CHARACTERISTICS OF APPLIED COMPUTER TECHNOLOGIES IN PRIMARY SCHOOL

Abstract. The purpose of the study is to consider the problems of primary education, which is under the influence of computer technologies, its influence both on the structure and on the development of students' thinking. Noting the quality of new computer technologies, which is associated not only with their content, but also with their structure, especially with its forms and methods, resources, interactive methods, directions of integration, as well as ways of their implementation, the teacher's ability to performilitating functions.

Method and Methodology: The methods of theoretical research, observation and interviews were used in the scientific research.

Novelty: Depending on the purpose of the lesson, knowledge of the features of computer technology used by primary school teachers leads to increased results and achievements. The theoretical and practical significance of the study lies in the fact that its results allow us to find out how computer technologies used in the educational activities of younger students affect them, to highlight their positive and negative sides. The practical significance of the study can be judged by its results in school practice, the use of computer technology by teachers.

The result of the study: Summing up, the author comes to the conclusion that any subject taught with the help of computer technology effectively and adequately affects the student. It is emphasized that the most important thing in the learning process is the use of means and methods that can more clearly explain to the student, in the end, they will master the topics taught. As a result, such developmental conditions motivate students to be active, form their skills in modeling, schematics, algorithms, create favorable opportunities for interest in sculpture, painting, needlework and other similar areas.

Keywords: computer technology, junior schoolchild, thinking, resource, development.
ХАРАКТЕРИСТИКИ КОРISTУВАНИХ КОМП'ЮТЕРНИХ ТЕХНОЛОГIЙ У ПОЧАТКОВИХ КЛАСАХ

Анотацiя. Мета дослiдження – розгляду проблем початкової освiти щодо впливу комп'ютерних технологiй, впливу її як у структурi, i розвитку мислення учнiв. Наголошуючи на якостi нових комп'ютерних технологiй, якi пов'язанi не лише з їх змiстом, а й з їхньою структурою, особливо з її формами та методами, ресурсами, iнтерактивними методами, напрямками інтеграцiї, a також способами їх реалiзацiї, здатнiстю викладача виконувати фасилiтаторськi функцiї.

Метод та методологiя: У науковому дослiдженнi використовувалися методи теоретичного дослiдження, спостереження та iнтерв'ю.

Новизна: Залежно вiд мети уроку знання особливостей комп'ютерних технологiй, що використовуються вчителями початкових класiв, призводить до пiдвищення результатiв та досягнень. Теоретична та практична значущiсть дослiдження полягає в тому, що його результати дозволяють з'ясувати, як впливають на них комп'ютернi технологiї, що використовуються у навчальнiй дiяльностi молодших школярiв, видiлити їх позитивнi та негативнi сторони. Про практичну значущiсть дослiдження можна судити з його результатiв у шкiльнiй практицi, використання вчителями комп'ютерних технологiй.

Результат дослiдження: Пiдбивши пiдсумки, автор приходить до висновку, що будь-який предмет, що викладається за допомогою комп'ютерних технологiй, ефективно та адеквaтно впливає на учня. Наголошуються, що найголовнiше в процесi навчання, це використання засобiв i способiв, якi можуть зрозумiлiше пояснити учнiвi, зрештою, будуть освоянi ними теми, що викладaються. В результатi такi умови розвитку мотивують учнiв до активностi, формують u них навички моделювання, схематики, алгоритмiки, створюють сприятливi можливостi для інтересу до скульптури, живопису, рукодiлля та iнших подiбних областей.

Ключовi слова: комп'ютернi технологiї, молодший школяр, мислення, ресурс, розвиток.

Introduction. In modern times, it is important to study the requirements for the resources and computer technologies used in the lesson, as well as the requirements for the active lesson. First of all, it should be noted that the requirements for computer programs for primary school students, as well as programs in different languages, are developed by the International Federation of Information Processing (IFIP) under the auspices of UNESCO.
The purpose of UNESCO is to form a culture of computer use in the young generation of all developing and developed countries, to ensure that students have access to the best educational resources necessary to fully fulfill their social roles in modern society and contribute to the creation of public goods.

In addition, the application of computer programs is considered one of UNESCO's priority political tasks due to the main role played by information technologies in modern society. Currently, trends in the global market for the need for well-trained ICT personnel are steadily increasing, giving a clear impression of the need for effective computer science learning at all levels.

Therefore, UNESCO experts emphasize the importance of the development of the material-technical base of this type of projects at a sufficiently high level, and the availability of the required number of computers and peripheral equipment. Failure to comply with these conditions can have a negative impact on the results of education.

It is also important to promote computer science more widely with the help of teachers in other subjects. For example, when studying natural sciences, mathematics, foreign languages, social sciences, art, music, biological sciences, some computer capabilities can be used well: word processors, desktop publishing systems, graphics, spreadsheets, databases, speech recognition, modeling and imitation, statistics etc.

