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# THE DYNAMICS OF ICT COMPETENCE DEVELOPMENT OF FUTURE PRESCHOOL TEACHERS IN THE CONTEXT OF DIGITAL EDUCATION

#### Abstract

The modernization of modern education requires the teacher to make a qualitative change in approaches to the organization of educational activities with preschool children. This study examines the dynamics of the ICT competence of the students of Abai Kazakh National Pedagogical University "KazNPU" before and after the pandemic. At the same time, the authors proceeded from the fact that future preschool teachers' ICT competence characterizes the degree of readiness to use modern information technologies in professional and pedagogical activities and includes two levels of digital literacy: the basic level, the level of ICT proficiency in teaching and learning environment. The article provides an analysis of the research findings, including the students' ICT knowledge and skill levels, an evaluation of the significance of using ICT in future professional activities, and recommendations for further research.

**Keywords**: information and communication technologies, digital pedagogy, professional training, ICT competence, preschool education, modern education, pedagogical conditions, preschool teachers, professional competence.

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### ЦИФРЛІК БІЛІМ БЕРУ ЖАҒДАЙЫНДАҒЫ МЕКТЕПКЕ ДЕЙІНГІ ҰЙЫМДАРДЫҢ БОЛАШАҚ ПЕДАГОГТАРЫНЫҢ АКТ ҚҰЗЫРЕТТІЛІГІН ДАМЫТУ ДИНАМИКАСЫ

#### Аңдатпа

Заманауи білім беруді жаңғырту мұғалімнен мектеп жасына дейінгі балалармен оқу іс-әрекетін ұйымдастыру тәсілдерін сапалы өзгертуді талап етеді. Бұл зерттеуде Абай атындағы Қазақ ұлттық педагогикалық университеті «ҚазҰПУ» студенттерінің пандемияға дейінгі және одан кейінгі АКТ құзыреттілігінің динамикасы талданады. Сонымен бірге, окушылардың АКТ құзыреттілігін анықтау кезінде авторлар мектепке дейінгі мекеменің болашақ педагогының АКТ құзыреттілігі заманауи ақпараттық технологияларды кәсіби-педагогикалық іс-әрекетте пайдалануға дайындық дәрежесін сипаттайтынына және 3 деңгейді қамтитынына сүйенді. цифрлық сауаттылық: базалық деңгей, АКТ мотивациялық компонентінің деңгейі — АКТ негізіндегі білім беру технологияларын меңгеру және құзыреттілік деңгейі. Мақалада зерттеу нәтижелеріне талдау, оның ішінде студенттердің АКТ саласындағы білімдері мен дағдыларының деңгейі, болашақ кәсіби қызметінде АКТ-ны қолданудың маңыздылығына баға берілген және одан әрі зерттеуге ұсыныстар берілген.

**Түйін сөздер:** ақпараттық-коммуникациялық технологиялар, цифрлық педагогика, кәсіптік оқыту, АКТ құзыреттілігі, мектепке дейінгі тәрбие, заманауи білім беру, педагогикалық шарттар, мектепке дейінгі тәрбие беру педагогтары, кәсіби құзыреттілік.

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# ДИНАМИКА РАЗВИТИЯ ИКТ КОМПЕТЕНТНОСТИ БУДУЩИХ ПЕДАГОГОВ ДОШКОЛЬНЫХ ОРГАНИИЗАЦИЙ В УСЛОВИЯХ ЦИФРОВОГО ОБРАЗОВАНИЯ

#### Аннотация

Модернизация современного образования требует от педагога качественного изменения подходов к организации образовательной деятельности с дошкольниками. В данном исследовании проанализирована динамика ИКТ-компетентности студентов Казахского национального педагогического университета имени Абая «КазНПУ» до и после пандемии. При этом при определении ИКТ-компетентности студентов, авторы исходили из того, что ИКТ-компетентность будущего педагога дошкольного учреждения характеризует степень готовности к использованию современных информационных технологий в профессионально-педагогической деятельности и включает 2 уровня цифровой грамотности: базовый уровень, уровень навыков ИКТ грамотности в образовательном пространстве. В статье представлен анализ результатов исследования, в том числе уровня знаний и умений студентов в области ИКТ, оценка значимости использования ИКТ в будущей профессиональной деятельности и рекомендации для дальнейших исследований.

