THE IMPORTANCE OF INFORMATION COMMUNICATION AND PEDAGOGICAL TECHNIQUES IN TEACHING ORGANIC CHEMISTRY IN NATURAL SCIENCES AT ACADEMIC HIGH SCHOOLS

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ABSTRACT

The article explains the importance of using information communication and pedagogical technologies in teaching organic science in academic high schools. The article explores the meaning and content of information and pedagogical technologies, integration, distance education and integrated learning.

Keywords. Information technology, pedagogical technology, communication, integration, integrated learning, distance education, switching, animations.

INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

World-wide science and technology has become the cornerstone of global development. Both subjects continue to improve the quality of life as these new discoveries come from science and technology. Humanity by the end of the twentieth century, I had a number of problems that were directly related to the dramatic changes in the information and telecommunications industry, in particular the rapid development of information technology. New information and communication means have begun to appear in various fields of education and production. The development of the global computer network of the Internet has given rise to new trends in improving the global educational system. First, a dramatic change in the technical equipment of educational institutions and access to secular information resources necessitated the use of new forms and methods of training.

Although Organic Chemistry plays an important role in the world of science, technology and the natural sciences, it has always been difficult for students and teachers to master. Students of general education and vocational education have done a great job in strengthening the material and technical base of mastering "Organic Chemistry", further strengthening the educational and research laboratories in the priority areas of higher education through the use of virtual laboratories. Development of technology of chemical experiments and improvement of methodological bases of teaching.

Today political, social and economic changes are taking place in the country. These changes also affect the natural process of vocational training, which is in keeping with the society's demand for highly skilled, well-educated and well-trained professionals. Currently, the implementation of advanced educational technologies in the teaching process of the new generation is rapidly developing.
In our country, a number of practical studies are being carried out to develop and enhance the effectiveness of the education system. The main content of such research is:

- bringing the content of education to the new content on the basis of foreign experience and creating new educational literature based on it;

Improvement of teaching process using computer technologies;

Introduction of new generation information and communication technologies in educational process;

Introduction of modern pedagogical, innovative and integrated technologies into the learning process and so on.

Teaching methods and tools are of particular importance in providing quality and guaranteed teaching in the learning process. It is important to use integrative, integrated technologies to organize the learning process at the level of modern requirements.

The word integration means the Latin word "integration", which means to restore, restart, fill in the Uzbek language. It is a concept that expresses the dependence of individual parts, elements, and the combination of them.

The word integration is also used to describe the process of convergence and interdependence of subjects. The concept of integration is one of the most important scientific terms and is a methodological tool for summarizing and drawing conclusions. In science and technology, through this methodological tool, models and algorithms of general harmony between the contents of a process or event are created [6].

The importance of integration is also important in addressing the problems of ensuring the harmony of educational content in the system of continuous education. The main concepts of the learning subjects taught through integration are summarized. The concept of integration is also used to establish links between information about a research object and methodology.

Integrated technology refers to the technologies that come from combining, summarizing and establishing two or more technologies.

The use of integrated technology in the learning process is defined as the way in which the pedagogical, information and communication technologies work by integrating, summarizing, and establishing links.

The level of students' mastery of the subjects is one of the key factors determining the quality and effectiveness of the lesson. In order to improve the quality of education, it is important to plan the lesson properly and clearly define the purpose.

The purpose it is important to identify the time spent to achieve results, the needs and capacities of the learner, the methods used to achieve the goal of the learner, and the types of outcome-based controls. To achieve this goal it is necessary to introduce modern educational technologies in the educational process.

Pedagogical technology is the product of the integration of pedagogical and technological approaches used in the educational process. Different teachers have different approaches to the concept of pedagogical technology. UNESCO describes pedagogical technology as: "Pedagogical technology is the most appropriate process of acquiring knowledge by utilizing all the capabilities of human capacity and technical means by creating, applying, and integrating methods of teaching and learning."

