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Use of Innovative Technologies in Teaching Natural Sciences in Elementary Grades

Mirzabekova Gumshagul Xojabekovna

Senior Lecturer, Department of Primary Education, NSPI

Abstract: In this article, it is emphasized that the use of modern technologies is an important factor in improving the quality and efficiency of natural sciences. Opinions were expressed about the fact that classes based on multimedia tools increase the effectiveness of education, strengthen knowledge, and freely use them in practice to form skills and qualifications.

Key words: multimedia, innovative, animation, digital educational resource, audio, communication, graphics, video, competence.

INTRODUCTION

The experience of using multimedia tools in the process of national education of Uzbekistan is being formed. Because it is also the need of the hour. Today, effective use of modern computer and information technologies is considered the main factor in improving the quality and effectiveness of natural science. The use of "multimedia lessons" allows to increase the quality and efficiency of the teaching process of physics and chemistry. Multimedia, or digital learning resources, help students better engage with mental imagery by using a variety of media elements that support information processing. Research on the use of multimedia for education shows that students who combine pictures and words have more positive results than those who use only words [2].

MATERIALS AND METHODS

From the pedagogical point of view, multimedia tools are a new computer-based approach to the educational process of elementary school students. In this way, it is an important tool in increasing the level of efficiency of the educational process among students. For this reason, it is recommended to use "Multimedia lesson", "Slide lesson", "Seminar lesson", which represent the main aspects of the problem-solving and pedagogical technologies that develop in the study of elementary school lessons. A seminar lesson is a lesson that gathers independent performances of students and creates a basis for discussion when necessary. In such classes, the teacher acts as a guide, while students engage in learning activities as independent, creative individuals with their own opinions.

RESULTS AND DISCUSSION

The use of "multimedia lessons" allows to increase the quality and efficiency of the educational process. In this process, the teacher: - Presents the educational material visually; - Can quickly deliver new material; - Can manage the speed and volume of information with the help of animations; gives thousands. In order to facilitate the study materials of chemistry and physics in natural sciences, the study materials are divided into related parts, and then the tasks are planned to be performed sequentially to increase the efficiency of learning. In this case, the general view of the school, the blooming of flowers around the school, the words "Welcome" written on the school desk, and the children carrying their bags to school are displayed in an interesting way on the monitor

screen. The important thing is that the educational materials studied in this technology are performed on the basis of multimedia. Rapid and rapid development of science, technology and production spheres, raising the quality of education in all educational institutions to a new level in terms of content, especially "... improving the quality of education, education standards, educational programs, improvement of textbooks and manuals, issues of wide introduction of advanced pedagogy and information-communication-technologies" are gaining relevance today in the primary education system, especially in mother tongue education [3] education with the help of audio, video and multimedia tools is one of the innovative activities to develop students' knowledge, skills and abilities. Currently, in many developed countries, the teaching method is being implemented using multimedia tools in the field of education. In fact, every family has become without multimedia tools and entertainment. Practice shows that the effect of teaching elementary school students on the basis of multimedia tools is 2 times more effective than the traditional method and it is possible to save time. On the basis of multimedia tools, it is possible to save up to 30% of time in learning, and the acquired knowledge is retained in the memory for a long time. If the students receive the given materials on the basis of sight, the retention of information in memory increases up to 25-30%. In addition, when educational materials are presented in the form of audio, video and graphics, retention of materials increases by 75% [4]. We were once again convinced of this in the process of learning foreign languages based on multimedia tools. Summing up the above points, it should be said that in developing the quality and effectiveness of primary education, the teacher's professional competence and level of education, child psychology, and thorough knowledge of modern pedagogical information technologies are important. For this reason, we should not forget that at the moment, pedagogues and program creators unite and create multimedia textbooks from various subjects, which will give the expected results to increase the effectiveness of education.