**Ключевые слова:** информационно-коммуникационные технологии, цифровая педагогика, профессиональная подготовка, ИКТ-компетентность, дошкольное образование, современное образование, педагогические условия, педагоги дошкольного образования, профессиональная компетентность.

**Introduction.** The evolution of new regulations, state educational standards at all levels of continuous education, and changes in current education all have a positive and negative impact on the criteria for teaching staff competency. Finding pedagogical means and conditions for enhancing the quality of their training, retraining, and self-development in the profession has become increasingly important as a result of the implementation of the education modernization strategy, which has significantly exacerbated the issue of inadequate professional competence of specialists.

The dynamics of ICT competence development of the future preschool teachers of the Abai Kazakh National Pedagogical university "KazNPU" before and after the pandemic is analyzed in this study. At the same time, in determining the ICT competence of graduate students, the authors proceeded from the fact that the ICT competence of a teacher characterizes the degree of his readiness to use modern information technologies in professional and pedagogical activities and includes 2 levels of digital literacy: the basic level, ICT literacy skills in teaching and learning environment. The use of ICT's diverse capabilities, methods of transferring and perceiving information, enables teachers to more effectively use pedagogical technologies in the educational process, as well as to seek out new approaches aimed at increasing students' long-term cognitive motivation. The authors of this study set another goal: to assist students in selecting tools and services to support specific teaching and learning approaches by leveraging the innovative nature of digital technologies. This, in our opinion, will raise the level of ICT competence.

Dynamic growth and active use of information technology are traits of modernity. The needs of society are driving the constant development of pedagogy as a science. Therefore, a fresh conceptual framework is added to the scientific and educational literature: "Online pedagogy, digital learning, and digital pedagogy" [1].

In this regard, some trends in modern education have emerged, as a result of which the most noticeable changes in the educational process are taking place: Knowledge accessibility; personalization of education; paradigm shifts in the relationship between teacher and students, leading to the popularization of collaborative learning; interdisciplinary knowledge, collective projects, mutual learning, and so on; Smart Learning; social

learning - the use of social networks and various social services; involvement in learning based on gamification [2], virtual and augmented reality.

Professional competence of a teacher as a set of universal and specific professional attitudes that allow him to cope with a given program and special situations that arise in the psychological and pedagogical process of a preschool institution, resolving which, he contributes to the clarification, improvement, practical implementation of development tasks, its general and special abilities [3].

The priority component of professional competence is the ability to use modern technologies for teaching, educating and developing children, based on their age and individual capabilities and needs, as well as positive personal qualities, general cultural and psychological and pedagogical knowledge, skills and values.

Information and communication technologies (ICT) are a significant part of their professional competence and are used in the following contexts:

- in educational work with preschoolers (in the classroom, during individual work, during leisure activities, etc.);
  - in the development of the information culture of children, i.e educational process participants;
  - when planning the educational process;
  - when assessing the extent to which children have mastered the educational program;
  - in the process of professional self-education and self-development;
- when creating and using electronic materials, games, presentations, videos for working with children in a preschool institution;
  - -in situations of remote interaction with the parents of children;
- connection with the social partners of the educational organization, instructors' participation in the informational and educational environment;
  - in the course of self-presentation of their developments, with participation in competitions.

The positive effects of the ICT competence of preschool teachers, fixing the requirements for it in the professional standard of the teacher raises the issue of finding contemporary pedagogical ways and conditions for the formation of this competence in the system of training students and retraining teachers working in preschool institutions. Information and communication competence of a modern teacher, according to A.V. Adolf [4], includes three main aspects:

- 1. Adequate level of functional literacy in the field of ICT.
- 2. Efficacious and reasonable use of ICT in the professional activities of an instructor to solve professional, social and personal issues.
- 3. Comprehension of ICT as the basis of a contemporary paradigm in education aimed at developing students as subjects of the information society, capable of creating knowledge, able to operate with information arrays to obtain a new intellectual and activity result [3].