Pedagogical technology is a set of teaching methods, methods and educational tools that is a set of organizational and methodological tools of the educational process. Pedagogical technology is a systematic way to create, apply and determine the entire learning and learning process, with the aim of optimizing the forms of education, taking into account technical resources and human interactions. Pedagogical technology is the process of transferring and assimilating information in a form and way convenient for learning. Pedagogical technology is a process that guarantees the learner's ability to read, learn, and think independently [5]. In the course of pedagogical technology, under the guidance of a teacher, the learner independently acquires, learns and acquires knowledge. Thus, pedagogical technology is an activity that affects a person with a predetermined purpose.

Information technology is a set of methods, devices, methods and processes used to collect, store, search, process and distribute information. Information technology - ways, methods and methods of using the computer during data collection, processing, storage, transfer and use. Information technology is a process involving the use of modern computers to reduce the productivity of processes that use this information for information processing and to increase their reliability and speed. Consequently, information technology is defined as a set of methods and means of collecting, storing, transmitting, modifying, processing information.

Modern information technology is a technology that enables young people studying in educational institutions to take a new level of education by creating a learning process related to the formation of knowledge, skills and abilities.

The word communication, in English, is used as a means of communication, communication, communication, communication, communication, communication, communication, communication, methods and means of communication. Communication System is a system that performs auxiliary functions related to data transmission among other systems.

Communication technologies are technologies that provide routing (character assignment) and switching communications between computers within the network.

Information and communication technologies of the education system fulfill the following basic functions and requirements:

Recording activities for students and their use of the information environment;
Accounting support for the activities of educators and trainees;
Recommendation of the necessary study materials for independent learning;
Organization of test control of knowledge, skills and abilities acquired by trainees in the learning process, including oral and written methods;

To provide remote access to educational resources of the educational institution for the use of educational materials, additional literature and other tools in the database;

Organization of virtual consultation and other assistance of educational institution staff in the implementation of virtual laboratory classes and practical tasks, etc.

The main content of the learning process is based on the following teaching materials:
Electronic educational-methodical complexes;
Test programs and a set of questions for self-control;
Virtual laboratory works and their description;
Independent work and oversight;
Computer programs, electronic directories, electronic applications;
Additional software.

As a result of the application of integrated technologies, training sessions lead to the creation of remote networking technologies. This is the basis for the organization of distance learning.

The main task of network technologies in distance learning is to facilitate communication between teachers and students in the learning process. The learning process organized without regular communication between teachers and students does not have the desired effect. In the day-to-day education system, communication between teachers and students takes place at the same time in the classroom. In the case of distance learning, this process is carried out using computer-based networking technologies.

The introduction of modern information and communication technologies into the learning environment has contributed to the creation of a new form of learning - distance learning, in addition to traditional teaching methods.

In distance learning students and teachers interact with each other through space-based training courses, forms of surveillance, electronic communication and other Internet technologies. Distance learning based on the use of Internet technology provides access to the global information education network.

Distance learning allows all those who wish to study to improve their skills. In this learning process, the learner acquires an independent learning-methodological material, passes control, performs supervisory work under the direct supervision of the teacher, and communicates with other "vertical learning group" students in the group. Different information and communication technologies are used in distance learning. For example, while traditional print-based learning tools (tutorials, textbooks) are based on introducing students to new material, interactive audio and video conferences are designed to communicate over time, to send and receive e-mail, to send and receive messages. While pre-sealed video lectures give students a chance to listen and see the lectures, facsimile communication, instant messaging and messaging through the network allows students to communicate through feedback.

Based on the foregoing, we provide some definitions and definitions of some terms related to the educational process.

Distance learning is distance learning.

Distance learning is the relationship between the learner and the teacher, based on the interdependence of Internet technology or other interactive methods and components of all learning processes - the purpose, the content, the method, the organizational forms and methods of teaching.