The rules of using modern computer technologies and the formation of skills in this field consist of several stages.

1. Automation stage - important components of the information infrastructure are still under development.
2. Informatization stage - the movement towards the individual use of computerization tools and the configuration of information systems are characterized by the stage carried out together with users.
3. Communication stage - the most developed stage where computer networks are built, implemented during cooperation between users and became an important part of computer science infrastructure.

The described program is designed for countries at 2 stages of development and should be adapted to other conditions.

**Depending on local conditions, the following modules differ:**

1. Basic level modules - mandatory attendance for school students (usually up to 16 years old). As a rule, this includes general computer literacy.
2. Additional modules of computer literacy are aimed at the program of incomplete secondary school and complete secondary school (lyceum).
3. Advanced modules for secondary school students. These modules are designed for students who are preparing to enter universities and students who plan to find job after appropriate technical training.
Computer science defines several tasks in front of educational programs:
1. Computer literacy. Learning how to use computers wisely in everyday life is especially important. The task must be resolved in an incomplete secondary school program.
2. Use of tools in other subjects. This is a task for secondary and lyceum students.
3. Use of computer subjects in other subjects. This problem is solved in secondary school.
4. Use of computer science in professional activity. This problem should be solved within the framework of professional education in the complete secondary school program.

Due to the fact that it is related to such important issues, provision of information-communication technologies to Azerbaijani schools is considered necessary in the program:
- equipping schools with modern computers;
- use of new information technologies by teachers, administrative and technical staff;
- development of the methodical base on the use of information and communication technologies in education;
- preparation and application of electronic materials, textbooks and libraries, digital educational resources used in Azerbaijani language;
- creation of distance education service, educational portal and websites for students.

In F. Azimov's explanation, the concept of computer technologies is clarified in a differential manner. "Technology" is derived from the combination of the Greek words "techne" (mastery, skill), "logos" (learning, cognition) and means a collection of knowledge about the methods and means for the performance of production processes and processes themselves. Information technology is the process of obtaining information (information product) about the state of the object, process, and event being studied using methods and tools for data collection, transmission, and processing" [1, p.13]. The author also distinguished 3 main principles of modern information technologies (picture 1).

**Fig. 1. Basic principles of information technologies**
Besides these, it should be noted that information technologies have a number of technical characteristics. With the help of information technologies, information processed in an automated way (for example, by a computer) is usually delivered to users through computer output devices (monitor, printer, graphics device, etc.) in the form of text, tables, graphs, etc.

It is already known that the computer network plays a special role in the mental development of the growing generation. Not only the elderly, but even preschool children have become users of mass media, especially computers. We also see from our own experience that a kindergarten-aged child spends part of his time at home either watching cartoons and advertisements, or playing various games on a mobile phone or tablet. Young school children watch programs and play computer games according to their interests. Teenagers and youths spend their leisure time mainly in the virtual world or searching for things on the Internet.

K. Asadpour clarifies several directions of using technology in the educational process:

1. Information technology has a strong influence on the activities of students at all levels of education. In most developed societies, children use information technologies in all areas of education from the age of 5-6.

2. With the expansion of training and educational technology, it becomes easier to obtain the required knowledge even if it is in different locations.

3. As a result of the use of technologies, beautiful and colorful images, interesting graphics and sounds are created. This increases the enthusiasm of students to work several times, they enjoy working with the computer. Computer technologies save students from memorization. They are given the opportunity to choose.

4. Education based on technology allows students to apply what they have learned in class: data selection, input, program preparation, etc. On the one hand, this allows the student to determine whether what he has learned is correct or not, to reveal the correct answers, on the other hand, to avoid mistakes and self-control.

5. The main issue in technology-based education is the effective use of computers, SD cards, diskettes, websites, e-mails, etc. as teaching aids for students and teachers. Because using them can facilitate education and increase the scientific level of students. This method is useful and effective for students because the efficiency of education and their training activities improves the conditions of the educational institution and teachers [2, p. 409-411].

He groups the skills of using ICT in the teacher's activities as follows: use of programs, multimedia technologies for preparing presentations (video films, animations, etc.), electronic test, educational program, game, interactive board and National education portal, etc. In addition, during the processing of computer
technologies, the pedagogical skills, work skills and other such issues of the teacher who will apply them, also act as an important factor. Taking into account the above, one of the main issues that face us in the research is characterizing computer technologies.

Acquaintance with the features of computer technologies applied for primary classes shows that they are prepared depending on the age characteristics of the students studying in the classes, various subjects, as well as a number of factors of the pedagogical process, serving different purposes. Therefore, it is not correct to have a one-way approach to computer technologies applied in primary schools.

