

THE ROLE AND IMPORTANCE OF COMPUTER SCIENCE IN MODERN EDUCATION

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Abstract: In modern society, the integration between technologies and all branches of science is increasing. In particular, computer science, its methods and capabilities play an important role in the educational process. The development of computer science creates opportunities not only for studying technologies and implementing them in practice, but also for radically renewing the knowledge acquisition system. This article discusses the role of computer science in the educational process and its importance in modern education.

Keywords: computer science, education, technology, digital competence, modern education, teaching methods.

Introduction

Information science, due to its development, provides new opportunities and approaches to the education system. The rapid development of information technologies in the 21st century is changing the learning styles of students, their study methods, time management and information processing. Now, the scientific and practical aspects of computer science play an important role not only as the basis of technological progress, but also in the formation of digital competence of each person. Therefore, the role and importance of computer science in the education system are constantly increasing. Main part The role of computer science in education The role of computer science in the education system is increasingly increasing, because the methodology and technologies of this science create new opportunities for teachers and students. The main goal of computer science is to teach students modern technologies, develop skills in analyzing data and using them correctly. Also, computer science is increasingly integrated into other areas of education.

For example, mathematics, physics, economics and other subjects are taught more effectively with the help of computer science technologies. Computer science and digital competencies in modern education The importance of computer science in modern education is that digital competencies play an important role in the life of every citizen. Digital competence is a person's ability to effectively use information technologies, apply technologies to solve problems, as well as collect, analyze data and make decisions using them. Teaching digital competencies is not only the task of computer science, but also important for all levels of the education system. Therefore, computer science occupies a special place at all stages of education. The role of computer science in improving the educational process

The importance of computer science in the educational process lies in its role in improving teaching methods and the learning process. Computer technologies and online learning platforms increase the efficiency of the educational process. By making lessons interactive, using virtual laboratories, and using distance learning systems, opportunities have been created to introduce students to various skills.

Also, the individualization of the educational process is carried out with the help of informatics. Individual study directions are developed based on the interests and characteristics of students, which allows students to learn effectively. Informatics and the development of students' creative thinking Informatics not only teaches technologies, but also develops students' creative thinking and problem-solving skills. Through computer programming, algorithms and systems, students learn new ways to implement their creative ideas. At the same time, by

studying informatics, students develop logical thinking, systematic communication, and analytical skills.

This helps them to be successful not only in scientific fields, but also in everyday life. Informatics and creating new opportunities in society Informatics plays an important role not only in improving the educational process, but also in creating new opportunities in society. Information technologies create new opportunities in areas such as employment, entrepreneurship, healthcare, culture and art. The study of information science in education allows students to understand not only practical skills, but also economic and social processes. This helps them to have a better idea of their place and role in society.

Information science plays an important role in modern education, as it allows students not only to study technologies, but also to develop innovative thinking and digital competencies. The study of information science at all levels of the education system not only prepares students for the modern world, but also helps to improve their activities in society. Also, the introduction of information science into the education system improves the quality of education and provides students with new knowledge and opportunities. Therefore, the importance of information science in education is constantly increasing and it is becoming one of the main factors in the development of education. Today, everyone thinks about the future, especially about our children, and in particular about their education. By sending children to school, they gain the necessary knowledge during their studies and develop in all aspects, so I believe that parents should place the responsibility for their children's education on the shoulders of schools and teachers.

In this regard, there is a need to reconsider the modern positions and values of the educational process, to improve the new educational standard of general education. Currently, researchers and educators around the world are increasingly interested in the young and rapidly developing science of informatics. Nowadays, informatics has become a fundamental science. The object of its study is information, its structure and methods of its processing. In recent years, the school course "Informatics and ICT" has entered a qualitatively new stage of its development. In particular, views on what is meant by computer literacy have changed. At the beginning of the introduction of informatics in schools, computer literacy was understood as the ability to program. Now it is clear to everyone that school informatics should not be a programming course. Nowadays, a school informatics teacher is one of the most difficult and interesting professions. A teacher is obliged to closely monitor the development of computer technologies, the emergence of new programs, and changing techniques and methods of working with them. A computer science teacher is constantly faced with the question: "What and how to teach? How to teach a child to navigate in the rapidly developing world of information technologies?" To do this, we need to constantly improve ourselves, we need personal determination and a constant desire to learn what is happening in the world of information technologies and in the pedagogical sphere. Studying computer science at school helps students master modern information and communication technologies. Practice shows that children apply the knowledge gained in computer science lessons and use it in preparation for other subjects, for example, when preparing a report, say, a presentation in a literature lesson. Therefore, a computer science teacher, like no one else, must interest students in their lesson and their subject. Computer science lessons also affect the creative development of schoolchildren. A computer in the classroom not only controls the student's work, but also strengthens his knowledge, skills and abilities. and helps to identify their strengths and weaknesses. Only in our lessons can children reveal themselves not from a side unrelated to the formulation of the answer, but from a side of technical knowledge.

