

## ANALYSIS OF PROBLEMS IN TEACHING IT AND INFORMATION TECHNOLOGIES IN GENERAL EDUCATION SCHOOLS

Nazarova Shakhnoza Shokirovna,  
Namangan Institute of Engineering and Construction,  
"Information technologies in technical systems"  
intern teacher of the department  
phone: +998902154990

### Annotation

This article is focused on the analysis of the problems and their observations in the teaching of computer science and information technologies during the teaching process. It is hoped that this analysis will serve as a guide for authors, teachers, consultants and other interested persons. In the article, common problems in the teaching of Informatics and Information Technology in secondary schools, such as: Provision of teaching materials: With the rapid development of Informatics and Information Technologies, the compilation of current and latest news into teaching materials and access to them is important. This article highlights the challenges of updating, developing, and making these materials accessible to institutions.

**Key words:** general education schools, informatics and information technologies, teaching, problem, problem analysis, teaching materials, teaching resources, teaching methods.

In order to analyze the problems of teaching informatics and information technologies in secondary schools, there are several important points. These problems can be related to students, teachers, and the application of the learning process.

**Resources and infrastructure:** Explaining the resources and infrastructure needed to teach computer science and information technology in secondary schools is problematic. These resources include facilities such as computers, internet access, software and tools, and electronic laboratories. This challenge involves providing students with the tools and resources they need to learn successfully.

**Teacher training:** Teacher training and knowledge is essential for teaching computer science and information technology. Some teachers may not have a strong background in information technology. This can affect the students' well-being. Teachers should also be engaged in high-quality training and updates.

**Textbooks and Teaching Processes:** Curriculum, textbooks and teaching processes are very important in teaching computer science and information technology. Textbooks should allow students to review information, practice, and develop development skills. Teaching processes should be interactive, practice-oriented and using innovations.

**Student numbers and groups:** In comprehensive schools, large numbers of students can be a problem. In this case, students may have to study in groups. In this, the breadth of the groups, the connections and initiatives of the students are of great importance.

**Programming and new technologies:** In the field of computer science and information technology, news and programming languages are updated frequently. This means that it is necessary for teachers and schools to familiarize themselves with new technologies, use them and teach them to students. In such cases, teachers and schools must be well prepared to teach new technologies.

In general, the problem of teaching informatics and information technology in secondary schools includes explanations of resources, teacher preparation, textbooks and teaching processes, student numbers and groups, programming and the use of new technologies. In order to solve these problems, resources and preparation should be well organized, teachers and students should be given opportunities for additional learning.

We will try to analyze the problems of teaching informatics and information technologies in general education schools. Informatics and information technology is one of the world's developing fields and is important for the study and implementation of scientific and practical knowledge of every citizen. This subject provides students with the knowledge and skills they need for future leadership and development.

**Challenges:** Many years of experience in the field of information technology at the level of authors and speakers: We can see that innovations and developments in the field of computer science are happening every day. Thus, teachers and authors cannot update information on science in time, so the issues of full use of modern technologies in textbooks and curricula are not completed.

**Simplification of technologies and the cost of products:** We see the prices of computers, tablets, smartphones and other devices necessary for the study of computer science and information technology on the rise. This will be a future problem for families who will be able to purchase equipment for students or schools who receive their own devices.

**Lack of high-quality training of teaching staff:** Since innovations in the field of informatics occur frequently, teaching staff must be constantly updated with new knowledge and skills and be confident in innovations. In order to teach such students, teachers must also be updated.

**Increasing interest in science:** Interest in learning computer science and information technology should be increased. However, for some students, continuous instruction, interactive lessons, and hands-on exercises are needed to increase interest in science. Students are not interested in only theoretical textbooks, and they may end up having difficulty in implementing theoretical knowledge.

**Rapid updates of technologies and fields:** Since innovations in the field of computer science occur frequently, rapid updates are also needed in the processes of writing and publishing

textbooks. New topics, fields, and technologies will increase, requiring textbooks to be updated in a timely manner and authors to present them.

In general, there are problems in the teaching of computer science and information technology in secondary schools, but these problems should be worked on and prepared to provide important knowledge and skills for future students. It is important to use interactive methods and news to engage students. Also, it helps to update the personnel of teachers and use international cooperation, to update science information and textbooks.

Incorporation of informatics and information technologies (IT) into the general education program, at the same time, ensures the further strengthening of students' knowledge in other subjects and is aimed at the application of medieval information and communication technologies in their coordination. This subject strengthens students' attention, helps them to analyze problems, solve problems and develop analytical skills.

However, there may be several problems in teaching Computer Science and Information Technology in general education schools:

1. Teaching staff and resources: Successful training of teachers is necessary for the development of specialization in computer and information technology. Compared to other subjects, the field of IT is developing rapidly, so teachers need to have the latest information and keep up with the news. Institutions must have the necessary funding and resources to ensure this readiness.

2. Teaching technologies and tools: An important part of teaching IT science is the right choice of tools used in the lessons and the right preparation for them. It is necessary to prepare students for practice, to know the used programs and tools for the teacher to use and monitor in the lessons.

3. Infrastructure and access to the Internet: An important part of teaching computer science and information technology is the provision of access to and access to the Internet. This requires high-speed internet connections, computer labs, teaching aids and successful servers for programming language in the institutions.

4. Methods of Teaching Programming: An important part of learning to program is understanding the methods and styles of teaching coding. Teachers should use creative and hands-on methods to help students learn to express themselves and apply programming.

These problems are only some of the most important issues analyzed in the teaching of computer science and information technology in secondary schools. Institutions and teachers should strive to cooperate in time, follow developments in the field of IT, keep pace with innovations, develop lesson plans and update the tools used. In doing so, students are given the opportunity to develop their programming, problem analysis and problem solving skills.

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