The methodological service in kindergarten has high potential for the formation and improvement of significant ICT competence of its teaching staff. The methodological service for solving this problem may include: a senior preschool teacher, preschool teacher with ICT competence, administration staff. Moreover, specialists who have the necessary abilities to use electronic resources in the education of preschoolers can be included in such a service. Parents also can be involved in such work in accordance with the educational needs of teachers in the area being mastered. When improving the ICT competence of preschool teachers, methodological services need to build the work of the institution and organize a system of advanced training in such a way as to solve the following tasks:

- motivation for the study and use of ICT by preschool teachers, their awareness of the importance of technology in improving the efficiency of contemporary preschool education;
- the formation of functional literacy, which allows competently and without harm to the health and psyche of children to apply information and communication technologies in the educational process of a preschool institution;
- encouraging teachers to use ICT and electronic resources in professional self-education and self-development.

**Materials and methods.** The UNESCO recommendations specify the ICT competency requirements for teachers (ICT Competency Framework for Teachers) [8]. Many studies have been conducted by foreign and domestic researchers on the formation and development of the teacher's ICT competencies [2, 4, 8, 10, 13, 14].

The following research methods were used to achieve the study's goal: theoretical analysis of scientific literature [2, 8, 3, 14]; interpretive (comprehensive and systematic study of the object of research; generalization of practical experience, etc.), empirical (diagnostics of students of Abai KazNPU: a questionnaire and test for students to determine the level of their ICT competence (Klepikova A.G., Belenko V.B., Bocharova L.V.).

Traditional pedagogy's methods, structure, and form are expanded and modernized by digital pedagogy. This gives teachers the freedom to create training sessions however they see fit, to utilise electronic libraries of educational books and services, and to allow students to independently create their own educational trajectories.

A wide range of pedagogical ICT tools are developed by digital pedagogy and made available for use in the educational process, including: open educational resources; massive open online courses (MOOCs); learning platforms (Learning Management System / LMS); electronic textbooks (e-book); electronic libraries (e-library); mobile learning; virtual reality (online exhibitions, virtual zoos, parks e.t.c.), augmented technology (virtual games), cloud educational systems and Internet services; electronic portfolios and personal electronic accounts; digital video communications" [5]. The most important thing for a teacher to understand is how they can generate new knowledge, apply new educational technologies, and share new and interesting ideas in the professional community by using ICT tools as a tool.

In addition, educators with ICT competencies can freely use all this variety of pedagogical tools, making an informed choice of digital tools and services to support specific teaching and learning methods, such as collaborative learning; projects; virtual and augmented reality; mobile learning; storytelling and gamification [6].

According to the UNESCO ICT Competency Framework for Teachers, the components of ICT competencies include six major aspects of the teacher's work: curriculum assessment, pedagogical practices based on ICT, the use of digital skills, organizational and management of the educational process, and professional -personal development [8]. The main aspects of a teacher's work, according to ICT-CFT, are related to three levels of ICT use in educational practice: 1) knowledge acquisition; 2) knowledge deepening; 3) knowledge creation. These three levels correspond to the stages of teacher's professional development, starting from the basic level of ICT proficiency (knowledge of technology and basic competencies in the field of ICT), then the level of ICT proficiency in teaching and learning environment (creating a learning environment focused on students, integrating ICT into the educational environment, and the ability to model a learning environment based on new digital technologies, which encourages students to create new knowledge necessary for a more harmonious, full-fledged and prosperous society) [8].

It should be emphasized that the condition of contemporary information technologies and the trends that have emerged in the international educational space have an impact on the use of ICT in pedagogical practice. Therefore, one of the most important components of the professional ICT competence of a teacher is the degree of his readiness to use modern information technologies in professional and pedagogical activities and the management of educational results in a digital educational environment.

Indicators of the development of information and communication competence in aspiring preschool teachers are to be found in this study. Methods for diagnostics (author L.V. Bocharova) were chosen (questionnaires: "Information and communication competence of future preschool teachers in the process of professional training," "Studying the motivation for the formation of information and communication competence of future preschool teachers," test, project, observation) in order to identify indicators describing the level of formation of information and communication competence of future preschool teachers. The pedagogical experiment involved 102 students in total from the third and fourth courses of the Institute of Pedagogy and Psychology who were majoring in "Preschool Education." During the experimental work, students studied the disciplines "Information and Communication Technologies", "Digital Technologies of Education".

In the process of diagnostic research, we took into account the multicomponent structure of the information and communication competence of future preschool teachers, represented by a set of cognitive, activity, motivational, personal components, in accordance with which we determined the levels of formation of each component.

