

Digital Competence of Future Primary School Teachers

Аннотация

Целью данной статьи является раскрытие умения и способностей работы будущих педагогов в цифровом формате, взаимодействия с учениками младших классов. Данное направление дополняется также раскрытием прорыва человечества в сфере технологий. А также ключевые моменты прогресса учителей и повышения их мастерства в коммуникации с родителями, коллегами, учениками в рамках цифровизации системы образования. Автор стремится проследить процесс эволюции профессии педагог в современном и быстро развивающемся мире технологий.

Ключевые слова: цифровая компетенция, технология, педагог, знание, цифровая грамотность, ресурс

Аннотация

Ұсынылып отырған мақаланың мақсаты болашақ педагогтардың цифрлық форматта жұмыс істеу қабілетін арттыру, бастауыш сынып оқушыларымен өзара әрекет жасау қабілетін ашуға арналған. Бұл бағыт адамзаттың Бұл бағыт адамзаттың технологиялар саласындағы серпілісін ашумен де толықтырылады. Білім беру жүйесін цифрландыру аясында Сондай-ақ, білім беру жүйесін цифрландыру аясында мұғалімдердің ілгерілеуі мен олардың ата-аналарымен, әріптестерімен, оқушылармен қарым-қатынас жасау шеберлігін арттырудың негізгі сәттері қарастырылады. Автор заманауи әрі қарқынды дамып жатқан технологиялар әлеміндегі мұғалім кәсібінің эволюциясын зерттеуге тырысады.

Кілт сөздер: цифрлық құзыреттілік, технология, педагог, білім, цифрлық сауаттылық, ресурс

Annotation

The purpose of the proposed article is to increase the ability of future teachers to work in digital format, to reveal the ability to interact with primary school students. This direction is also supplemented by the discovery of humanity's breakthrough in the field of technology. Within the framework of digitalization of the education system, key points of teachers' progress and improve their skills in communicating with parents, colleagues, and students are also considered within the framework of digitalization of the education system. The author seeks to trace the evolution of the teaching profession in the world of modern and dynamically developing technologies.

Keywords: digital competence, technology, teacher, education, Digital Literacy, Resource

Nowadays we live in the age of the digital revolution. Mastering these skills opens up great opportunities both in academic and professional fields. The present time it is hard to imagine humanity without digital technology. Digital competence is a multifaceted concept that is constantly evolving as new technologies emerge. In general, digital competence includes the skills and abilities necessary to use ICT to achieve personal and professional goals.

Digital competencies should be perceived as skills related not only to technical aspects, but also skills that are focused on the cognitive, social, and emotional aspects of working and living in a digital environment.

According to the United Nations (UN) definition, "digital literacy is the ability to safely and properly manage, understand, integrate, share, evaluate, create and access information using digital devices and network technologies to participate in economic and social life".

Over the past years, scientists have used several definitions to describe skills in the use of high technologies: "digital competence", "digital literacy", "information literacy", "computer literacy", "information technology skills", "ICT skills", "skills of the 21st century".

These concepts are often used interchangeably. Most do not distinguish between them, therefore, there was a need to analyze these definitions and find out their meaning following the professional activity of a modern teacher.

American journalist Paul Gilster is considered to be the author of the concept of "digital literacy". The first full-fledged idea of digital competence appeared in 2010 at the European School. [1]

From the point of view of the authors of the concept, the structural elements of digital competence are technical knowledge that is involved in digital technologies, as well as the skills to use this knowledge for self-development and improvement in digital culture. [2]

D. Belshaw explains that there is no single concept of digital literacy, everything depends on the specific context (cultural, social, professional, age).

Most researchers use the concepts of "digital literacy" and "digital competence" as synonyms, putting approximately the same meaning in their content. According to I.V. Gaidamashko, Yu.V. Chepurnoy, digital competence is "the ability of an individual to critically, confidently, safely and effectively apply and choose information and communication technologies in all spheres of life, as well as his readiness for such activities." [3]

The European Commission includes in its definition of digital competence such parameters as awareness and responsibility when working with digital technologies. Some studies define digital literacy as a narrower concept than digital competence. [4]

So, N.V. Kabzova considers digital literacy a prerequisite for the formation of digital competence. [5]

Digital skills are considered a core competency of the twenty-first century. Due to the rapid growth in the use of the Internet and communication media (ICT), both among students and among teachers.

And with the teacher playing a central role in promoting technology adoption in schools, digital competence is now a key element of teacher education worldwide.

