

Research on The Tools and Components of Developing the ICC Of Higher Education Teachers

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Abstract: In the context of the rapid development of digital technologies and the transition to an information society, the requirements for the professional activities of higher education teachers are increasing. One of the most important areas of modernization of the educational process is the development of information and communication competence of the teaching staff. The article examines the essence, structure and components of information and communication competence, and analyzes modern digital tools and technologies that contribute to its formation and development. The results of the analysis of current approaches to teaching and self-development of teachers in the context of digitalization of education are presented.

Keywords: Information and communication competence; digitalization of education; higher education teachers; ICT competence; digital technologies; professional development; e-learning.

Introduction: Modern education is unthinkable without the active use of digital technologies and communication tools. The transition to a digital educational environment requires teachers not only to have subject knowledge, but also a high level of information and communication competence (IC competence). This concept combines the ability to effectively use information and communication technologies (ICT) to organize training, interact with students, conduct scientific research and improve their own qualifications. In this regard, the study of the components and means that contribute to the development of ICT competence of the teaching staff is of particular relevance. The need for continuous improvement of pedagogical practices, participation in online platforms, creation and use of digital content require an integrated approach to the formation of this competence. This article is aimed at identifying the key elements of ICT competence and analyzing the conditions for its successful development in the higher education system [1, 2].

METHODS

The requirements of modern society set the task of improving the quality of graduates, whose professionalism is now determined not only by the amount of knowledge, but also by the ability to manage information flows, retaining the most important things

in memory. as well as the ability to find missing information. In addition, professionalism is characterized by the experience of applying the acquired knowledge and skills both according to the model and in a new, non-standard situation. This implies both the personal development of a specialist and the formation of such qualities as the ability to negotiate with colleagues or communicate with others. All this indicates the need to master the basic competencies and, as a result, information and communicative competencies.

According to Klimenko E.I. [3] – “Information and communicative competence is a professionally significant integrative personality quality that characterizes the ability to independently search, select, analyze and present the necessary information; model and design objects and processes, implement projects in individual and group work” [4]. In other words, information and communication competence combines communication, working with information, fulfilling a social role, being tolerant of a communication partner, the ability to create an optimal communication space, combining IT knowledge and personal qualities into a more general competence [5]. The ability to navigate in the space of Internet information resources, the ability to jointly organize internal and external information resources, master

new sign systems, etc. That is, it is considered an integral component of the professional qualifications of a specialist and means his ability to satisfy information needs in the professional field and the ability to transmit information processed in the communication process [6].

