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THE ROLE OF COMPUTER SCIENCE AT SCHOOL AND IMPROVEMENT OF TEACHING METHODOLOGY (METHOD)

AUEZOVA RAYA TILEUBAEVNA
Nukus State Pedagogical Institute Named after Ajiniyaz "Methods of Teaching Computer Science"
Assistant Teacher of the Department

QUNNAZAROV AMANGELDI QUATBAEVISH
Nukus State Pedagogical Institute Named after Ajiniyaz "Methods of Teaching Computer Science"Assistant Teacher of the Department

SAXANOVA LIZA JAMEXATOVNA
Nukus State Pedagogical Institute Named after Ajiniyaz "Methods of Teaching Computer Science"
Assistant Teacher of the Department

ABSTRACT:

Computer science and Information Technology (Computer science and IT) is the ability of the younger generation to master the technologies of information processing and the processes of their use. The development and growth of students' scientific outlook, ability to think logically, intellectual development, and self-awareness are largely dependent on information technology. This article discusses the importance of computer science in the educational process and its teaching methods.

KEYWORDS: Computer science, Information Technology, methods of teaching computer science, objectives of computer science and etc.

INTRODUCTION:

It is well known that education is the decisive factor in the future of any country. In today's information age, traditional education is a sign that the country has no future. In order to make teaching more effective, scholars recommend the use of a variety of interactive methods, depending on the nature of the lesson. One such interactive method is the organization of lessons through IT. Information technology is used wisely, using the latest advances in computer technology and other high technologies, the latest means of communication, software and practical experience to solve the problems of effective organization of the information process in order to save time, labor, and energy and material resources in all areas. Therefore, the demand for more in-depth study and teaching of computer science in schools, colleges and higher education institutions is growing, and in 2019, the resolution of the Cabinet of Ministers of the Republic of Uzbekistan "On additional measures for the development of national content on the Internet" was signed. According to this resolution: Ensuring the implementation of the State Program for the implementation of the Action Strategy for the five priority areas of development of the Republic of Uzbekistan in 2017 - 2021 in the "Year of Active Investment and Social Development", as well as the main goal was to support the creation of educational and useful web resources aimed at shaping, broadening the worldview and developing creative potential. The resolution also raised the issue of further improving e-learning resources for preschool, secondary and higher education systems, as well as providing access to local and global educational resources.

Admittedly, some schools do not have the equipment to be proud of. We can also see a shortage of specialists in the field of computer science. Anyone who wants to acquire knowledge of computer science has 2 things: an information technology tool (computer, laptop, tablet or smartphone) andan IT instructor.

Computer science is a general education subject and should be viewed from a systematic point of view, which is determined by the specific features and tasks of secondary education. The difficulty of accepting computer science as a science is that the issues in it also apply to physics, mathematics, astronomy, and computer science has an interdisciplinary relationship. Today, children should not be limited to the knowledge of the existence of a computer, not only to have an idea about it, but also to be able to work it freely, to know how to use this technique. Computer science is not about objects or processes, but about the ways, means and technologies of their automation, creation and operation. This science provides not only its in-depth study, but also the practical application of knowledge and skills to modernize their knowledge and optimize the acquired knowledge. In computer science classes, the concept of systemic perception of the world, reforming the general interrelationship of events in nature and social spheres is developed.

The content of school computer science must to a certain extent meet the level of development of the science and the requirements of society. The development of computer technology, especially the rapid updating of personal computers and their software, is contributing to the spread of all areas of human activity. This, in turn, highlights the need to train and retrain professionals who can deliver computer science to children at an excellent level and who are able to teach with high-quality information technology. The emergence of new computer technologies also has a significant impact on the expansion of educational topics in the field of computer science education. Computer technology is evolving so fast that no matter how hard one tries, education is still one step behind.

This raises a question. So what and how to teach in computer science and information technology? What are the modern educational technologies and methods of teaching computer science and information technology? We will discuss these in more detail in this article.