Today, different methods are used for the improvement and development of each field, as well as different methods is used in the field of education. Therefore, it is appropriate to use the methods of didactic game technologies in the teaching of natural science classes, because the variety of methods used in natural science classes increases the student's interest in science.

The unique aspect of didactic game educational technology, unlike traditional education, requires the cooperation of primary school students to organize educational activities without prohibiting their independence and academic activities. Consciously directing them to their activities is considered to increase students' interest in learning the basics of science through effective organization, not to implement any activity by command, and to give them the right to freely choose without limiting the possibilities of individual needs and interests.

In conducting such lessons, the teacher must first of all work creatively in order for the student to gain full knowledge of science, to be moral, to develop the talent of choosing a profession, and to acquire the good qualities of our people. The teacher should be alert and attentive to the student, taking into account his interests and abilities, and treating him like a coach. Only after that, the didactic game technologies used in the lessons activate the students' cognitive activity, independent work on textbooks and additional literature, development of the culture of speech and communication, consciously guide them to the profession, get the target correctly in eliminating the difficulties that arise during the didactic game, analyze various situations, prepares the ground for making the right conclusion [6].

Based on the many years of experience and observations of Methodist teachers, it was noted that didactic games are one of the most convenient and effective ways to make science lessons and extracurricular activities meaningful, among other subjects. It is shown that the use of didactic games in the lesson increases students' interest, skills and abilities aimed at deep acquisition of awareness. Also, in order to increase the effectiveness of the educational process, the need to use a number of innovative technologies, including role-playing games, cluster, businessmen's game, etc. in science lessons, was discussed.

M. Kholmetov stated that the main purpose of the state requirements for the education of children of preschool age is to raise the next generation physically and mentally healthy, that the concept of pre-

school preparation includes the areas of mental and special preparation of the child. He thought about his ability to complete the assigned tasks.

J. Tolipova and N. Numanova pointed out that modern educational technologies can be used to implement all the tasks included in the independent type of continuous education system. It shows ways to use modular education, didactic game education, and problem-based education technologies in the educational process of general secondary schools.

Another necessary condition for the implementation of modern education is the creation of conditions in which every teacher and student can freely use the sources of information on educational subjects, including those that allow quick and convenient use of new information technologies. That is, now, in order to provide quality education, it is necessary to organize an activity consisting of a service that provides necessary information to the teacher and student. This direction is called the direction of introduction of information technologies into the educational process. Expression of this information in logical forms that students can understand constitutes verbal communication between the student and the teacher.

There are different forms of verbal communication, the main of which include speaking, talking, asking questions, answering questions, arguing, debating, informing, advising, admonishing, reprimanding, congratulating, greeting, saying goodbye. Speech intonations used in these forms of verbal communication allow deepening and clarifying the meaning of the speaker's thought in accordance with his goal. The teacher introduces new information based on the concepts known to the student and explains it. In this process, students are engaged in activities of concentration, listening, hearing, understanding, perception, logical thinking, memorization, recall. In this case, the student's interest, need, interest, ability, talent, talent will be the basis of his success.

Many scientists refer to the object of education as the purpose, content, laws, methods and principles of the teaching process. Improving the education system can be considered as an innovation process of introducing modern pedagogical technologies. Here we understand "innovation" as an approach that is introduced to improve the activities of students of a certain class and is accepted as new by the subject of this innovation.

CONCLUSION

Didactic game lessons used in elementary school science education have the following advantages:

- students prepare for didactic game lessons with great interest, as a result, the efficiency of acquiring new knowledge is high;
- didactic game lessons are important for primary school students to test their strength, knowledge, talent when choosing a profession for the first time, as well as preparing them for life. Based on this, creating instructional and methodological manuals that improve modern forms and methods of education, taking into account the age-specific characteristics of teaching natural science in elementary grades;
- it is recommended to improve the modern knowledge, scientific-methodical training of elementary school teachers in order to further improve the theoretical knowledge, practical skills and qualifications of students in institutions of retraining of public education workers and improving their qualifications.

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