RESULTS

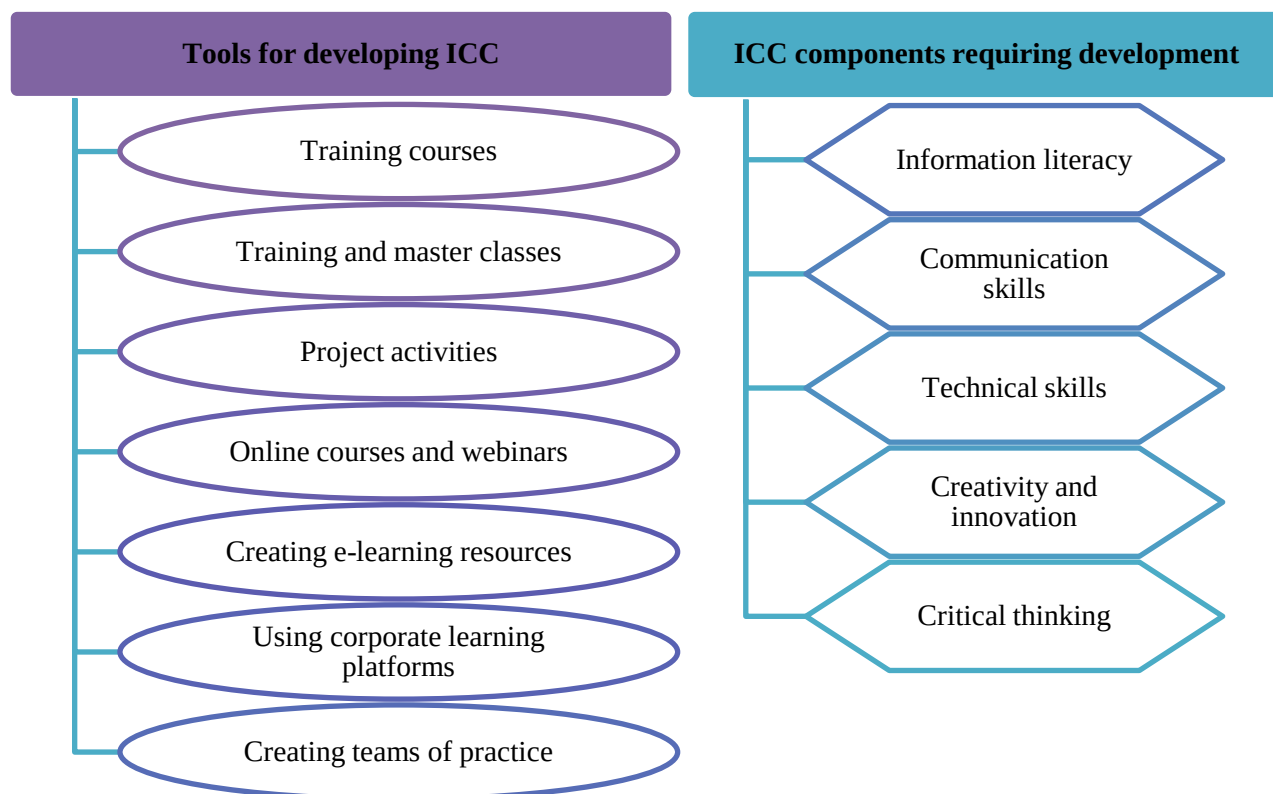


Figure 1. Tools and components for developing a model that develops ICC

The following tools were selected and used to develop the ICT skills of university students and teachers:

1. Training courses: include a systematic study of the theoretical foundations and practical skills of working with ICT. Training courses are a systematic process of transferring knowledge and skills from an experienced teacher or specialist to a student. They can be both face-to-face and online and cover almost any field of knowledge.
2. Trainings and master classes (master classes): are methods of actively developing new tools and technologies in an interactive format. These are dynamic and interactive educational formats aimed at acquiring practical skills and developing specific competencies. They differ from traditional lectures in that they are more involved in the involvement of participants and are aimed at the practical development of the knowledge gained.
3. Project activities: activities that require the use of ICT. This is a special type of activity aimed at achieving a specific goal by creating a unique product or service. It is a comprehensive approach that includes task

During the research process, an algorithm for improving (developing) teachers' information and communicative competence was developed, and tools for developing ICT, as well as components for their development, were researched and selected.

definition, planning, implementation and evaluation of results.

4. Online courses and webinars: the opportunity to learn independently at a convenient time. Online courses and webinars have become an integral part of modern education and professional development. They offer a flexible and affordable way to acquire new knowledge and skills without leaving home.
5. Creation of electronic educational resources: development of educational materials, interactive tasks and tests. This is a digital form of educational materials, which is characterized by making the learning process more interactive, convenient and effective. They can represent a wide range of materials, from text documents to multimedia presentations and interactive simulations.
6. Use of corporate learning platforms: providing access to educational materials and collaboration tools. These are special software systems designed to organize and manage the training processes of faculty and staff. They provide a wide range of tools for creating, distributing and tracking learning materials.

7. Creating communities of practice: An interactive way to share experiences and support colleagues. These are groups of people with common interests, experiences and goals who interact regularly to share knowledge, solve problems and grow together. These communities are playing an increasingly important role in today's world in facilitating innovation, improving efficiency and strengthening professional networks.

However, there are still insufficient resources and components for the development of information and communicative competence, and the effectiveness of those that exist is low [7-10]. Therefore, we have studied and analyzed a number of components that require development and improvement, and identified the main ones. Components of ICT that require development:

Table-1

Name of components	Explanation
<i>Information literacy</i>	The ability to search for, evaluate and use information from various sources
<i>Communication skills</i>	The ability to communicate effectively with others using ICT.
<i>Technical skills</i>	Software and hardware
<i>Creativity and innovation</i>	The ability to generate new ideas and find innovative solutions
<i>Critical thinking</i>	The ability to analyze information and make informed decisions

- **Information literacy:** This ability is a set of skills that allow you to effectively search for, evaluate, use and create information. In the modern information-rich world, these skills are becoming increasingly important for personal development and professional activity.

- **Communication skills:** Communication skills are a set of skills that allow you to effectively transmit and receive information, interact with others and establish effective relationships. They play an important role in our everyday lives, in the professional sphere and in our personal relationships.

- **Technical skills:** This is a set of knowledge and skills related to the use of various technologies and tools. In today's world, where technology is penetrating all aspects of life, the demand for technical skills is increasing.

- **Creativity and innovation:** Creativity and innovation are two interrelated concepts that form the basis of the development of society and business. They allow us to create new ideas, products and services, solve complex problems and adapt to changing conditions.

- **Critical thinking:** This is a cognitive process that involves analyzing information, evaluating arguments, identifying logical fallacies and making informed

decisions. It is not just the ability to reflect, but an active and purposeful process of understanding, evaluating and interpreting information.

Modern educational programs include the active use of digital tools, platforms and resources in the learning process. Nowadays, many higher education institutions offer specialized courses in programming, web development, cybersecurity and other related ICT fields. In this, courses play an important role in developing the information and communication competence of students and teachers. They act not only as places to acquire theoretical knowledge, but also as platforms for applying the acquired skills in practice.

CONCLUSION

The development of information and communication competence of higher education teachers is an integral condition for the effective functioning of the modern educational process. The study showed that the formation of this competence requires a systematic approach, including the use of modern digital platforms, increasing digital literacy, as well as motivation for continuous learning. The introduction of innovative educational technologies and ICT tools

allows not only to improve the quality of teaching, but also to adapt to the rapidly changing conditions of the digital environment. Further research in this area should be aimed at developing practical models for improving ICT competence in educational institutions.

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