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Modern Technologies in Improving the Quality of Teaching

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Abstract--- *It is known that today, almost all modern students come to the family with the knowledge and even the ability to use information and communication technologies before entering the secondary school. They are truly born in the information age and are growing up with modern communication devices, computers and other gadgets and their functions without understanding the world around them. In this case, the most important task of primary school teachers is to give students a basic understanding of these devices and the rules of their use. The role of the first teacher is important in building students' initial capacity to choose the right information for them from the world of information. Not only explanatory work in the process of teaching, education and upbringing, but also the level of ICT use in primary education, the introduction of ICT in the teaching of other key subjects in the curriculum is of great importance. In the process of improving the quality of lessons, teachers need to have the potential in the field of ICT to teach in accordance with modern requirements. This is one of the most important tasks of the continuing education system today. In general, the concept of potential in the field of information and communication technologies refers to a person's ICT literacy, that is, the ability to use it properly in everyday life and in professional activities.*

Keywords--- *Educator, Staff, Information and Communication Technologies (ICT), Lesson, Student, Process, Result, Skill, Independent Learning, Technology.*

I. INTRODUCTION

The potential of the educator's knowledge in the field of ICT is realized through their professional development in this field. In order to improve the quality of the lesson, teachers need to regularly improve their skills in ICT, as well as to improve their knowledge through independent education in order to comply with the requirements of modern education system. In addition, it will not be profitable for teachers to use various scientific-practical conferences, seminar materials, forums of teachers, which are now becoming available for the purpose of sharing experience with partners, through the internet.

Thus, the introduction of ICT and the use of the Internet to improve the quality of lessons provide the following opportunities in the field of teacher professionalism:

- Serves to increase students' interest in the lesson;

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- Provides many opportunities for teachers to take a creative approach to their profession;
- Provides a wide range of opportunities for independent learning and distance learning for teachers.

The modern teacher and his method of passing the lesson are obliged to differ greatly from those of teachers and their methods of passing the lesson even 10-15 years ago. Today's teacher needs to be able to make wide use of computer and ICT and Internet network opportunities. I believe that they are obliged to use educational programs, digital educational resources and information resources, to find the necessary information and to choose the appropriate ones for solving educational issues, to know the use of Information Media, as well as scanner, digital photography device and video camera, digital microscope, projection equipment.

In the preparation of teaching staff for pedagogical activity, it is necessary to provide in-depth knowledge of the educational process information and information technology system. At present, the use of modern facilities provided by information and Communication Technology (ICT) in the teaching process is an important factor in increasing the effectiveness of the educational process. ICT in the educational process serves not only the formation of knowledge and skills in this field, but also the expansion of their worldview, the impact on their personal qualities, the development of learning, the increase of their interest in knowledge.

The fact that this is emphasized in the studies of many scientists, media materials also testify. ICT also strongly affects the development of creative thinking of students. The figurative expression of information in the process of giving knowledge to the students contributes to the further enrichment and easy assimilation of the instructional material. In general, much is emphasized about the fact that the introduction of ICT into the educational process has the following advantages:

- ICT tools are important factors in increasing students ' involvement and interest in science acquisition in the educational process;
- Motivates students to intellectual activities;
- Provides students with positive opportunities in preparation for various Olympiads, quizzes, competitions in the subjects.

II. MAIN PART

Referring to innovative technologies that improve the quality of the lesson.In this case, Innovation - the introduction of innovation, novelty, change, the term is mainly associated with science and technology. However, Innovation is becoming more and more popular in its activities related to human life, especially in the process of pedagogical education, using new technologies and making great strides in teaching and education [1, 14].

Innovation is the introduction of technical news, technologies, scientific achievements and best practices, improving the quality and effectiveness of education in the education system, the introduction of new pedagogical technologies in the educational process.

Innovative technologies are methods and tools for bringing innovations to life. The process of restructuring pedagogical technologies by updating existing ideas and hypotheses [2, 17].

By introducing innovative technologies into the educational process, the teacher will have to prepare himself for

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the new environment. It is necessary to work together on scientific and methodological work to create our own modern pedagogical technology, relying on new technologies, rich experience accumulated in the country, combining them with innovative technologies. We need to move to the creation of a system of "Innovative Schools" on the basis of our own modern innovative pedagogical technologies.