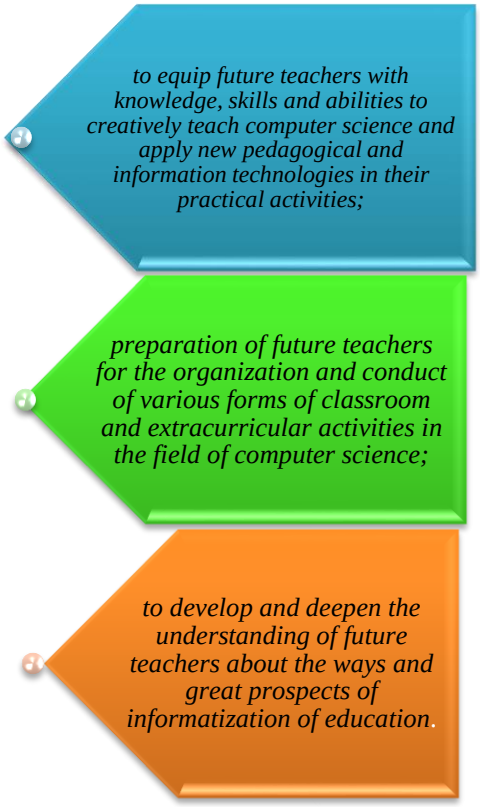
From the above, we can conclude that computer science is a specific field of human activity that organizes, establishes and manages the methods of data generation, storage, transmission and processing using computer technology.

It is clear from this definition that the field of computer science is very close to the field of technology, so this science is sometimes called information technology. The process of performing various operations on information is the task of information technology. The main technical means of information technology is a computer. Depends on their ability to use it effectively. Computer science and information technology as a branch of applied science is engaged in:

- Study of the laws of information processes (collection, processing, dissemination of information);
- Creation of communication and information models in various spheres of human activity, etc.

The science of computer science and information technology differ from each other primarily in the size and depth of their content. The subject of computer science and information technology provides students with information that will form a coherent system of knowledge about computer science and will be

necessary for future practical activities. Computer science and information technology as a subject are reflected in curricula and textbooks. One of the features of the methodology of teaching computer science and information technology is the need for students to master the content of science and its specific methods of scientific research, to determine the methods and ways of acquiring practical knowledge and skills. These include methods of studying the material and the organization of training based on modern pedagogical and psychological research. In order to effectively teach computer and information technologies, schools and educational institutions in general need to have an appropriate material base, ie a specially equipped computer room.In general, the teaching of computer science has the following objectives:



Now, if we talk about modern educational technologies and methods of teaching computer science and information technology, when the term method is translated from Greek, it means a way to achieve a certain goal, a way of working. Teaching method refers to the way in which teachers and students work together to achieve an expected goal in the learning process. According to them, the most appropriate activity is to master the content of education. The teaching method refers to the systematic interconnected activities of the educator and the learner, aimed at solving the problems of teaching, upbringing and development in the teaching process. Teaching methods determine how the teacher and learner work in the learning process, how to organize and conduct the learning process, and what actions students should take in the process. The following main issues are considered and addressed in the field of methods of teaching computer science and information technology:

- What are the goals and objectives of teaching computer science and information technology;
- What should be the content of computer science and information technology as a subject;
- In what order should the learning material from IT and information technology be placed and delivered to the students;
- What methods, forms and tools should be used to fully and in-depth study of computer and information technology teaching materials.

In other words, the methodology of teaching computer science and information technology is faced with three traditional questions:

- Why study computer science and information technology (i.e. define goals and objectives)?
- What do you need to learn (i.e. define content)?
- How to teach computer science and information technology (ie to identify

effective teaching methods and tools within the chosen form of teaching)?

In short, the purpose of studying the methods of teaching computer science and information technology is to develop and shape a personal methodological system in teachers. Also, modern educational technologies and methods of teaching computer science and information technology are:

- ✓ methods of scientific research (observation, experiment, comparison, analogy, analysis and synthesis, generalization, abstraction, concretization and classification),
- ✓ unit methods (explanatory-visual, demonstration, book work, reproductive, heuristic (educational discovery), problem situation, research, design method, case-study method, lecture, story , verbal guidance, explanation, interview methods, practical training, laboratory work,
- ✓ Inference methods (induction, deduction and analytical method).

CONCLUSION:

Computer science is increasingly influencing the process of further development of society. It is becoming a determining factor in the overall potential of society and the prospects for its development. Informing society is the most important component of modern civilization. The science of computer science is becoming a basic technically fundamental science of information and information processes in nature and society, and from now on the general educational and practical significance of the school computer science course will continue to grow. Accordingly, the methodology of computer science and information technology is improving.

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