In the scientific and pedagogical literature, the most common approach is when the main measurement criterion is the characteristics of students' progress to a higher level of mastering knowledge, skills and abilities [7, 8, 9]. Based on this, we identified three levels of formation of each component of the information and communication competence of future preschool teachers: low, average, high, which are detailed in Table 1.

Table 1. The levels of formation of the components of information and communication competence of future preschool teachers

Components	oj juitii e	Levels	
Components	Low	Average	High
Cognitive	Basic computer and information handling skills are insufficient for using digital resources.	Has sufficient understanding of how to utilize ICTs in academic and extracurricular settings, has learned how to create a variety of works and presentations, and is aware of how to use software.	possesses a thorough understanding of using information and communication technology for professional work; extensive knowledge has been formed on the creation of various types of work using ICT tools; fluent in specialized literature, knowledgeable about software
Personal	rarely shows his own style in information and communication activities, low responsibility for the work performed	uses information and communication technologies in a manner consistent with his professional activity, and is in charge of the work produced	being totally responsible for the work completed, has its own unique style and distinctive skills while using ICT in professional activities.
Motivational	weakly expressed value orientations and motives, not interested in success in information activities, not ready to improve information and communication competence	A value-motivational orientation to information activities has developed, and the person is eager to succeed in information activities. They are also willing to advance their information and communication skills, show interest in searching for information processing, and reproduce information with analytical elements based on their understanding of the fundamentals of working with information.	The specialist wants to manage the information and communication process, shows a strong value-motivational orientation, is prepared for continuous improvement of information and communication competence, is interested in information and communication activities and the need to achieve high results in information activities, and is highly motivated to use ICT.
Activity	reproduces tasks based on elementary knowledge; basic skills in working with information, computer skills at the user level	have the necessary knowledge and abilities to effectively use ICTs in academic and extracurricular settings, as well as the ability to produce a variety of works and presentations.	knows how to use information and communication technologies; the skills of creating various multimedia presentations with complex additional features and websites are formed, is able to solve professional problems using ICT, is

distinguished by a creative approach, can predicts the results of work when using ICT

The cognitive component includes being able to apply current methods and programs, taking into account the demands of the educational environment, and being willing to put that knowledge to use. We conducted a survey on the questionnaire "Information and communication competence of future preschool teachers" and a test for information and communication technology knowledge in the section "Conditions for the effective and safe use of ICT for educational purposes" to ascertain the level of development of the cognitive component of information and communication competence. The test contained both closed questions and open-ended questions, to which the respondent created their own free-form responses (answers offered by the questionnaire developer). When diagnosing the level of formation of the cognitive component, we also observed the future preschool teachers during the teaching practice at Abai Kazakh National Pedagogical university and during practical lessons. The observation was carried out according to the following characteristics: future preschool teachers use multimedia presentations prepared by themselves during classes and teaching practice; use electronic educational resources; participate in the creation of didactic materials using information and communication technologies; take part in the preparation and conduct of extracurricular activities (competitions, Olympiads) using audio and video materials and multimedia equipment; conduct conversations and prepare projects and presentations in the subjects "Information and Communication Technologies", "Digital Educational Technologies" and other disciplines.

The *activity component* assumes a willingness to apply modern methods and information and communication technologies; the ability to apply methods of mathematical information processing by means of ICT, the ability to analyze the results of scientific research and use them in solving educational and research problems; readiness to use the main methods and means of gaining, storing, processing information, to have high computer proficiency; ability to work with computer games for preschoolers and software designed for educational purposes; the ability to create educational presentations and applications using the special features of the computer. Diagnostics of the level of formation of the activity component of information and communication competence was carried out during practical and seminar classes, where the ability to apply the acquired knowledge in practice, the formation of skills and abilities in the use of information and communication technologies in preschool education, types and forms of activity using modern information technologies and teaching programs for preschoolers. As a result of the research of this component, the following levels were formulated.

The *low* level of formation of the activity component of the information and communication competence of future preschool teachers is the reproduction of information in accordance with the task based on elementary knowledge; basic skills of working with information and communication technologies, computer skills at the basic level.

*Average* - students have enough skills to use information and communication technologies in educational and extracurricular activities, students have skills to create various works in the digital space.

*High level* - advanced skills in the use of ICT in the process of professional training; students can create various works in the digital space with additional features.