Such schools use information and communication technologies in all subjects. Then, instead of "teacher-teacher", a "teacher-computer-student" system is formed [2; 18].An innovative approach to the educational process is necessary to develop in students the desire to gain new experiences, to understand creativity and critical thinking, to cultivate a desire for the future.

Technology - Greek "techne" - art, "logos" - reading (knowledge, education). Technology in the broadest sense is the volume of knowledge, and in the narrowest sense is the method of reorganizing (radically changing) existence [3, 23].In the history of mankind, it is believed that man originally created the technology of friction to catch fire. Thanks to technology, a modern lifestyle has been achieved. Technologies can be classified into innovative technologies, machine-building technologies, information technologies, telecommunication technologies.

The current stage of development of society is characterized by direct, technological improvements. Modern technological processes affect any industry [4, 8].

New technologies are changing, especially in the information system. The use of information and communication technologies and computer technology is developing. Their use in the field of education of the Republic has become a topical issue of our time, improving the quality of teaching, increasing and expanding the horizons of students, strengthening their independent learning. Informatization of education, along with the acquisition of information and communication technologies by students, leads to the acceleration of knowledge and skills acquired in the field of science. These processes lead to different methodological approaches as a result of scientific research.

Distance networking courses and competitions are becoming more popular day by day. The teacher is no longer the only center for the transmission of knowledge, but the opportunity to teach and receive distance learning using technology. The birth and development of the Internet is due to the development of computer technology, not the telephone or television. Today, the development in this area is much faster than the development in other areas. The Internet is a huge space that is bearing the fruits of globalization and making it an unmanageable process.

The last century, in the field of science and technology, was called the period of the industrial revolution. The 21st century has entered history under the name of the information age. Today, information communities are being established in the spirit of the times [5, 106-107].

In particular, a lot of work is being done on the integration of technologies that are developing independently of each other, the ways of loss between the telephone, television and computer. Examples are the Internet and mobile phones.

History has shown that radio took 40 years to reach a large audience. Television has achieved this in 14 years. It took the Internet only 4 years to reach a global audience. Consequently, the Internet today includes not only the

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press, but also radio and television [6, 32].The system of information and communication technologies includes: didactic approach to information technology, information and pedagogical technologies, education in drawing lessons in distance learning.

We are witnessing the rapid development of information technology, which opens up new opportunities and requires a new approach to the educational process in educational institutions [6, 34].There are a number of didactic possibilities of information technology in education. Depending on the needs of our time, information technology educational institutions can be considered as a systematic, connecting, practical organizational factor. Information technology allows for the collection of information, such as libraries, documents and students' creative work, the creation of databases, the systematization of the educational process, the organization of practical creative work of students.

All of these tools allow students to practice the skills they have developed in the classroom under the supervision of a teacher [7, 83].The Internet allows students to quickly get acquainted with the work of educational institutions, to place their opinions. Surveillance can be distributed online and received via local email.This type of work helps to model networking forms of distance learning in the classroom.

Distance networking courses and competitions are becoming more popular day by day. The teacher is no longer the only center for the delivery of knowledge, but is able to teach and receive distance learning using computer technology [3, 52].

Students are often interested in self-learning through the Internet, interacting with their peers, and finding common ground. Such activities shape network interactions, providing students with a sense of telecommunications capabilities, and a means of meeting and collaborating with peers in other countries.

Information technology tools allow the reader to express their ideas in "electronic form" and check the competitiveness of their products, the popularity of their ideas. In order to create a truly interesting and unique resource for the student, he must first study all the information, understand the nature of the psyche of its requirements, determine the novelty of the resource and understand its practical significance. All this is related to the formation of the student's own knowledge, the ability to determine his practical direction in life [8, 114].

Today, the society puts before the teachers, who are the most honorable professions, not only to educate the students, but also to develop their personal qualities. The main purpose of the educational process is not only to provide knowledge and education to students, but also as a way to shape their personality. In this regard, modern information computer technology has a wide range of substantive possibilities.

Unlike simple technical means of education, ICT not only provides students with a large number of ready, rigorously selected, appropriately organized knowledge, but also the intellectual, creative abilities of students, the independent acquisition of new knowledge, a variety of allows you to develop skills in working with information sources. The use of e-textbooks helps to solve the following didactic problems:

- Mastering basic knowledge of science;
- Systematize the acquired knowledge;

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- Teach to answer very confusing questions;
- Develop skills to work independently with learning materials using ICT;
- Develop self-control skills;
- Motivation to study and learn science in general;
- Provide educational and methodological assistance to students in their independent work on educational materials;
- To provide a favorable learning environment and opportunities for independent selection and search of sources of information, ie to prepare students for exams in a short time, during which they develop many useful general education skills [4, 63-65].

