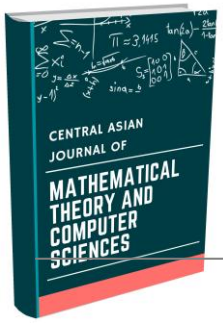

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ROLE AND SIGNIFICANCE OF INNOVATIVE SOFTWARE AND DIDACTIC COMPLEXES IN THE EDUCATIONAL PROCESS OF GENERAL EDUCATION SCHOOLS

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Abstract

This article shows that information technology, in particular innovative program and didactic complex, is an important tool to improve the efficiency of the educational process in secondary schools, and relevant recommendations are presented.

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It is known that the second stage of the continuous education system is the general education school. The purpose of the State Education Standard for this system is to organize the general secondary education system based on socio-economic reforms implemented in the country, best practices of developed foreign countries and science and modern information and communication technologies, to educate a morally mature and intellectually developed person.

The flow of information is so large that it is impossible to receive this information and keep it in mind. A person who keeps up with the times cannot necessarily use all of this information. At the same time, information and communication technologies are rapidly entering our lives every day. These technologies have become the main helper of representatives of all fields, starting with pedagogues-teachers.

Information technologies can be used by every teacher to create *didactic and handout materials, slides, and lesson plans* for their classes [2].

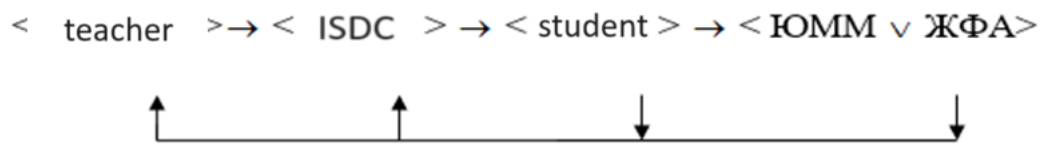
The use of information and communication technologies in the educational process is the main helper in improving students' worldview, knowledge and skills and independent knowledge acquisition. Students will have the opportunity to repeat the new knowledge given by the teacher, solve independent examples, and check their knowledge. For this, first of all, all general education schools should be fully equipped with computer equipment, and students should be computer literate.

Today, teachers of general education schools have the opportunity to continuously improve their skills using modern technologies. This process has been systematically implemented in the education sector of our republic, and this system is especially important for school teachers located in remote districts of our country.

The historical changes taking place in the society, and in our republic as well, in the educational system require the development of a new, modern model aimed directly at increasing the effectiveness of education instead of the traditional model of education. Of course, no matter how deep and meaningful a model is created, it will not solve all the existing problems. However, as noted above, a meaningful model, in particular an educational model, undoubtedly allows to understand the trends and approaches in it, to define an educational strategy [3].

Suppose $[0, T_1]$ is the period of activity of a certain teacher, $[0, T_2]$ is the period of residence of a certain student. Below | (i.e., a vertical line) symbol is used to mean "or" and the combined symbol ::= (two colons and an equal) is used to mean "exists by definition"; $\vee$ symbol in the record K1 $\vee$ K2 means that either K1 or K2 or both components can be present at the corresponding position.

Based on the above definitions, the educational model corresponding to the "lifelong learning" paradigm can be presented in the form of the following scheme:



scheme 1

The given scheme is proposed as a **formalized, multicomponent** and **cyclical** model of education [1].

This model is called formalized based on the fact that its components are defined according to certain definitions. The reason why it is called multi-component is that each component can have many or different sub-components at the same time.

At this point, let's pay special attention to what the < teacher > component in scheme 1 means. This subject of the educational process is a permanent learner and may be a participant in other educational process or processes as a <student>. Variants of this component in scheme 1 are expressed in the conditions of Uzbekistan by the following metalinguistic structure:

< teacher >::=<parents>|< PPEI >|< SSS >|<CS >|< ALS >|< PS >.

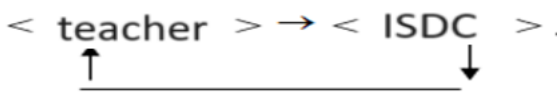
scheme 2

If we define the <reader> component by means of a metalinguistic structure, the following contents are real in the conditions of Uzbekistan:

<student>::=<boy>|<PPEI >|<SS student>|< college student>|< academic lyceum student >|<HEI student> |<master >|<doctoral student >|<engineer>.

According to scheme 1, school teachers as learners

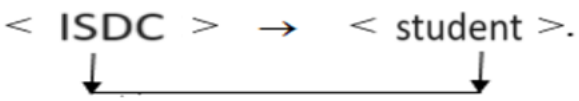
< teacher > will be able to improve his knowledge with < ISDC >. That is,



scheme 3

The following example shows the learning process of the <student> component in scheme 1 through ISDC prepared for subjects.

An example. Let the pentanomial be of the form { ¬, ∧, ∃, ∃, ¬, ¬ }. In this case, the model of the following variant is formed:



scheme 4

This model reflects the process of self-education on the basis of information technologies, in particular, innovative software didactic complexes, if there are enough innovative and didactic complexes for the studied subjects or specialties in the conditions of distance participation.

Observations and short-term tests conducted in educational institutions showed that along with the achievements of the educational process organized on the basis of computer technologies, there are also negative aspects:

- failure to create a method of using computer tools for students;
- change of morals of junior school age students as a result of staying in front of the computer for a long time;
- they feel connected to the computer and stay away from writing, drawing, and calculating;
- psychologically incorrect thinking;
- constantly wanting to sit in front of the computer, striving for various meaningless games on it, etc.

In our opinion, paying attention to the following will have the desired effect:

1. *To properly introduce the computer to the child.* In this matter, the teacher conducting training should pay attention to the following:

- ✓ to give an understanding of the advantages and disadvantages of the computer to students of junior school age;
- ✓ to follow the norms when working with a computer;
- ✓ to raise the imagination of young students that computer technology is an educational tool.

2. *Computer education for elementary school students.* The teacher conducting the training should pay attention to the following when conducting educational activities on the computer:

- ✓ teaching elementary school students to perform simple tasks on a computer, that is, to write, draw and calculate on a computer;
- ✓ accustoming students to work diligently on the computer;
- ✓ teaching elementary school students to tell stories about computer images;
- ✓ adequate familiarization with the wide possibilities of the computer, etc.

In general, the use of media education technologies based on computer technologies in the educational process of general education schools increases the effectiveness of the training and causes the students to become more active.

References

1. Yuldashev Z.Kh., Ashurova D.N. Innovative-didaktic program complex and new formalized model of educftion. Malaysian Journal of Mathematical Sciences 6(1):, P.: 97-103. (2012). (Scopus)
2. Ashurova D.N. Innovative-Didactic Program Complex as Mean of Implementing New Education Paradigm. *Eastern European Scientific Journal (Gesellschaftswissenschaften): Düsseldorf (Germany): Auris Verlag, 2018,* № 3. P. *380-386.*
3. Ashurova D.N., Shokirova D.Sh. The importance of non-standard tests in monitoring the level of achievement of students' educational goals. Eurasian Journal of Mathematical Theory and Computer Science 3(4), 43-47