This component was assessed according to the methodology developed in the dissertation research by Vorontsova E.M. [11] "Creating a project". Task example: create a project (the topic of the project was determined by students independently from the subject: "History of preschool pedagogy", "Innovative technologies in education").

Additionally, we conducted a conversation with students to determine the level of formation of the activity component of information and communication competence on the following questions: Pease, tell us about multimedia presentations, what is the effectiveness of their use?; What benefits do you see from using Internet technology for information exchange and search?; How do you use information and communication technologies in the educational process and in teaching practice? Tell us about an integrated approach to the use of modern technical teaching aids; What are the benefits and drawbacks of computer games made for preschoolers?

The *motivational component* in the framework of our study is considered as a comprehension of the significance of information and communication competence for improving the quality of pedagogical work; the need to achieve high results in information and communication activities, interest in information and communication activities, independence in the educational process.

We used the L.V. Bocharova approach, "Studying the Motivation for the Formation of Information and Communication Competence of a Future Teacher," to examine the level of development of the motivational

component of information and communication competence. This approach required that the statements be numbered in decreasing order of relevance [10]:

- successful pursuit of interpersonal interaction;
- the ability to effectively manage the information and communication process;
- a desire to enhance professional training through the potentials of information and communication competence;
  - interest in information and communication activities:
  - the need to attain high results in information and communication activities.

*Personal component* is the ability to take initiative and independence when dealing with various information programs and developing electronic educational resources. Another aspect is the capacity for tact and consideration of others' opinions when using information resources. With this component, students demonstrate their style in information and communication activities and are responsible for their work (questionnaire "Personal self-assessment of the student").

As a consequence of our investigation into this component, we were able to define the levels of development of the personal component of the information and communication competence of future preschool teachers.

- *low level* of formation of the personal component of the information and communication competence of future teachers rarely shows his style in information and communication activities, low responsibility for the work performed;
- the average level of formation of the personal component of the information and communication competence of future teachers demonstrates their style of using information and communication technologies in their professional activities, and is responsible for the work performed;
- *a high level* of formation of the personal component of the information and communication competence of future teachers is characterized by their own style of using ICT in their professional activities, full accountability for the work completed, and a strong interest in using ICT to address educational issues.

**Results and discussion.** Experimental work was carried out at Abai Kazakh National Pedagogical University. 102 students (3d and 4th year of study) of the specialty "Preschool education" took part in a survey. To determine the ICT competence of future preschool teachers, the authors conducted a study of the students of the Abai Kazakh National pedagogical university based on a tiered approach: the level of digital literacy, ICT literacy skills in teaching and learning environment, the development of cognitive, activity, motivational and personal components of ICT competence. Since the threat of coronavirus infection was made public in 2020 and all educational institutions were required to switch to a distance learning format by April 2021, the dynamics of ICT competence development have been monitored closely.

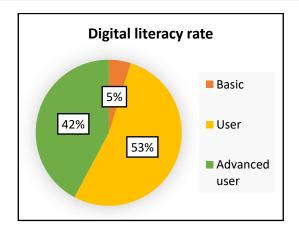
A survey of future preschool teachers was conducted to determine the level of ICT competence (basic, user, and advanced user) in two areas: digital literacy, ICT literacy skills in teaching and learning environment.

The *basic level* required proficiency with the text editors Word and Excel, PowerPoint presentations, email, different Internet browsers (searching and downloading the necessary information), graphic editors, use of removable media, including disks and flash drives, and knowledge of the function of archivers and their potential use.

*User* - the use of functional buttons on the keyboard, understanding of the function and use of various "hot" key combinations, proficiency with the basic MS Office programs (Excel, PowerPoint, and Word), working knowledge of all browser settings, ability to use search engines to locate information on the Internet, ability to look for a lost file, document, or folder in the PC operating system, and use of social networks, including for educational purposes.

Advanced user - having complete knowledge of the PC's functionality and the ability to use it; being familiar with text recognition systems, automatic text translation, and image processing; being confident in their knowledge of the MS Office package and specialized programs in a particular professional field; being able to deliver any application through the program installer; being able to work with various educational online platforms and conduct classes using them.

Based on the student's self-assessment at the beginning of the study, it was determined that 4.9% of respondents were at the basic level, 52,9% said they are at the user level of proficiency, and 42.2% at the level of an advanced user. Possession of ICT literacy skills in teaching and learning environment at the basic level was assessed by 30.4% of the respondents, at the user level by 40.2% among the respondents and 29.4% assessed themselves at the level of advanced users (Fig. 1).