One of the advantages of using multimedia technologies is to improve the quality of education through a new type of activity, interest in working with computers. The use of computers in science lessons can be a new way to make activities more visual and engaging, so that students can organize their activities actively and consciously.

The use of ICT in science lessons: allows to accelerate the activities of teachers and students; improving the quality of science teaching; reflect the important aspects of the objects by applying the principle of demonstration in practice; allows us to consider the most important features of the studied objects and natural phenomena (in terms of learning goals and objectives) [9, 140].Power Point is one of the most popular software tools used to support various presentations, theses, and more. Any user of a personal computer can own it.

But for most people, working on Power Point uses only text and images. Some “advanced” users can create graphics or graphs [9, 141-142].Animation is used to “animate” a presentation. You can place videos where there is not enough animation. When the topic of the lesson is presented to students in the form of animation through ICT, it expands their understanding of this information, makes the topic clearer.

The purpose of providing educational information in this way is to create a system of imaginary images in students. Presentation of educational materials in the form of multimedia presentations reduces learning time and saves children's health resources. This is possible due to the interactive features of e-learning applications, which are well adapted for students to organize their cognitive activities independently [5, 73].It is advisable to use multimedia presentations at any stage of the study and at any stage of the lesson. The use of more video lessons to explain, review, and reinforce new material in each subject is effective. The material is presented easily and clearly through video lessons.

The advantage of using video lessons is that you can pause during the exhibition, discuss what you have seen, and ask students questions. Children need to draw conclusions from what they see. Demonstration time should not exceed 10-15 minutes, then the type of activity should be changed [7, 67].Students will also be able to download video lessons for homework.

The video lesson itself can take many forms, for example, there are three main types of lessons:

- In explaining a new topic;
- Strengthening knowledge, skills and competencies;
- Generalization and control of knowledge, skills and abilities.

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The effectiveness of a lesson depends largely on the skillful choice of teaching methods and structure. Modern pedagogy recommends not only to get rid of a number of stereotypes, but also to create flexible teaching methods [10, 52].The impact of computer technology on students' learning activities is unmistakable: it can be fun to learn new information as computer games become part of the learning process. Computer technologies are used in education on the basis of existing methods that have been modernized in accordance with the requirements of modern education [2, 85].

Reinforcement of knowledge, the development of interest in the subject, the creation of crossword puzzles that give students creative tasks, the use of rebus, handouts on each topic in each subject. Crossword Forge is a great program for creating crossword puzzles. To create a crossword puzzle, you only need to create a series of questions and answers, and the rest of the process is done automatically. The program allows you to use custom colors for backgrounds, fonts and text sizes. You can also use any image for the puzzle. In addition to traditional vertical horizontal crossword puzzles, the program allows you to create verbal puzzles where the user has to find the words related to the crossword puzzle topic. You can also import and export dictionaries. As a result, you can save it as an image, text file, or SWF file that can be uploaded to the Internet.

Edraw Max is a multifunctional program with an ideal solution for graphs, charts, diagrams, workflow plans, index maps and database diagrams. This program is used to create didactic materials used in the exact and natural sciences [11, 36].Computer simulations are integral to the study of tabular processes, which are unrealistic or difficult to observe directly. Computer technology makes it possible to demonstrate reactions with explosives or toxic substances, rare or valuable reagents, processes that occur very quickly or slowly, which is not possible in a school setting.

The use of computer simulations in hands-on activities also allows the teacher to monitor whether students are doing the hands-on activities correctly or incorrectly. Thus, the use of ICT in the educational process is one of the most important tasks of education - to increase the level of knowledge [11, 43]. Currently, the Internet is also gaining popularity in secondary schools. The number of information resources in all disciplines, including chemistry, is growing. The Internet is becoming more effective in education. The ability to find information is important in the modern world. Today, along with books, the Internet is the main source of information. The ability to quickly find the information you need to use it to do the next job successfully.

