HSR (LONDON),
HOUGHTON STREET REVIEW JOURNAL
ISSN: 2058-5519|Impact factor-15.9
http://houghtonstreetreview.com/index.php/hsr

IMPROVING THE INFORMATION AND COMMUNICATION COMPETENCE OF FUTURE TEACHERS IN THE PROCESS OF TEACHING COMPUTER SCIENCE

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Doi: https://doi.org/10.5281/zenodo.22169380

Abstract: This article analyzes the issues of developing information and communication competence of future teachers in the process of teaching computer science. The use of modern information and communication technologies, the creation of a digital educational environment, and the importance of ICT tools in the professional activities of teachers are highlighted. Also, ways of developing the professional competence of future teachers through the use of innovative pedagogical technologies in teaching computer science are considered.

Keywords: information and communication technologies, competence, computer science education, digital learning environment, innovative technologies, pedagogical skills.

Nowadays, the development of society is closely related to the rapid development of information technologies. In the context of an information society, the education system is also being radically updated and organized based on modern pedagogical and information technologies. Therefore, the development of information and communication competence in the professional training of future teachers in higher educational institutions is one of the important tasks.

Informatics occupies an important place in the education system. This subject not only teaches computer technologies, but also teaches students to search for, process, analyze and effectively use information. Therefore, the formation of information and communication competence of future teachers in the process of teaching informatics is an urgent issue.

Today, a modern teacher must not only be well-versed in his or her subject, but also be able to effectively use information technologies, create digital educational resources, and organize the educational process based on innovative methods.

Content of information and communication competence

Information and communication competence represents a person's ability to effectively use modern technologies in the process of searching, analyzing, processing, storing and transmitting information. This competence is one of the important professional skills for a modern educator.

The information and communication competence of a future computer science teacher consists of the following components:

Information literacy

This includes the skills of searching, sorting, analyzing, and effectively using information.

Technological competence

refers to the ability to work with computers, software, internet technologies, and various digital platforms.

Communicative competence

includes the ability to effectively share information with others, use electronic communication tools, and collaborate in distance learning.

Pedagogical competence

is the ability to develop students' knowledge and skills through the use of ICT tools in the educational process.

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From this perspective, information and communication competence is of great importance in the professional activities of a future teacher.

The role of modern technologies in teaching computer science

The use of information and communication technologies in modern education increases the effectiveness of teaching. By using various technologies and methods in teaching computer science, the process of student learning becomes more interesting and effective.

The following technologies are widely used in teaching computer science:

Multimedia technologies

Text, graphics, audio and video in the educational process using multimedia tools
materials can be used. This makes the learning material more understandable and interesting.

Distance learning technologies

The distance learning system organized via the Internet provides students with the opportunity to acquire knowledge independently. Various electronic platforms and virtual learning environments play an important role in this.

Interactive teaching methods

Interactive methods ensure that students are actively involved in the learning process. For example:

- teamwork
- solving problem situations
- project-based learning
- practical training

These methods develop students' independent thinking skills.

Methods for developing the competence of future teachers

To develop the information and communication competence of future computer science teachers, it is necessary to use a number of methods and approaches in the educational process.

Organizing practical training sessions

Along with theoretical knowledge, students must also have practical skills. Therefore, great attention should be paid to laboratory exercises in teaching computer science.

Project-based learning

The project method develops students' independent activity. Students apply their knowledge in practice by creating various software products, developing electronic educational resources, or developing a website.

Creating e-learning resources

Future teachers:

- electronic textbooks
- presentations
- test systems
- video lessons

They need to learn to create. This will develop their professional competence.

Application of innovative pedagogical technologies

The following methods are considered effective in the educational process:

- “Blended learning”
- Flipped classroom
- problem-based learning
- interactive methods

These methods encourage students to actively learn.

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Creating a digital learning environment

Today, creating a digital learning environment is essential for the effective organization of the educational process. A digital learning environment consists of the following components:

- electronic libraries
- online learning platforms
- virtual laboratories
- distance learning systems

Through the digital environment, students can access learning materials at any time, which expands the possibilities for independent learning.

In conclusion, the development of information and communication competence of future teachers in the process of teaching computer science is one of the important tasks of the modern education system. The effective use of information and communication technologies helps to organize the teaching process more effectively.

In the process of training future computer science teachers, their professional competence can be developed by using modern pedagogical technologies, expanding practical training, and creating a digital learning environment.

In the future, it will be important to further develop the information and communication competence of educators through the widespread introduction of digital technologies in the education system.

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