Distance learning is a system of learning based on the terms of distance learning. Like all education systems, distance learning has its own purpose, content, methods, tools and organizational forms.

Pedagogical technologies of distance learning - a set of teaching methods and methods that provide the educational process of distance learning based on the selected concept of teaching.

The Institute conducts work on introduction of distance learning at the Institute.
The integrated state of the three technologies considered above can be considered the most appropriate technology for teaching and mastering. The main task of the core technologies is

to create an information and educational environment for students using pedagogical and information technologies and integrate the processes of communication with students through communication technologies.

Major changes are taking place in the education system of our country, as the tendency of education development is common to all developing countries. At this stage, the economy needs a freelance thinker, entrepreneur, and mature professionals who are skilled in their chosen profession and able to solve problems on their own. Training of such specialists requires the application of theoretical knowledge in practice and the ability to independently master new scientific problems in science.

This is because the large-scale reforms in the education system and the government's decisions to improve the content of education require the linking of education with education, increasing the effectiveness of teaching and bringing up a fully developed generation for a rapidly developing society.

Using the Internet in Organic Chemistry teaches students to express themselves in groups, to think independently and to work, to be creative, to be responsive. It increases their interest in Organic Chemistry and encourages students to become active. Therefore, the aim of introducing innovative technologies in the process of teaching “Organic Chemistry” is to provide comprehensive analysis and coverage of the issue.

Changes in education and the emergence of a huge flow of information require the need for rapid integration of education. The use of modern information technologies in teaching is of particular relevance.

When we examine the current use of information communication and the use of the Internet in the lessons of "Organic Chemistry", many teachers have noted that the classroom processes are interesting and effective. There is not enough scientifically grounded standards and guidelines for the introduction of information technology in the educational process.

The use of information and communication technology (ICT) opens up new perspectives and effective learning opportunities for teaching organic chemistry. At the same time, the ability to read independently, with a specific focus on information technology, is a prerequisite for the intellectual development of students. In the course of “Organic Chemistry”, the use of information and communication technologies, the use of Internet resources, can be used to provide homework remotely by the teacher and to check student's tasks. ICT is the most convenient way to control learning materials

In summary, integrated technologies, distance learning technologies are important in organizing the learning process, summarizing and complementing educational content, and ensuring the achievement of the goals.

REFERENCES

1. Decree of the President of the Republic of Uzbekistan dated February 7, 2017 N UP-4947. Strategy of actions for further development of the Republic of Uzbekistan / Collection of legislation of the Republic of Uzbekistan, No. 6, 2017, Article 70

2. The Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated April 6, 2017 № VM-187 "On approval of state educational standards of general secondary and secondary special and professional education".

3. Decree of the President of the Republic of Uzbekistan dated April 20, 2017 № PP-2909 Collection of Laws of the Republic of Uzbekistan "On Measures for Further Development of Higher Education", 2017. www.Lex.uz

4. The Decree of the President of the Republic of Uzbekistan dated June 5, 2018 N PP-3775. “Additional Measures to Improve the Quality of Education in Higher Education Institutions and Ensure Their Active Participation in Large-scale Reforms in the Country” NFCI: 07/18/3775/1313 dated 06.06.2018

5. Avlyokulov N.Kh. Modern teaching technologies. Methodical guide. T. 2001. – B.164.

6. Abdukadirov A., Pardayev A. Technique of using modern pedagogical technologies in education and training: Tashkent: Talent, 2014. –B.5–105.

7. Begimkulov U.Sh. Scientific-theoretical bases of introduction of modern information technologies in pedagogical education: - Tashkent. Science 2007. –B.164.

8. Borovskix. T.A. Individualization of chemicals in the context of technology // - Moscow. MPGU Virtual Gallery 2011. - B.217.

9. Zashivalova E. Yu Methods of computer science and chemistry in: Dissertation Candidate of Pedagogical Sciences. - St. Petersburg: - 2000. - B.167.