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# THE ESSENCE OF ICT COMPETENCE OF TEACHERS OF FUTURE PROFESSIONAL EDUCATIONAL INSTITUTIONS

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**Annotation**
In this article, the competence in the field of ICT of the future teacher is formed with the help of a specially organized educational process. ICT CFT also includes ICT competency components. in relevant aspects and at all three levels of informatization (“Acquisition of knowledge”, “Assimilation of knowledge”, “Creation of knowledge”) the use of modern trends in education is mentioned.

**Keywords:** digital environment, virtual education, virtual reality, artificial intelligence, resources, ICT, information, informatization, digitalization, digital society.

## Introduction

The current stage of the development of professional education in world educational institutions is characterized by digitization processes caused by the trends of transition to the digital economy and digital society. According to Global Education Futures' report "Education for a Complex Society" (2018), digitization of education is "a megatrend that will shape our future." Today, creating a digital economy and digital education are among the most important priorities in the state policy of the Republic of Uzbekistan.
Today, the basic types of activities of specialists of any professional activity are created on the basis of continuous improvement of the general culture of the individual. We agree with L.S. Galkina's opinion stated in his research, according to which, within the framework of any direction of training, it is necessary to form and develop basic competencies that are multi-functional and multi-dimensional. Acquiring such competencies allows solving many different problems in everyday, professional, and social life. Today ICT competencies are one of such competencies.
Informatization, and at the current stages of development - digitization of education is considered an objective law of the development of modern society. It is necessary for future pedagogues to use information, communication and digital technologies in their professional activities, therefore, forming the ICT competence of future specialists is considered as one of the first-level tasks of professional education.
ICT competence of the future pedagogue with a set of systematic scientific knowledge, skills and abilities formed in a specially organized educational process; with the ability to find direction in an information-educational environment; with readiness to creatively use ICT in their professional and pedagogical activities; he imagines it as an "integrative personal product" characterized by a conscious striving for continuous improvement in this field.
In the teacher's professional standard, ICT competence of pedagogues is defined as professional ICT competence, which demonstrates the competent use of ICT tools common in this professional field in developed countries to solve professional tasks, where necessary. Professional ICT competence includes:

- universal ICT competence;
- general pedagogical ICT competence;
- scientific-pedagogical ICT competence.

We take these concepts into account when defining the components of ICT competence.

M.S. Prokopev defines professional ICT competence of a pedagogue as "three levels - general educational level (ICT competence is used to solve common tasks in educational activities); science-oriented degree (used to solve tasks related to ICT competency training); it is divided into professional-pedagogical level (ICT competence is used to solve pedagogical tasks in the professional activity of a pedagogue) and is directed to the use of various information tools, as well as to their effective use in professional-pedagogical activity.

- ICT CFT also recommends the use of modern trends in education in appropriate aspects and at all three levels of informatization ("Acquisition of Knowledge", "Assimilation of Knowledge", "Generation of Knowledge"):
- open educational resources (OER - open education resources) - these are any educational resources (for example, textbooks, streaming video, multimedia applications, etc.), which are available for use by educators and learners free of charge or with can be freely disposed of without certain license fees;
- Social networks are websites or applications that provide online communication with people in networks united by a common interest or activity (Facebook, Twitter, Instagram, etc.). Social networks can be used to improve pedagogical communication, facilitate interactive learning, and strengthen communities of learners and educators;
- Mobile technologies (smartphones, tablets, etc.) are devices that offer educators and learners a flexible approach to teaching anytime and anywhere, including connecting formal and informal learning;
- the Internet of Things (IoT) is a network of computing devices connected (connected) to everyday appliances and objects, in addition to computers and smartphones, which allows sending and receiving data via the Internet;
- artificial intelligence (AI). There is still no universally accepted definition of it. The term "artificial intelligence" is usually used when a machine, especially a computer, imitates human behavior or thinking, which people associate with human intelligence such as learning, speech, and problem solving. Artificial intelligence applications include expert systems, speech recognition and natural language processing, machine vision and imaging technologies. currently, AI is used in education in the form of flexible learning programs and content that can be adapted using software, observation and diagnostic monitoring, automation of assessments, AI tutors;
- virtual reality (VR) and augmented reality (AR). Virtual reality (VR) is a computer simulation of an environment in which a person can interact. A person is immersed in this simulated environment and can move objects or perform a series of actions. Augmented reality (AR) is a visualization of a real environment, the elements of which are augmented with the help of computer images; they block and close off the physical environment in real time. AR changes the human perception of the real environment, while VR replaces the real environment with a simulated environment;
- big data. As people and devices become increasingly networked, society generates digital data at extraordinary rates unprecedented in human history.

Social computing, network devices, e-business transactions, mobile computing, environmental sensors and scanners generate billions of events per second, many of which are stored for later analysis or can be analyzed as real-time data streams;

- programming (coding) - these are things that make it possible to create computer programs, applications and websites. Code is a set of instructions that computers can understand. A computer program represents a sequence of instructions that can be interpreted and executed by a computer, and in practice it is a form of process automation tool. All computer programs are based on algorithms that determine how a task should be performed;
- protecting ethics and confidentiality (privacy) (cybersecurity). In order for innovations in the field of ICT to be designed and used in a way that they can serve education and humanity in general, it is necessary to focus on a value approach to the use of ICT in education. There is a need to educate educators and learners about data protection, including better control of their personal data.

Thus, the digitization of education changes the pedagogical profession, the demands for the digital skills of pedagogues increase. Today, ICT competence, including digital literacy, should become a necessary element for all forms of vocational training and pedagogical training throughout the entire life cycle. Digital literacy is an individual's ability to use digital technologies, communication tools, or networks to find, evaluate, use, and create information. Digital literacy includes a person's ability to understand and use information from a wide range of sources, and to effectively solve tasks in a digital environment.

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