

## METHODOLOGY OF ORGANIZATION AND TRAINING OF PROGRAMMING FUNDAMENTALS CLASSES FOR SCHOOLCHILDREN

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### Annotation

The ubiquitous transition to high-tech systems in all aspects of human activity has led to an increase in demand for specialists who are able not only to service such systems, but also to improve and develop new ones. What tools should be used for teaching? Based on the analysis of the requirements of educational and professional standards developed in accordance with the requirements of employers and the realities of the information society, a unified approach to the organization of programming education in schools is presented.

**Keywords:** Differentiated, Teaching using the basics of programming, processes, assignments.

From the first days of our independence, special attention has been paid to improving the education system in our country in order to train specialists who think in a new and creative way, meet the requirements of the times, and educate students as highly moral and perfect people in the spirit of pride and loyalty to the motherland.

If we look at the past of the world's leading countries, we can see that the reforms aimed at improving and radically changing society's life began in them, first of all, from the education system, pre-school education, general education schools, and the issue of education.

Teaching with the help of programming principles is a modern pedagogical and information technology that takes into account the personal characteristics, learning abilities, motivation, perception of information, understanding of abstract concepts, ability to work with historical data and systematization, physiological capabilities of the learner. is an effective training aimed at developing knowledge, skills and competencies based on technologies. Education with the help of programming principles is considered as the main principle of differentiation and individualization of education.

From this point of view, when organizing lessons for 9th grade students in general secondary schools with the help of programming principles, the following are:

- formation of students' ability to assimilate information and obtain independent knowledge from various resources;
- increase students' knowledge and develop thinking;
- improving the integration of new information with previously acquired knowledge;
- to develop the ability to apply theoretical knowledge in practice and in complex situations;
- to check that students have correctly understood and mastered the educational materials;

- students have the opportunity to test their knowledge independently;
- formation of practical skills and qualifications;
- to activate the attention of students, taking into account individual psychophysiological characteristics;
- should ensure individual education of students.

If we consider the educational process as an information process, then education is the process of obtaining and processing new information suitable for the functioning of the organism in the social environment.

Today, it is not effective to use only electronic education or traditional education or use of advanced educational technologies in the organization of training processes. The reason is that each type of education has advantages and disadvantages. Therefore, the combined use of these types of education is now giving good results in the field of education, and it is called mixed education.

Differentiated (differentiated) education is an effective teaching strategy adapted to different learning styles of educational content and processes in each class.

The following elements are used to organize the differentiated educational process:

content - tools used to provide teachers with theoretical knowledge and practical skills;

processes - exercises and practices performed for students to better understand the content of the subject;

tasks - materials such as tests and projects for students to demonstrate their knowledge.

Each teacher should regularly analyze the strategy of differentiated education that he uses. For example:

- Do you use different materials and teaching methods in the lesson? (by content)
- Do you offer one-on-one, small group, and large group activities that allow students of various skill levels to master the content? (by process)
- Do you help students understand the content through various methods such as tests, projects, assignments? (on assignments)

In this way, teachers adapt their approach to the intelligence of students of different levels. A differentiated learning strategy helps students master lessons and demonstrate their understanding of the subject by diversifying the content.

Teachers often spend extra time creating differentiated lesson plans for students with different levels of ability, or most don't always have the time. To eliminate such problems, the following technologies can be used in the teaching process.

The class is divided into 4-5 areas in the organization of educational areas. Different content is developed by the teacher for each area (for example, in one area of the classroom, a video is shown, in another, crossword or puzzle tasks, in another, text materials, etc.). Students choose the one they like from these fields. Each area uses a unique teaching style to deliver content.

In addition to giving different topics as project topics, students can be encouraged to come up with their own ideas and bring them to the end of the concept. In this case, the student should show how his project product meets the set criteria and be open to the teacher's criticism.

If the presentation does not meet the requirements, the student can be recommended to improve his idea and offer another date.

The results of some projects can be surprising. Because the students themselves are at the center of differentiated education, that is, they know their learning styles and their abilities well.

The main forms of teaching of "Informatics and information technologies" in general secondary schools are theoretical and practical training.

Providing knowledge about new concepts, laws and ideas in theoretical classes, developing scientific outlook and consciousness, increasing and developing the knowledge, skills and abilities acquired by students in previous classes, with previous and subsequent materials providing communication, practical application of the learned theoretical knowledge, orientation to the profession, educational and practical works are carried out.

Any educational activity should be a scientific and creative work, designed for a specific purpose, taking into account the needs of learners, and guaranteed to give a positive result. The development of a technological map for classes requires creativity, responsibility and dedication from the pedagogue. Below, we recommend the technological map prepared for the subject "Informatics and information technologies" of the 9th grade of general secondary schools and the methodology of using the created Informatics and IT (Basics of Programming).

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