CURRENT STATE AND DEVELOPMENT PROSPECTS OF TRAINING INFORMATICS TEACHERS IN GENERAL EDUCATION SCHOOLS

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Abstract

This article analyzes the current state of training computer science teachers for general education schools, identifies existing problems, and outlines future development prospects. In the context of digitalization of the education system in Uzbekistan, the professional competencies of computer science teachers, their level of proficiency in modern information technologies, and their pedagogical preparedness are becoming increasingly important. The study provides recommendations for improving the balance between theory and practice in teacher training, developing digital competencies, and enhancing the professional development system for computer science teachers.

Keywords: computer science teacher, general education school, digital competence, pedagogical preparedness, professional development.

Introduction

Today, the rapid development of information and communication technologies places new demands on the education system. In particular, the role and importance of computer science in general education schools are steadily increasing. A computer science teacher is not only a transmitter of subject knowledge but also a key educator who develops students' digital literacy, algorithmic thinking, and problem-solving skills.

In the Republic of Uzbekistan, modernization of the education system and in-depth teaching of computer science and information technologies in schools have been identified as priority areas of state policy. Therefore, analyzing the current state of computer science teacher training and identifying ways to improve it is a highly relevant task.

The purpose of this article is to analyze the current system of training computer science teachers for general education schools and to determine future development prospects.

Materials and methods

During the study, the activities of pedagogical higher education institutions, general education schools, and professional development centers were examined using a combination of research methods, including the analysis of scientific and pedagogical literature, the study of regulatory and legal documents, surveys and interviews conducted among computer science teachers, observation and analysis of the educational process, and the generalization of statistical data. The study involved a total of 60 computer science teachers and 30 students majoring in pedagogy. Data collection tools included questionnaires designed to assess the level of professional competence and digital literacy, interviews to identify teachers' challenges and needs, analytical tables and charts, as well as the analysis of curricula and the content of professional development courses.

The evaluation criteria focused on the level of theoretical knowledge in computer science, practical skills such as programming and the use of digital tools, pedagogical and methodological preparedness, and the ability to effectively utilize modern educational technologies. The results of the study revealed that, while teachers generally possess sufficient theoretical knowledge, their practical programming skills and proficiency in modern technologies are limited. Approximately 40% of computer science teachers make only limited use of modern digital platforms, and professional development courses are predominantly theoretical, with insufficient practical training. The study also found that young teachers are more inclined toward innovative technologies, whereas experienced teachers tend to rely on traditional teaching methods. Additionally, digital infrastructure and technical resources vary significantly among schools. These findings highlight the urgent need to revise and modernize the system of training computer science teachers to ensure their professional competence, practical skills, and ability to integrate contemporary educational technologies effectively into the learning process.

CONCLUSION

Based on the research results, it can be concluded that although the system of training computer science teachers in general education schools is partially

established, it requires adaptation to modern educational demands. The main conclusions are as follows:

1. It is necessary to strengthen the digital and practical competencies of computer science teachers.
2. A balance between theory and practice must be ensured in higher education institutions.
3. Professional development courses should be updated based on modern IT technologies.
4. Improving technical and digital infrastructure in schools is essential.
5. Computer science teachers must be prepared for continuous professional development.

Future Prospects

It is recommended to introduce modular-based training programs for computer science teachers, incorporate artificial intelligence and digital pedagogy elements into teacher education, and strengthen practice-oriented training approaches.

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