THE ROLE OF INFORMATION TECHNOLOGY IN TEACHING STUDENTS IN THE CLASSES OF GEOMETRY

S.T.Qosimova
Assistant, Fergana polytechnic institute

ANNOTATION

In this article, the effective use of information technology in teaching students by classification in geometry classes is studied.

Key words

Geometry, modern computer, information technology, sound engineering.

Unlike a modern computer, as information technology tools, sound techniques, static and dynamic projection technical tools affecting the human senses, i.e. analyzers, checking the student's knowledge, using it as any educational material A teacher may mention small cybernetic machines.

The reforms carried out in the education system envisage the teaching of subjects in general secondary schools in new ways. In this regard, specific tasks were set for geometry education along with all academic subjects. The use of information technology in working with stratified groups in geometry classes will greatly help the teacher. It is envisaged to use information technologies in the following forms during the educational process:

- computer lessons in teaching certain subjects;
- computer lessons as visual material;
- students' group and team work, etc.

In the computerization of geometry lessons, we organize education at 4 different levels based on the interest of students:

the first - for those who do not continue their education after graduating from high school;

the second - for those who want to engage in social specialties in the future;

the third is for students who plan to study in a technical direction;

the fourth is an additional degree for students who plan to study mathematics in depth.

We divide students into these levels according to their answers to the following survey questions: Your class, Name and surname, Where and who do your parents work? , Your parents' attitude towards mathematics (mathematical major, use mathematics in their work, interested in mathematics, not interested in

mathematics), Do you have books related to mathematics in your home library (except for textbooks), Who helps you the most in preparing mathematics lessons , How much time do you spend on math homework, Why do you study math (to get good grades in class, so that people at home don't fight, I'm very interested in math), Do you want to learn information outside of textbooks, Is learning math easy for you (easy, a lot of memorization, difficult), Your attitude to mathematics (I like it, boring, I want to learn it), What kind of knowledge did you have in mathematics before leaving school (counting up to 10 and backwards, adding within 10, solving simple problems) , What kind of mathematics tasks do you like (problem, example, example and problem), Do you want to connect your life with mathematics (I want to become a mathematician, I want to enter a mathematics-related OO'Y, I am interested in fields other than mathematics).

Students divided into groups are assigned tasks of different complexity. These can be recommended to students in the process of working with textbooks, homework, handouts, creative and written work. Basic information technology resources, tools and methods can be used in the course of the lesson. Information technology tools include computers, scanners, video glasses, VCRs, audio recorders, LCD monitors, projectors, fax machines, modems, and printers.

Information technology methods:

- different teaching methods (innovative, interactive, traditional and non-traditional);

- distance learning;

- consists of internet network, electronic communication, satellite communication systems.

The use of information technology is observed at all stages of the lesson (in the example of the geometry lesson):

- knowledge verification (test, oral survey);

- explanation of a new topic - use of traditional drawing devices;

- explaining a new topic on the computer with the help of zooming and moving devices;

- subject strengthening - students' performance of tasks of different levels on the computer.

The algorithm developed by the teacher is distributed to the group members at the beginning of the lesson.

The use of information technologies in geometry lessons gives students the opportunity to develop spatial imagination, logical thinking, learn practical methods of geometric measurement and construction. The main thing is that information technology develops the ability to read information in the form of

drawings, diagrams, tables , and provides an opportunity for independent reading and learning.

Today, in our independent Republic, the process of development of education, search for the most optimal forms, tools and methods of training is being carried out on the basis of the requirements of the "Law on Education" and the "National Program of Personnel Training".

Introducing modern information technologies into the education system is one of the main directions of its reform. Because it makes it possible to create a methodical basis of "information flow", which includes factual educational materials, which are the basis for demonstrating the systematic and explanatory function of theoretical knowledge. Information technology allows the student to fully understand the character (description) of the object, to independently change the parameters and working conditions of the object, and to actively apply it to the process of learning. In this regard, information technology not only has a positive effect on the student's understanding of the structure and operation of the object, but also plays a significant role in his intellectual development.

The analysis of all the positive experiences collected in the use of information technologies in the teaching of school geometry courses in our republic and a number of foreign countries made it possible to identify the following problems in this regard:

The problem of the ratio of the amount of information (information flow) that can be presented to the student by the computer and the amount of information that the student can acquire, understand, and master.

is a traditional way of knowing , and according to the concepts of dialectical logic, it is possible to move from the phenomenon to the essence, from the particular to the general, from the simple to the complex. Such a step-by-step transition allows the student to move from the simple description of the object to the formation of concepts, generalization and systematization, and then to the determination of the essence of various orders. Today's new way of knowing, with the rapid development of science and technology, is fundamentally different because it works with a large "flow of information". Because this new way makes it possible to quickly move to the stage of systematization related to classification and to immediately determine the various essences. But the speed of such a transition is limited in terms of the natural possibilities of man for understanding and systematizing and classifying evidence. Therefore, it is not possible to accurately express the ratio of traditional and information flow of educational information.

2. The problem of students' ability to master educational materials with the help of computers (individualization of teaching in the classroom system as much as possible).

It is known that as a result of the use of educational software tools, individualization of the teaching process occurs, that is, each student learns the educational material according to his own plan. As a result of such training, after 1-2 lessons, the result of mastering new educational material will be different . This indicates that the teacher cannot continue teaching according to the traditional classroom-lesson system. The main task of this type of teaching is to ensure that students are at the same level before learning new educational material and that all the time budget allocated for their work is occupied. This can only be achieved by using a variety of technologies, including instructional software tools of varying degrees of sophistication. At this time, the student quickly assimilates the presented educational information, can work on separating complex parts of this topic and strengthening the studied educational material. In this case, a weak student can learn only the minimum amount of material necessary for learning the next educational material . In such an approach, it will be possible to apply differentiated teaching and different levels of teaching in traditional teaching conditions to solve the problem .

3. The problem of the ratio of "human" and "computer" thinking. These two ways of thinking are fundamentally different. Because "computer" thinks only in binary number system. Human thinking is multifaceted .

The process of introducing information technologies to education is quite complex and requires fundamental thinking. When using information technologies in education, it should not be forgotten that the student is not a machine that can work and think according to the algorithm proposed to him . In order to solve this problem, the teacher should widely use the traditional teaching method together with the computer teaching method. Because using different teaching technologies, on the one hand, we teach students different ways of receiving educational materials (using textbooks, teacher's explanation, reading information on the display screen, etc.) . On the other hand, training and control programs should give the student the opportunity to create his own algorithm of actions. The student begins by applying and systematizing the existing knowledge to real conditions.

4. The problem of creating virtual images. The student can work with modeling software tools and create various objects that can deviate from the realistic limits by changing some of their parameters . At such a time, due to the inexperience of the student, there may be a risk of not being able to distinguish a virtual entity from a real one . In order to create pedagogical software tools that incorporate modeling elements, it is necessary to include appropriate comments in the software tool, which will prevent the student from going beyond the real limits in the process of using information technologies.

The analysis of the research on the problems of applying information technologies to the process of teaching the school geometry course shows that until now very little attention has been paid to the issue of the joint use of traditional and computer teaching methods in classes. The use of computer programs together with traditional teaching methods is an important methodical principle. In order to implement it, it is necessary to choose the optimal option of the traditional teaching method with computer programs during training planning. The presence of feedback allows training to be conducted taking into account the individual characteristics of the student.

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