

## MODERN TEACHING METHODS IN COMPUTER SCIENCE AND ICT

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**Abstract.** *In this article the modern methods of training in computer science and ICT.*

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Each teacher is working on the question: how to organize the educational process in such a way that students form an active attitude to educational and cognitive activities, based on the position of life and professional self-determination of students. What training methods and techniques or technologies may be most effective in this regard. Today I would like to talk about one of the methods of training, which, in addition to other methods can have an effective impact on the organization of the educational process.

Modern interactive methods

Interactive (inter- is an active act- action) means the ability to interact or be in the mode of conversation, dialogue with someone or something.

Interactive learning-is a special form of organization of cognitive activity, a way of cognition, carried out in the form of joint activity of students. All participants interact with each other, exchange information, jointly solve problems, model situations, evaluate the actions of others and their own behavior, immerse themselves in the real atmosphere of business cooperation to solve the problem.

The goal of interactive learning is to create comfortable learning environments, such that the student feels his or her success, his or her intellectual wealth, which makes the learning process itself productive.

In interactive learning, the learning process is organized in such a way that virtually all students are involved in the learning process, they have the opportunity to understand and reflect on what they know and think.

Teaching methods

Teaching methods are a set of techniques and approaches that reflect the form of interaction between students and teachers in the learning process.

From the first days of the training to the present day, three forms of interaction between teachers and students have been developed, established and widely disseminated

1. Passive methods;
2. Active methods;
3. Interactive methods.

For illustrative purposes, I will present the following diagrams.

1. Passive method

The passive method (Scheme 1) is a form of student-teacher interaction in which the teacher is the main actor and manager of the lesson, and the student acts as passive listeners, subject to the instructions of the teacher. Teacher's communication with students in passive lessons is carried out through surveys, independent, test work, Tests and so on. d. In terms of modern

pedagogical technologies and the effectiveness of students' learning material passive method is considered the most ineffective, but, despite this, it has some advantages. This is a relatively easy preparation for a lesson by the teacher and an opportunity to present a relatively larger amount of teaching material in a limited period of time. Given these advantages, many teachers prefer the passive method to the other methods

## 2. Active method

The active method (scheme 2) is a form of interaction between students and a teacher, in which the teacher and the student interact with each other during the lesson and students are not passive listeners, but active participants of the lesson. While in the passive lesson the main actor and the lesson manager was the teacher, here the teacher and student are on equal rights. Many people equate active and interactive methods, but despite the commonality they differ. Interactive methods can be considered as the most modern form of active methods.

## 3. Interactive method

Interactive method (figure 3). Interactive («Inter» is mutual, «act» is acting) - means interaction, is in the mode of conversation, dialogue with someone. In other words, in contrast to active methods, interactive are focused on the wider interaction of students not only with the teacher, but also with each other and on the dominance of student activity in the learning process. The place of the teacher in the interactive lessons is reduced to the direction of students' activities to achieve the goals of the lesson.

Therefore, the main components of interactive lessons are interactive exercises and tasks that are carried out by students. An important difference between interactive exercises and tasks from the usual is that performing their students not only and not so much reinforce the already studied material, but learn new.

The subject itself of «informatics and ICT » is quite universal. I believe that it is in the study of this subject you need to use interactive methods, because every day informatics is improved and developed in step with scientific and technical progress and it is not advisable to stop and use traditional methods.

In conducting computer science lesson. I consider the choice of method depending on the didactic task. Setting myself the task of generalization of previously studied material, I use the method «Brainstorming», «Group discussion», «Business game», «Situation analysis», «Work in small groups», «Work in pairs».

### *Method «Situation analysis»:*

I use it to discuss the problems that virtually all participants face in a model situation. Situations when working on a computer - computer viruses, connecting additional devices, searching for information in the Internet, etc.

### *Method «Business Game».*

During the business game, students play roles in a scenario related to the topic of training. Business games are well spent in the final lessons studied topics - text editor MS -Word, spreadsheets Excel. Students perform tasks as different roles. For example, one group is a computer firm that builds and sells computer hardware, the other group is buyers.

### *Method of «BRAINSTORMING».*

During brainstorming, participants freely exchange ideas as they arise, so that everyone can develop others' ideas.

Problems for «brainstorming» in the study of computer science:

Is the computer harmful to human health?

The Internet is about solving your professional problems.

Computer viruses are like protecting a computer.

Information technology is your profession.

The role of mathematics and physics in the creation of computer science and other.

Method of «Small Group Discussions».

The application of the method of discussions in small groups can be applied in the study of any topics of informatics, when repeating, consolidating, studying new ones.

Project method

Information technology requires more skills than knowledge. Therefore, it is the practical activities of students that should be given priority in computer science classes. It can be activated by the project method of training. The most important point here is the result of the actions performed. Therefore, the result of any practical work must necessarily have personal significance. The ideal way to solve this problem may be this method.

So, I often use this method of learning: students develop projects within and outside the classroom, using mainly the Microsoft PowerPoint program.

**Conclusion.** Having mastered the computer science and ICT technologies of communication in networks, a student can be included in such educational process in a college where subject teachers use new pedagogical approaches (cooperation training, group work, project activities, multi-level and modular training etc.

In this learning process, the student ceases to be only the object of teaching influence - he becomes the subject of interactive, communicative interaction with the teacher.

Through active use of interactive and project teaching methods and information and communication technologies in the educational process, it is possible to achieve the educational results necessary for living in the information society.

The personal involvement of the teacher, its direct inclusion in various forms of interactive learning, is essential for the implementation of interactive learning. Introduction of information and communication technologies into the practice of our college opens up great opportunities for improvement of educational methods, for exchange of experience and creative approach to teaching.

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