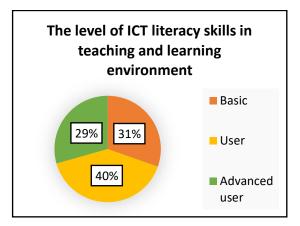


Figure 1. Distribution of respondents according to ICT proficiency levels at the beginning of the study (self-assessment)

The data obtained on the basis of students' self-assessment at the beginning of the study showed that the development of the cognitive component of ICT competence among students is at an average level 45%. The activity component is very poorly developed among students, about 56% of respondents answered that they do not know how to use ICT technologies for educational purposes. The motivational component is developed to an average of about 45%. The personal component is developed very poorly, approximately 56%.

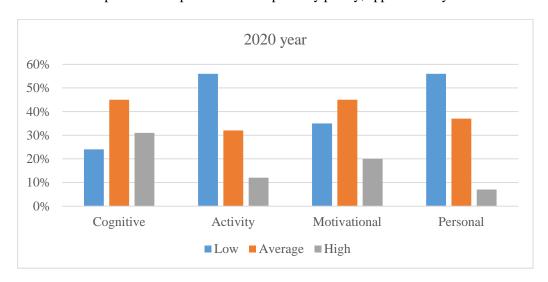


Figure 2. The levels of formation of the components of ICT competence of students at the beginning of the study.

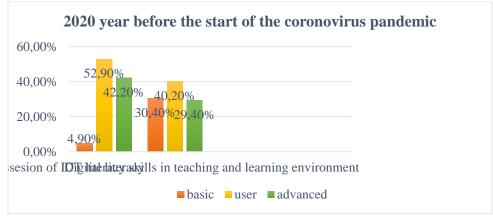
According to the results of the survey, most respondents have a low and average level of indicators of the development of the cognitive component of information and communication competence, meaning, they have limited knowledge on how to use information and communication technologies in educational and extracurricular activities, are unable to create various types of works and presentations, they are unfamiliar with the software that is appropriate to work with preschoolers.

The findings indicated that most students are either unmotivated or have weak motivation for achieving good performance in information and communication activities. Only 20% of students are interested in learning information and communication technologies-related knowledge, skills, and abilities; 45% of students have average motivation; they are interested in information and communication activities and want to manage the information and communication process, but lack the knowledge to apply their knowledge in professional training; 35% of students have no interest in learning, skills development, or information and communication technologies-related knowledge, skills, and abilities.

The distribution of respondents by levels of digital literacy had changed significantly by the end of the study (April 2021), and students' self-esteem had increased, as evidenced by survey data. The basic level of digital literacy fell to 1.4%; the difference at the user level was significant, with the value falling from 53% to 31.5%;

and the level of advanced users rising from 42% to 67.1%). There were also changes in students' ICT proficiency in the teaching and learning environment, with the user level increasing by nearly 2.8%, the advanced user level increasing by 12.6%, and the basic level decreasing by 15.4%. (Fig.3).

These changes in students' self-esteem occurred due to the active "forced" use of information and communication technologies during the pedagogical teaching practice at preschool organizations, without which education became impossible during the period of a coronavirus pandemic and isolation of students and preschoolers in educational institutions.



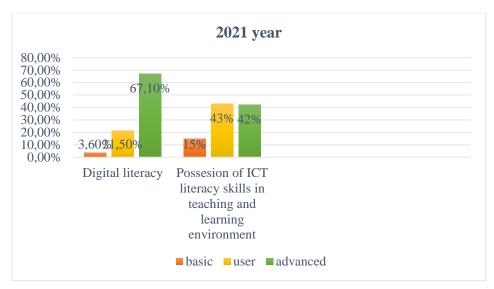


Figure 3. Dynamics of future preschool teachers' ICT competencies by proficiency level before the pandemic and at the time of the survey in 2021. (self-esteem%).

It should also be noted that by the end of the study, the level of indicators of all components of ICT competence increased significantly. Namely, the high level of each component dramatically increased, namely, the cognitive component increased by 23%, the activity component increased from 25% to 45%, the motivational component from 20% to 59% and the personal component increased from 7% to 19% (Fig.4).