Studies conducted in the United States and Turkey have shown that student teachers have a positive attitude towards the use of technology in education. Also, student teachers believe that technology can improve student learning, the majority see technology as an integral part of modern life, but still a small part considers technology as a threat and expresses pessimistic views on its use in the classroom. [6]

Based on these findings, it can be assumed that teacher education must take into account these concepts, both positive and negative, to challenge overly-optimistic as well as pessimistic views. This is to prevent student teachers from thinking of technology as a quick fix to our educational problems or as a threat to disrupt educational performance.

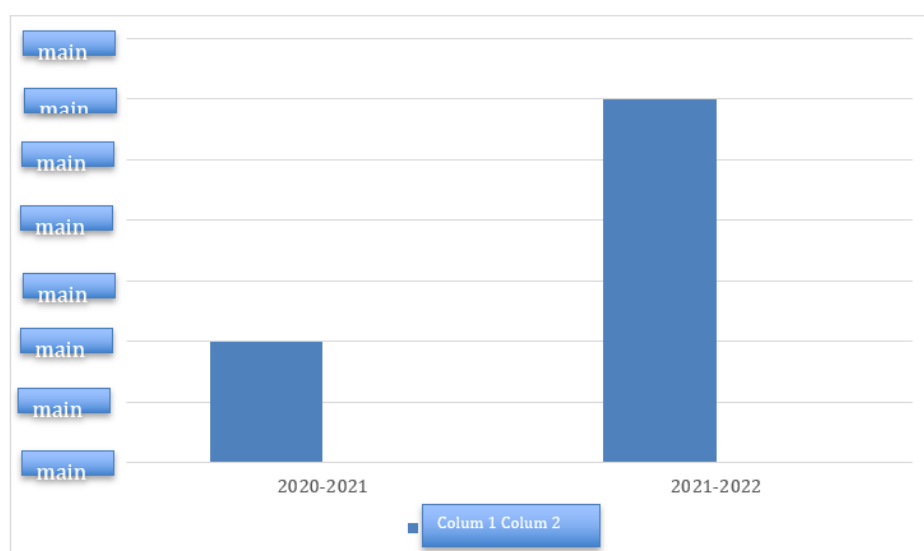
Digital education is relevant now, for studying at the university, and for the future, when a person enters the professional world. The definition of what it means to be "literate" has changed dramatically over the past few years. In the past, a person was considered literate if they knew how to write and read at a basic level. Now, with the advancement of technology and the internet, literacy has evolved into digital literacy.

Students should now be able to use distance learning tools and social media platforms. It can be argued that the more digitally savvy our teachers are, the more they will be able to apply these skills in the classroom, which in turn will help build a solid sense of digital citizenship in students. The digital literacy skill of an educator means a mechanism of appropriate knowledge, skill, and aspiration in the daily use of digital technologies, as in other professions.

The level of digital competence of future primary school teachers in Kazakhstan at the moment and the desired results:

Table 1

Years	Results (%)
20-21 year	74%
21-22 year	82,1%



As you can see from the above table, students' digital competence is rapidly developing from year to year. [7]

Education is a dynamic development, where a person constructs a completely different perception of what surrounds him in the world through enterprising research, experimentation, and discussion. The most important thing is not to use ready-made thoughts and to be able to generate your ideas. In our realities, learning and education must prepare students for life and work in a new digital format.

According to G.U.Soldatova, without digital socialization, today the process of personality formation, its adaptation, and integration into the social system of society is difficult. If teachers do not use digital technologies in their work, this can lead to a spontaneous personality identity. [8]

In September 2017, I was at the republican meeting on digitalization with the participation of the first President of the Republic of Kazakhstan N.A. Nazarbayev was shown the program "Digital Kazakhstan" The first president of the country N.A. Nazarbayev noted that the third modernization voiced in this message is digitalization. And he also noted the importance of training highly qualified personnel. At the same time, it is necessary to revise the policy in the field of education "All population of Kazakhstan, from schoolchildren to people of retirement age, must master innovative technologies. The principle of knowledge throughout life is becoming the norm and necessary. " [9]

In this case, the educational system faces the task of mastering and timely implementation of innovative teaching technologies for lifelong education. It is very important to equip future educators with digital skills as the demand for such skills grows.

Basic use of technology requires digital skills to use technology directly, including a basic understanding of new technologies and technological applications, as well as knowledge of digital privacy and security.

Traditional curricula and curriculum can contribute to the development of digital skills, in particular, digital technologies allow interaction between teachers and students, provide multimedia interfaces for learning.

As well as online courses that provide open access and participation over the Internet and can facilitate e-learning. They offer a variety of features in addition to online video lectures, including online social media sharing and interactive teaching methods.

Teachers must be digitally competent. Thus, it is teacher education that must prepare learners to become digitally competent teachers. Teachers are an essential element of professional competence for understanding the world of their students since digital technologies are now an integral part of the social and cultural practice of children and youth.

