P.119-140.

6. Tang C.M., Chaw L.Y. Digital literacy: A prerequisite for effective learning in a blended learning environment? The Electronic Journal of e-Learning. – 2016. – Vol. 14(1). – P. 54-65.

7. Bezemer J., Kress G. Multimodality, learning and communication: A social semiotic frame. – London: Routledge, 2016. – 356 p.

8. Akhmetova D., Zhumagaliyeva Z. Digital competence of pre-service teachers in Kazakhstan. In S. Uskov & V. Howlett (Eds.), Smart Education and e-Learning. – 2020. – P. 63-73.

9. Mustafayeva G., Turalayeva A. Assessing the digital literacy of teachers in Kazakhstan. International Journal of Emerging Technologies in Learning (iJET). – 2019. – Vol. 14(06). – P. 225-238.

10. Zhakupova B., Kassymbekova Z., Syzdykova, G. Integrating digital literacy in teacher education programs: Challenges and opportunities in Kazakhstan. Eurasia Journal of Mathematics, Science and Technology Education. – 2021. – Vol. 17(7). – P. 21-34

11. Thorne S.L. Digital literacies. In M. R. Hawkins (Ed.), Framing languages and literacies: Socially situated views and perspectives. – New York, NY: Routledge, 2013. – P. 192-218.

12. Lankshear C., Knobel M. Introduction. In C. Lankshear, & M. Knobel. (Eds.). Digital literacies: Concepts, policies and practices. – New York, NY: Peter Lang., 2008. – P. 1-16.

13. Dudeney G., Hockly N., Pegrum M. Digital literacies. A framework for developing and understanding digital competence in Europe. – Seville: Joint Research Centre, 2013. – 233 p.

14. Gilster P. Digital literacy. – New York, NY: Wiley, 1997. – 129 p.

15. Janssen J., Stoyanov S., Ferrari A., Punie Y., Pannekeet K., Sloep P. Experts' views on digital competence: Commonalities and differences. Modern Language Journal. – 2013. – Vol. 98(1). – P. 295-494.

16. Prensky M. Digital natives, digital immigrants. On the Horizon. – 2001. – Vol. 9(5). – P. 1-6.

17. White D., Le Cornu A. Visitors and Residents: A new typology for online engagement. First Monday. – 2011. – Vol. 16(9). – 256 p.

18. Bax S. CALL – Past, present and future. System. – 2003. – Vol. 31(1). – P. 13-28.

19. Hampel R. Making meaning online: Computer-mediated communication for language learning. Proceedings of the Croatian Applied Linguistics Society Conference 2012. – Frankfurt: Peter Lang, 2014. – P. 89-106.

20. Hsu S. Developing a scale for teacher integration of information and communication technology in grades 1-9 // Journal of Computer Assisted Learning. – – 2010. Vol. 26(3). – P. 175-189.

21. Chapelle C. Teacher education in CALL. – Amsterdam: John Benjamins, 2006. – 78 p.

Ж.Е. Абдыхалыкова, Ә.Е. Рымғалиева, Ф.Е. Әбдіхалық, Ұ.Б. Мәлік
Л.Н. Гумилев атындағы Еуразия ұлттық университеті, Астана, Қазақстан

Цифрлық сауаттылық болашақ педагогтердің кәсіби қызметке дайындығын бағалаудың құрамдас бөлігі ретінде

Аңдатпа. Бүгінгі таңда ақпараттық-коммуникациялық технологиялардың қарқынды дамуын ескере отырып, қазіргі заманғы цифрлық құралдарды пайдалана білу мұғалімдерге қажетті шарт болып табылады. Цифрлық сауаттылық білім беру үдерісінде ақпараттық құралдар мен платформаларды сыни тұрғыдан бағалауға, таңдауға және тиімді пайдалануға мүмкіндік беретіндіктен, заманауи педагогикалық технологияларды меңгеруді, цифрлық құралдар мен ресурстарды пайдалануға дайындығын дамытуды, білім берудің цифрлық трансформациясы болашақ мұғалімдерді цифрлық білім беру ортасында жұмыс істеуге жан-жақты дайындауды талап етеді.

Осыған байланысты, мақаланың мақсаты – болашақ педагогтердің цифрлық сауаттылық деңгейін анықтау және оқу үдерісінде цифрлық технологияларды қолданудың мақсатты индикаторларының бағытын айқында.