In terms of asking questions, accessing the Internet is not much different from watching a training video or a study tour. Internet access may not be useful or effective if it is not based on a clear scenario. At the same time, the most important thing in the scenario is why the Internet is used? It allows the implementation of three different scenario contents [12, 97-102]:

Firstly, you may be tasked with finding additional learning material, and then recording the information so that it can be reused by different users. For example, chemistry instruction may be given the task of finding information about chemical pollution of the environment. Students can find a lot of interesting additional information on this topic using the Internet.

Secondly, the task is to find new information in general, to compare it with what is already known, that is, to

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create a problematic situation that creates a constructive dialogue. It is also valuable because this material is not available in textbooks at all. During the discussion, students express their views and attitudes toward the problem.

Thirdly, the task of preparing comments (analytical comments, abstracts) on a previously expressed topic can be set, which can be assessed as student project work. Collected materials can be prepared by students in the form of multimedia presentations.

The use of information networks in education should not be the only goal. Instead, network resources should be used only when absolutely necessary to solve the problem of information perception. Applying them allows you to change the way you teach: learning by learning how to work in an environment where you have access to all the information resources available. With the use of Internet resources, work can be technically organized in two ways. If the computer can provide high-speed access to the network, students will be able to work online, ie directly by accessing the Internet. However, the teacher should make sure that the materials you are interested in are available. Temporary servers and sites may not be available due to content redesign. Another, more reliable option is the method of using the tool on the Internet. In preparation for the lesson, the Web pages needed for the lesson can be saved in a separate folder on the server of the educational building or in any computer memory of the educational building. In both cases, the use of Internet resources increases the level of training, the quality of students' knowledge and their motivation to learn [13, 49].

It should be noted that the community is very large, where teachers can improve their knowledge independently and use the rich resources of the network in preparation for lessons. However, special science sites should be accessed, as they can contain very interesting illustrations, which can be preserved and used to create multimedia presentations [9, 61].

In recent years, the number of information resources on all school subjects has increased significantly. A chemistry teacher can find useful visual aids in many essays prepared by students. You can search from ziyonet.uz, server or search engines such as rambler.ru, aport.ru, yahoo.com and google.uz. If you need an article, enter the name of the article or a word or phrase that can be found in the article in one of the search lines listed above and click the search button. If you need to find a program, enter the name of the program or its function in the search bar. For example, if you need a Laserjet 1300 printer driver for Windows XP, the search bar will say "modern course-enhancing technologies”. (Rambler searches for information entered in the search bar from millions of documents on the Internet.) The result is a Web page with hyperlinked addresses of several (dozens or hundreds) of documents and their brief descriptions in the Web browser data field. From the documents found, what is needed is determined by a brief description [12, 56].

New software products for teaching science have been introduced on the servers of well-known CD manufacturers. Some of the e-textbooks can be downloaded to a network drive and made available to all school network users. This allows learning materials to be used by multiple students at the same time. They use it to the best of their ability [13, 64].

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III. CONCLUSION

Today, improving the quality of teaching requires a wide range of knowledge and skills from the teacher. Because today, students also have some knowledge of modern technology. Students with such modern knowledge will be able to use ICT tools more than a teacher, prepare various projects and presentations for implementation in the teaching process, and make the lesson more interesting for students on the basis of interactive and innovative technologies required to provide. I think it is good that students get the basics of ICT from the teacher, as well as knowledge of the environment. Therefore, today there is a need to constantly improve the level of ICT and innovative technological skills of teachers.

The purpose of the introduction of information and communication technologies in the educational process is to acquaint students with modern information and technology, to increase literacy in this area, and most importantly, to improve the skills of using this information. At the same time, as a teacher, I would like to emphasize that it is the foundation of all the knowledge and skills that students acquire in their lives, so the quality of teaching is a great responsibility of a modern teacher.

The introduction of ICT in the educational process is important for the teacher to develop in their professional activities and gain extensive knowledge and experience. He is the most universal specialist in the field of education for every science teacher. Its main tasks include providing students with the basics of modern concepts and basic knowledge of science in various disciplines, as well as the formation of their educational outlook and communicative potential. The use of computers and digital technologies also offers great opportunities for the acquisition of new knowledge in science. With the help of digital educational resources, a teacher can increase the visibility, interest and effectiveness of teaching materials, especially the use of visual aids for any subject teacher.

To conclude, the introduction of ICT opportunities will increase the efficiency and attractiveness of the modern educational process. While emphasizing the importance of broadening students' worldviews, we must not forget the rules of their use.

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