In addition, the concept of competence implies the need for constant revision, reflecting changes in technology systems and uses that takes into account the evolving nature of technology. This requires educators

to reflect on current opportunities and needs and gain access to vocational training, responding to the rapidly changing educational environment and opportunities presented by new technological innovations.

It can be noted that the daily use of the Internet is primarily pragmatic. The Internet is being used to meet a need that some teachers consider fundamental: to find resources, to prepare for lessons.

Thus, documents, worksheets, pictures, and illustrations are "treasures" that teachers put on the web. The use of textbooks is being enriched or even replaced by surfing the internet. Undoubtedly, it is the speed and simplicity of the Internet that prompts teachers to use it. By opening the door to a "huge resource library" regardless of place or time, the tool responds to needs. The Internet contains many rich resources for education. However, teachers also remain reticent, stating that they know that the information thus obtained must be verified, that its reliability is constantly being questioned. [10]

Schools develop, adapt to change, and more or less master technological and scientific advances. The Internet has entered professional use, it will certainly continue to grow, but it will not replace or revolutionize the teaching profession.

In addition to the digital skills of teachers, in turn, they must also have communication, innovative, constructive skills. Show enthusiasm, leadership, commitment. Teachers can change the lives of their students for the better. The best of them inspire their students to achieve and greatness. Enthusiasm plays a key role in teaching a subject to keep students interested and enthusiastic. And also being creative in planning and delivering lessons is integral to keeping students' attention. Confidence helps the teacher to lead the class, whether children or adult students, since the position of the teacher is associated with public speaking, self-confidence is essential.

Also, the teacher should have the ability to work both in a team and alone, while making his students feel like part of a team to improve the learning process. The educator must be able to communicate with people of all ages, including colleagues, students, parents, and administrators.

Teachers must communicate effectively, understand the different perspectives of others, and explain the reasons for their choices regarding their teaching. It takes creativity to keep students interested and engaged, especially those in primary school. [11]

For some natural leaders, learning comes naturally, while others have to work hard to achieve the status of "great teachers." Whichever category one belongs to, if there is a desire to help young students and make a lasting impression, these superior skills and qualities can provide a great advantage.

Most importantly, it is a sincere love for the subject being taught and finding that content interesting on its own. Teaching is not a stagnant profession and it changes every year. Similarly, the digital world is changing and teachers need to keep up with the times.

At present, there is a huge amount of resources for the development and improvement of their professional qualities and skills, a huge amount of literature, manuals, techniques, video lessons, blogs, and much more. All this can be studied and learned with the help of one button search on the Internet without leaving home.

Digitalization has simplified the realities of our lives. And also various competitions for teachers are held to increase the prestige of the profession. With the help of such competitions, those teachers are identified who use the most innovative, not only digital but also social technologies in their activities. Teachers have made a huge breakthrough in the last 10 years in the field of Internet resources. There are a huge number of different communities for advanced teachers online. In such groups, they discuss new technologies in education, exchange experiences, review useful learning applications, discuss ideas and tips for lessons, share a selection of modern books and materials. Also, teachers can take online courses, with the help of which, as a result, they will be able to check the information received from the Internet for authenticity, put protection on their data, will better understand digital etiquette, and, among other things, conduct online lessons with students, which is very important at present, because half of the world's population has switched to distance learning. Due to global changes in the world that contributed to the transition to distance learning, there was a digital breakthrough for teachers, they had to "switch" from a real learning model to a digital one.

Schools of the twenty-first century, as well as universities, have created a tsunami in the field of education, reaching a new level of e-learning. After all, it is really surprising that a person who is in one place can safely enter a university anywhere in the world with a minimum of effort: opening a computer and pressing a button without leaving home. All this today looks already commonplace and natural. The Internet has covered the

entire planet, which has provided academic mobility for students and made it easier for children with special needs to receive an education. Distance learning and digital technologies have huge potential for development. And teachers should not lag behind this progress a single step.

Moving forward, progress in the profession of a teacher and campaigning towards digital education will only improve the learning process and constructive dialogue with children.

It is very important to keep your finger on the pulse in the rapidly changing world of digital technology. Constantly enrich and complement your skills. Be on the same level with students in the use of gadgets and the use of social networks. Primary school children will easily make contact with a teacher who is close to modern devices and technologies with which they can deftly maneuver and understand the language of the Internet resource. Everything in the world is changing and does not stand still, and even conservative teachers had to change their principles and go to a meeting with digitalization, although this was not easy and complicated the usual process of teaching and working for a teacher.

But after some time, looking back, we can conclude that this path was not traversed in vain. Educators are old school, fluent in digital technology, and apply digital competence. And we even agree that it greatly simplifies the process of work. This breakthrough was inevitable. Education today requires digital literacy.