Теориялық талдау нәтижесінде цифрлық сауаттылықтың элементтерін, болашақ ағылшын тілі мұғалімдерінің цифрлық сауаттылық дағдыларының деңгейлерін анықтады

Зерттеу сұрағына қол жеткізу үшін тақырыптық талдау қолданылып, ашық сұрақ және жартылай құрылымдық сұхбат (сауалнама, сұхбат) әдістері пайдаланылды. Зерттеу барысында болашақ мұғалімдер цифрлық технологиялардың кең ауқымынан хабардарлығы және оларды жеке, білім беру және кәсіби мақсаттарда қолдана алатындығы анықталды. Болашақ педагогтердің цифрлық сауаттылығы бастапқы білімнен бастап жоғары дамыған, шығармашылық және бірлескен қолдану дәрежесіне дейінгі бірнеше деңгейлерден тұратыны анықталды.

Зерттеу нәтижелері болашақ педагогтердің біліктілігін арттыруда, білім беру бағдарламаларын әзірлеуде және кәсіби дамудың жеке траекториясын қайта қарастыру үшін пайдаланылуы мүмкін.

Түйін сөздер: цифрлық сауаттылық, болашақ мұғалімдерді даярлау, кәсіби қызмет, Бағалау компоненті, бағалау, білім берудегі цифрлық платформалар, цифрлық құралдар, білім беру процесі.

Ж.Е. Абдыхалыкова, А.Е. Рымгалиева, Ф.Е. Абдихалык, У.Б. Малик
Евразийский национальный университет имени Л.Н. Гумилева, Астана, Казахстан

Цифровая грамотность как компонент оценки готовности будущих учителей к профессиональной деятельности

Аннотация. На сегодняшний день способность использовать современные цифровые инструменты является необходимым условием для педагогов, учитывая факт стремительного развития информационных и коммуникационных технологий. Так как цифровая грамотность позволяет критически оценивать, подбирать и эффективно использовать информационные инструменты и платформы в образовательном процессе, цифровая трансформация образования требует опережающей подготовки будущих учителей к работе в условиях цифровых образовательных сред; освоения современных педагогических технологий; формирования готовности к использованию цифровых инструментов и ресурсов.

Целью статьи является выявление уровня цифровой грамотности будущих педагогов и определение направления целевых индикаторов использования цифровых технологий в учебном процессе.

В ходе теоретического анализа были выявлены элементы цифровой грамотности; уровни владения навыками цифровой грамотности будущих учителей английского языка.

Для достижения исследовательского вопроса использован тематический анализ, где были применены такие методы, как открытый опрос, полуструктурированные интервью (анкета, интервью). В результате исследования было выявлено, что будущие педагоги были осведомлены о широком спектре цифровых технологий и способны использовать их для личных, образовательных

и профессиональных целей. Определение цифровой грамотности будущими учителями имеет несколько уровней, начиная от базовых знаний и заканчивая продвинутой, творческой и совместной степенью применения.

Результаты исследования могут быть использованы для разработки образовательных программ повышения квалификации будущих преподавателей, корректировки индивидуальной траектории профессионального развития.

Ключевые слова: цифровая грамотность, подготовка будущих учителей, профессиональная деятельность, компонент оценивания, цифровые платформы в образовании, цифровые инструменты.

Information about authors:

Abdykhalykova Zh.Y. – PhD doctor, associate professor of the department "Pedagogy", L.N. Gumilyov Eurasian National University, Astana, Kazakhstan.

Rymgaliyeva A.Y. – Second year master student of the speciality "Pedagogy and Psychology", L.N. Gumilyov Eurasian National University, Astana, Kazakhstan.

Abdykhalyk F.Y. – Doctoral student of the "course of the specialty "Pedagogy and Psychology", L.N. Gumilyov Eurasian National University, Astana, Kazakhstan.

Malik U.B. – Master of Humanities, PhD, Candidate of the Department of "Pedagogy", L.N. Gumilyov Eurasian National University, Astana, Kazakhstan.

Абдыхалыкова Ж.Е. – Ph.D докторы, «Педагогика» кафедрасының доценті, Л.Н. Гумилев атындағы Еуразия Ұлттық университеті, Астана, Қазақстан.

Рымгалиева Ә.Е. – «Педагогика және психология» мамандығының 2 курс магистранты. Л.Н. Гумилев атындағы Еуразия Ұлттық университеті, Астана, Қазақстан.

Әбдіқалық Ф.Е. – «Педагогика және психология» мамандығының 2 курс докторанты, Л.Н. Гумилев атындағы Еуразия Ұлттық университеті, Астана, Қазақстан.

Мәлік У.Б. – гуманитарлық ғылым магистрі, «Педагогика» кафедрасының докторантура түлегі, Л.Н. Гумилев атындағы Еуразия Ұлттық университеті, Астана, Қазақстан.