We should not forget that often in the classroom there are children who show themselves to be more developed in the information world. The problem is to help these children develop a positive attitude towards both information and their classmates. Before talking about the

problems and prospects of teaching computer science in a secondary school, we should discuss the main problem - children's awareness of the importance of computer science as a subject, as well as a clear description of the scope of its application. The Internet, electronic libraries and books, digital audio-video-photo devices, mobile phones, tablets, pocket computers and communicators, social networks, blogs create in modern schoolchildren the idea that about 20 years ago we were in an absolute information vacuum, where there was nothing but prohibitions. Based on the above, we can formulate the main problems of teaching computer science. School computer science is the youngest and, perhaps, the most problematic of all school subjects (due to the weakness of the material and technical base and the availability of personnel). The problems solved in the study of computer science also apply to other subject areas of knowledge - physics, mathematics, astronomy, etc., therefore, the study of computer science has a meta-subject nature. The high pace of ICT development forces the teacher to constantly use materials from computer periodicals and Internet resources. Currently, children should not only know about the existence of a computer, but also have an idea about it, but also work on it, be able to use this technology. Computer science is not about objects or processes, but about methods, tools and technologies for their automation, creation and operation. This science involves not only its in-depth study, but also the practical application of knowledge, skills and abilities to modernize one's own education, as well as optimizing the learning load.

References:

1. Murodov, O. T. R. (2023). INFORMATIKA DARSLARINI TASHKIL ETISHDA INNOVATSION USULLARDAN FOYDALANISH. *GOLDEN BRAIN*, 1(32), 194-201.
2. Murodov, O. T. R. (2023). Zamonaviy ta'limda axborot texnologiyalari va ularni qo'llash usul va vositalari. *Educational Research in Universal Sciences*, 2(11), 481-486.
3. To'raqulovich, M. O. (2024). OLIY TA'LIM MUASSASALARIDA AXBOROT KOMMUNIKASIYA TEXNOLOGIYALARI DARSLARINI TASHKIL ETISHDA ZAMONAVIY USULLARDAN FOYDALANISH. *PEDAGOG*, 7(6), 63-74.
3. Kutliev, U., Karimov, M., Sadullaeva, B., & Otaboev, M. (2018). Investigation of the ion scattering process from the A3B5 semiconductors by the computer simulation method. *Compusoft*, 7(4), 2749-2751.
4. Mukimjonovich, O. M. (2022). Cluster as innovative approach to pedagogical education. *Journal of Positive School Psychology* <http://journalppw.com>, 5(10), 1500-508.
5. Sulaymonov, M. O. M. (2022). Some Second Order Differential Equations Functionally Invariant Solutions. *JournalNX*, 8(12), 584-591.
6. Устаджалилова, Х. А., & Отабоев, М. М. (2016). Построение правильных многогранников на чертеже, как развивающий фактор развития конструктивных умений и навыков учащихся академических лицеев. *Актуальные научные исследования в современном мире*, (12-1), 93-98.
7. Eshmuratova, L. (2023). Characteristics of Diagnosing Children's Readiness to Study AT School. *American Journal of Pedagogical and Educational Research*, 12, 1-4.
8. Отабоев, М. М. (2022). ЎҚУВЧИЛАР ҲУҚУҚБУЗАРЛИГИНИ ОЛДИНИ ОЛИШНИНГ МЕТОДОЛОГИК ПРИНЦИПЛАРИ. *Academic research in educational sciences*, 3(12), 643-647.
9. Rakhmatullaev, R., Ermatov, V., Yusufaliev, A., Aynaqulov, K., & Otaboev, M. (2024). Substantiation of the rotary pin installation's working bodies parameters for processing of dried grapes. In *E3S Web of Conferences* (Vol. 497, p. 03017). EDP Sciences.
10. Otaboev, M. M. (2023). CLASSIFICATION OF EDUCATION. *Mental Enlightenment Scientific-Methodological Journal*, 149-152.

11. Отабоев, М. М. (2022). УМУМТАЪЛИМ МАКТАБЛАРИДА СИНФ РАХБАРИНИНГ ТАРБИЯ ТЕХНОЛОГИЯСИ. *Academic research in educational sciences*, 3(12), 654-600.
12. Жалолов, Ш. У., Усманов, А., & Атабоев, М. (2021). ИСПОЛЬЗОВАНИЕ ОПЫТА ОРГАНИЗАЦИИ МЕТОДОВ КОНТРОЛЯ ЗНАНИЙ СТУДЕНТОВ. *Экономика и социум*, (4-1 (83)), 888-891.
13. OTABOEV, M., KHODJAMKULOV, U., RAJABOV, F., MAKHMUDOV, K., & SUSILAWATI, A. INTEGRATING GLOBAL RANKING STANDARDS INTO NATIONAL HIGHER EDUCATION: ADVANCING SCIENCE AND TECHNOLOGY IN UZBEKISTAN'S REFORM AGENDA.