During the experiment, the following digital technologies were used. Here, blended learning technology can be noted as a digitalization tool for Blended Learning.

Blended Learning Blended Learning is an educational concept in which the learner is educated online, that is, independently and face to face with the teacher. This approach allows you to track the time, place, pace, and path of learning the material. At the same time, it is necessary to pay attention to the fact that training is considered to be mixed if, in it, from 30 to 79% of the training time is carried out online. Among the features of this technology are the following aspects:

- individualization of teaching, saving time in the classroom, variability of educational trajectories, new opportunities for interaction. [12]

Currently, all educational institutions use Kundelik. kz.

This is a digital educational platform, which is the basic automated system of all educational institutions of Kazakhstan, which is implemented based on the order of the Ministry of Education and Science of the Republic of Kazakhstan dated August 29, 2016 No. 536 "On the pilot implementation of the project" Unified information system of electronic journals and diaries for students of educational institutions of the Republic of Kazakhstan ". [13]

In addition, due to the epidemic in the country, the following tools of modern Internet technologies of distance learning can be used. Video and teleconference: Zoom, Google Classroom, Mind, etc. streaming (online broadcasts) and video hosting (Youtube).

Google forms Is free software provided by Google. This program can be used in feedback and test format. [14]

Quizizz.com is a quiz builder that supports math input, image, and audio concatenation. A good online student assessment tool similar to Kahoot. Unlike Kahoot, students display not only answer marks, but also an image of the entire question, which can be enlarged if desired. [15]

ahaslides.com.ru - This allows you to add diagrams, fun quizzes, and Q&A to your teacher's presentation in real-time. The teacher launches the display on a large screen, and the students use their smartphones to connect to the presentation or game. Using telephones, students can answer teacher questions and ask questions on their own. [16]

Classtime - is a platform for creating interactive web applications, allows you to analyze the educational process and implement your learning strategy. [17]

These digital programs increase student interest in learning. To assess the needs and abilities of students, teachers can use assessment tools such as a spreadsheet. I don't know, I want to know, the defense industry complex, brainstorming, graphic planner, incoming questionnaire. In this case, you can use different services. (see table 2)

Table 2

Assessment tool / method	Service
I don't know-I want to know the table	Google, Microsoft Exel online и.т.п
Brain storm	Google таблицы, Microsoft Exel online, online interactive whiteboards, Jambord.com, etc.
Gantt charts, table board	Smartsheet.com; upwave.io;
Network discussions	Blogger.com, wordpress.org

Schools are a social institution and, they have taken over these digital waves, which has influenced the renewal and expansion of the competence of teachers from traditional to digital. In turn, the government needed to pay close attention to the digital competencies of citizens, especially teachers, since they will form these competencies in children who are gradually socializing in the information society. The most important thing is that the teaching community would perceive new innovations in the field of ICT, not as an outside observer, but as the main ideologists. [18]

Digital pedagogy combines digital educational tools and traditional teaching materials, and its integral and main task is to prepare teachers for work in the global network. This has increased the large demand for the massive launch of various online courses in advanced digital competencies for teachers. Each school and university should become a digital bridge for students to receive affordable education with teachers and with the class, even if the child does not go to school, but studies at home. The newest assignment of a modern teacher is to teach children to quickly adapt and learn in the digital field throughout their lives, bringing them to their attention, and sharing information about new professions in their field. After all, the younger generation is future-oriented. Their choice of profession is formed at school. And innovations in technology, the digital economy, innovations in the digital wave determine future professions.

A few years ago, looking back in time, no one would have thought that there would be such professions as a programmer, system administrator, web designer, which are digital. New professions of the near future are still unknown to us. But they will demonstrate a dynamic addition to the digital world around them. Of course, it is necessary to strengthen the environment for the development of social digital competencies in a teacher. And, in principle, to increase the digital literacy of the population, regardless of the person's profession.

Summing up, we can say that digital literacy is one of the components of a new type of teacher's thinking, which will meet the requirements of a society with a digital economy. The educational environment is a space in which the subjects of the educational process interact with each other and with the external environment to develop the student's personality.

Our world is full of changes. New things appear every week, and we must follow them. Digital technologies are developing very quickly these days and are helping us at all levels of life. Most people at the moment are already in another, new - cyber-physical world, and the digital environment is one of the constituent elements of this world. Education is becoming an ongoing process, and to achieve its competitiveness, it is necessary to form and develop digital skills. This will correspond to the creation of an appropriate environment in educational institutions, including not only proper material and technical support. No less important is the digital transformation of modern teachers to achieve a high level of digital literacy.

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