These technologies are multi-faceted and multi-content. In addition, as we mentioned, during the processing of computer technologies, the pedagogical skills, work skills and other such issues of the teacher who will apply it also act as an important factor. Taking these into account, one of the main issues facing us in the research is to characterize the psychological nature of computer technologies. Authors conducting research in this direction take as a basis three directions in the field of new technologies applied in education [3, p. 2-5]:

a) organization of students' understanding (cognition) activity;

b) management of this process;

c) various signs of the teacher's interaction with students.

The conducted classification, on the one hand, creates a clear picture of the variety of learning technologies that activate cognition, and on the other hand, it allows determining the location of effective technologies for students' cognitive activity.

Currently, the following are the leaders in the psychological content of computer technologies:

1) tasks and communication;

2) computer games (role-playing, business and educational, etc.).

The mentioned ones themselves serve many areas according to their content:

* regulation of cognitive processes and the development of intellect, cognitive activity;

* development of inventive abilities and creativity;

* information-communication, cooperation (in a team, group work);

* personality development, self-regulation and cognitive activity;

* help with problematic training;

The technologies used in training activities are delivered to students through presentations and multimedia tools. Using the presentation, you can use different forms of organization of cognitive activity: frontal, group, individual. Multimedia presentation meets the most optimal and effective three-unit didactic goal of the lesson:
- educational aspect: students' understanding of educational material, understanding of connections and relationships in educational materials;
- developmental aspect: development of interest in understanding among students, generalization, analysis, comparison, activation of students' creative activity;
- upbringing aspect: upbringing of scientific outlook, ability to clearly organize independent and group work, development of a sense of companionship, mutual assistance.

During the application of computer technology, the following functions are included in the teacher's work [5]:

1. Organization of the educational process at the class level in general, at the subject level as a whole (schedule of the educational process, external diagnostics, final control).

2. Organization of activation and coordination within the classroom (timeline of the training process, external observation, management of intra-class relations, etc.).

3. Individual supervision of students, provision of individual assistance, individual contact with the child. When using the computer, the teacher manages to raise the level of learning and mastery of students by using visual images, sound (music, text, etc.).

4. Preparation of information environment components [various types of training, demonstration equipment, software and systems, teaching and visual aids, etc.]. They should be related to the content of specific topics.

In order to successfully solve these issues, researchers offer teachers a system that takes into account favorable conditions, requirements for a supportive environment, teacher-student relationships, and regional characteristics of the learning environment.

What was said can be grouped in several directions.

**Fig. 2. The content of computer technologies**
We also see from experience that it is possible to increase students' interest in subjects with the help of computer technologies even in primary classes. By using topics related to nature, society, ecology, health, culture, they form new scientific concepts, the relationship of these concepts to everyday life, and their connection to the topics covered in various subjects, including creating a new taste and a new worldview in students. They choose the means they want when organizing various events related to what they have learned (task, game, study, exercise, test and so on).

As it can be seen, in the modern era, computer technologies perform the mediating function between the educational material and the psychological capabilities of the student's understanding in the pedagogical process. When using any technology, giving students the opportunity to observe, follow, compare and, most importantly, think, increases the productivity of acquisition.

It should also be taken into account that currently, it is an important condition for young schoolchildren to create conditions for their own educational activities independently in a dialogue environment, rather than stereotyping towards people, especially the class teacher. At this time, he also acquires the skills to work on the information provided by technologies aimed at comprehensive mastering of given tasks.

Computer technologies used in the pedagogical process established in the educational activity of young schoolchildren have two main properties [6]:

- organization of free developmental activity at the student's desire, not for the results of the activity, but for the sake of having fun during it (procedural satisfaction);
- this significantly improvised activity has a very active, creative character ("the field of creativity").

The characteristics of computer technology differ according to age periods. Therefore, taking into account the psychological requirements, the technology applied in each age period is adapted to the activity. We can follow this relationship in the table below.

<table>
<thead>
<tr>
<th>Age periods</th>
<th>The nature of technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior schoolchildren</td>
<td>understanding, developmental</td>
</tr>
<tr>
<td>Teenagers</td>
<td>socially important</td>
</tr>
<tr>
<td>Young people of early age</td>
<td>educational-professional</td>
</tr>
</tbody>
</table>

The facts obtained on the systematic and efficient activity of the specialists working in the school include the maximum possibilities of the existing education,
the professional training of the teachers, and the high indicators of understanding-assimilation of the students. These are not the results of any theoretician, educational ideologist, school researcher, but advanced subject teachers currently working in the practical field, precisely in the field of application of computer technologies. Our conclusion is that there are various computer technologies that have a positive effect on the mental development of young schoolchildren. Based on these analyses, we can divide them into several groups in terms of content (Figure 3).

**Fig.3. Computer technologies affecting the mental development of young schoolchildren**

The content and ways of organization of new computer technologies that have a positive psychological effect on young schoolchildren are among the main issues that researchers are currently thinking about. From this point of view, visibility, creativity, cooperation and collaboration of the educational process are preferred. In the process of improvement and variation of computer technologies, more attention is paid to their functions to serve the stated issues.

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