

BASIC CONCEPTS OF THE MODEL FOR TRAINING FUTURE COMPUTER SCIENCE TEACHERS

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Abstract: *This article systematically covers the model of training future computer science teachers, its main components, training stages and necessary competencies. The article analyzes the pedagogical foundations of the application of digital technologies, innovative methods and ICT tools in teaching activities in modern education. Also, special attention is paid to the formation of pedagogical and information and communication competencies in the professional development of computer science teachers.*

Keywords: *computer science teacher, digital pedagogy, ICT, competence, educational model, innovation.*

Today, as digital technologies are deeply penetrating all spheres of society, the issue of training a new generation of computer science teachers is becoming increasingly important for the education system. Computer science involves not only technical knowledge, but also the formation of algorithmic and logical thinking. Therefore, the process of training future computer science teachers should include modern pedagogical approaches, digital technologies and innovative methods.

The model for training future computer science teachers is a pedagogical system that expresses the inextricable link between goals, content, methods, tools and results. This model is aimed at forming the professional, methodological and information and communication competencies of a computer science teacher.

The main goal of the model is to train future computer science teachers as qualified specialists who can use modern ICT tools in the educational process, develop programming and algorithmic thinking, and have an innovative approach.

Main components of the model

1. The target component is the central and guiding element of the model for training future computer science teachers, which determines the content, form and result of the entire educational process. The main task of this component is to form a specialist in the field of computer science education, based on the essence of the teaching profession, who has digital competence, innovative thinking, and can effectively use ICT tools in professional activities.

2. The content component is the central component of the model for training future computer science teachers, which embodies the theoretical, practical and methodological aspects of the educational process. The main goal of this component is to ensure the teaching of the content of computer science based on a deep, systematic and modern approach.

3. The technological component is an important part of the model for training a computer science teacher, which involves the effective use of modern technologies, innovative approaches and digital tools in the educational process. The main goal of this component is to prepare the teacher to organize, manage and improve the educational process based on information and communication technologies (ICT).

4. The motivational and communicative component is an integral part of the model for training a future computer science teacher, which involves the formation of a positive attitude of the student towards professional activity, increasing interest in the teaching profession, as well as the development of communication and cooperation skills. This component covers the person-oriented, social and psychological aspects of pedagogical activity.

5. The outcome component is the final and most important component of the computer science teacher training model, which serves to analyze the results achieved in the educational process, determine the professional competence of the future teacher, and assess the quality and effectiveness of education. This component relies on a set of theoretical knowledge, practical skills, and personal qualities to determine the integral level of readiness of a computer science teacher.

Stages of preparation

The training of future computer science teachers is carried out in the following stages:

1. Formation of knowledge bases is one of the most important stages in the process of training a computer science teacher. At this stage, students are formed with thorough knowledge of the theoretical, practical and methodological foundations of computer science. In particular, they acquire fundamental knowledge about the concept of information, information processing processes, algorithms and programming basics, computer architecture and operating systems.

2. Pedagogical training is one of the important components of the process of training a computer science teacher and is aimed at developing the student's skills in effectively organizing the educational process. At this stage, students are given thorough knowledge of didactics, pedagogical methodology, development of educational materials and design of the lesson process.

3. Practical training is an important stage in the process of training a computer science teacher and is aimed at forming the student's ability to apply theoretical knowledge in real practical situations. This component consists of two main areas: teaching practice and project activities.

4. Development of innovative competencies is an important component that ensures the mastery of modern pedagogical and technological approaches in the process of training a computer science teacher. These competencies form the ability

of students to effectively use digital technologies, artificial intelligence and STEAM (Science, Technology, Engineering, Arts, Mathematics) educational elements.

5. The final stage is the most important and final component of the process of training a computer science teacher. This stage is aimed at assessing the student's readiness for teaching activities based on theoretical, practical and innovative skills.

Professional competencies

The main competencies that a future computer science teacher should develop are:

- Information and communication competence;
- Programming and algorithmic thinking competence;
- Pedagogical and methodological competence;
- Innovative and digital competence;
- Communicative and social competence.

These competencies serve to effectively organize the professional activities of a computer science teacher, use modern educational tools, and form independent thinking in students.

Conclusion

In conclusion, the model for training future computer science teachers is based on the combination of modern pedagogical technologies, innovative approaches, and ICT tools. This model makes a significant contribution to improving the quality of computer science education and training teachers with digital competence. As a result, in the future, students will have more opportunities to develop algorithmic thinking, information culture, and creativity.

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