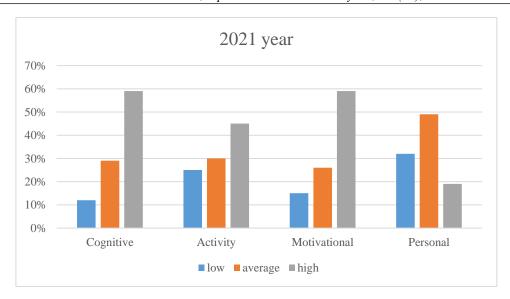


Figure 4. Students' levels of formation of the components of ICT competence at the end of the study (self-assessment).

**Conclusion.** Thus, the results of the study revealed the following.

- 1. The study of ICT competence showed that the basic level of ICT competence among students decreased in three directions: digital literacy, possession of ICT literacy skills in teaching and learning environment, motivational aspect, at the same time, the level of user and advanced user increased in all three areas.
- 2. During the study period, there were noticeable changes not only in teachers' self-assessment but also in their actual level of ICT competence: 72,87% of respondents scored as an advanced user, 17.3% as a user, and 9.8% as a basic. Furthermore, the statistical analysis results allowed researchers to conclude that the test is suitable for differentiation based on the level of mastery of the test material and that it can be used in practice to determine the level of students' ICT competencies.
- 3. The broad diagnostic findings indicated that it is crucial to develop all components of ICT competence in the process of students' professional training in order to build the information and communication skill of future preschool instructors. Students must learn how to use information and communication technologies, digital technologies, and modern software to master educational materials, they must be able to process information and create databases, as well as develop instructional materials using information and communication technologies, be able to use computer games designed for preschoolers, create their own digital content using various electronic and web resources, create multimedia components of web pages, supplementing with streaming sound, create gif-animations for preparing illustrations and reproducing information.
- 4. Obtained data from a survey showed that 77.5% of respondents changed their attitude and motivation to information and communication technologies for the better, as they gained an understanding of the process of distance interaction with students, acquiring skills in using distance learning technologies, and increasing their ICT competencies. These changes have occurred as a result of the active use of information and communication technologies in the educational process, which would have rendered distance learning impossible.
- 5. Based on the results of the study, we can conclude that the current content of preschool education requires preschool teachers to use information and communication technologies in the practice of working with children of preschool age, in the educational process, methodological work, and management activities of an educational institution. This is ensured by appropriate professional training of preschool education specialists. The study showed that the use of information and communication technologies in the professional training of future preschool teachers at the university requires their purposeful, active, motivated participation in the activities of the university and the need to improve the professional training of future teachers of preschool organizations in the use of information and communication technologies in their future professional activities.

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### ЖАСӨСПІРІМДЕРДІҢ БОС УАҚЫТЫН ҰЙЫМДАСТЫРУ ТЕХНОЛОГИЯСЫНЫҢ ЕРЕКШЕЛІКТЕРІ

#### Аңдатпа

Жасөспірімдердің бос уақытын өткізу мәселесі бүгінгі таңда өзекті болып табылады және әлеуметтікпедагогикалық қызметтің маңызды бағыттарының бірі болып табылады. Бос уақыт – адамның физикалық және психикалық, рухани және эмоционалдық дамуы орын алатын басым кеңістік.

Бос уақыт адам өмірі үшін қажетті, адамның өзіндік құнды мінез-құлқын қалыптастыруға, шығармашылыққа, спортпен айналысуға, саяхат жасауға, кітап оқуға, мәдени іс-шараларға баруға, ойын ойнауға және т.б. өзін-өзі дамытуға арналған жұмыстан, сабақтан тыс уақыт. Бос уақыт жасөспірімдердің өзіндік ерекшеліктеріне сай психологиялық, физиологиялық және рухани дамуына ықпал етуі тиіс. Әрбір жасөспірім іс-әрекетін дұрыс ұйымдастыра білу үшін бос уақыт туралы білімі мен біліктілігін дамыту қажет. Мақалада педагогика және психология саласындағы отандық және шетелдік ғалымдардың ғылыми еңбектеріндегі «бос уақыт» ұғымына берілген анықтамалар мен ой-пікірлеріне теориялық талдаулар жасалынып, жасөспірімдердің бос уақытын тиімді ұйымдастырудың ерекшеліктері мен жолдары қарастырылған.