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## THE IMPORTANCE OF USING ADVANCED PEDAGOGICAL TECHNOLOGIES IN TEACHING CHEMISTRY

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### ABSTRACT

*This article presents examples of didactic materials and methods of using information technology in the teaching of chemistry and the use of various teaching methods in the classroom. The education system is moving away from old-fashioned curricula to a training system that allows for training for an innovative digital economy and information society. Since competitiveness and the ability to build partnerships are necessary in such an era, the content of the curriculum should be focused on the development of critical thinking, communication, creative creativity and collaborative skills with competencies. Every teacher should know how to use advanced pedagogical technologies in lessons, the correct use of educational technologies, methods.*

**KEYWORDS:** *Pedagogical Technologies, Didactic Materials, Methods, Alkane, Alkadiene, Alkyne, Aren, Alcohols, Simple Ether.*

### INTRODUCTION

Today, our country is undergoing great reforms under the idea of "New Uzbekistan - a new worldview." Indeed, radical reforms are being carried out in our country in the social, economic and cultural spheres, as well as in the education system.

As stated in Article 41 of the Constitution of the Republic of Uzbekistan, "Everyone has the right to education ..." On the basis of this right, a number of laws have been adopted in our country. One of such legislative acts is the new adoption of the Law of the Republic of Uzbekistan "On Education" No. ZRU-637 of September 23, 2020. As stated in Article 5 of this law, "Everyone is guaranteed equal rights to education, regardless of gender, race, nationality, language, religion, social origin, and beliefs, personal and social status" and Article 15 provides for eight forms of

education. This is an indication of the comprehensive reforms in the field of education in our country.

Today, in order to take its place in the world community Uzbekistan has become one of the most developed countries in the world, so young people living in this country must have a harmoniously developed generation, high cultural level, knowledge and spirituality. In this regard, the President of the Republic of Uzbekistan Sh.M.Mirziyoyev said: "In the management of modern information technologies, as a necessary condition for the informatization of the educational process in any educational institution, uniform goals and approaches for implementation in the educational process will be developed".

Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 230 of May 23, 2001 "On measures to organize the development of computer and information technology for 2001-2005", "Internet access to international information systems", May 30, 2002 "Further development of computerization Presidential Decree No. 3080-PF "On the introduction of information and telecommunications technologies", resolutions of the Cabinet of Ministers of the Republic of Uzbekistan dated June 6, 2002 "On the program of computerization and development of information and telecommunications technologies for 2002-2010" .

The realization of the idea behind education reform depends on a number of important factors. Student - educating our youth, who use of information technology in the classroom, advanced pedagogical technology and using non-traditional methods of assessment, using a variety of methods in the teaching of chemistry to teach the younger generation in line with modern requirements, to help them become competitive professionals in the future. The education system is moving away from old-fashioned curricula to a training system that allows for training for an innovative digital economy and information society. Accordingly, approaches to teaching are also changing, and due to the possibilities of the internet and information technology, teachers are moving from a simple educator to a core organizer. For some teachers, such a change will not be easy.

Since competitiveness and the ability to build partnerships are necessary in such an era, the content of the curriculum should be focused on the development of critical thinking, communication, creative creativity and collaborative skills with competencies. The teaching of chemistry requires the use of modern pedagogical technologies and teaching methods that allow students to learn the skills of the XXI century, they need for knowledge, basic educational, scientific and cultural competencies, critical and creative thinking, conscious choice of profession. It should be noted that the effectiveness of any advanced pedagogical technology and methods depends on the creative and professional skills of the teacher who uses it. Every teacher should know how to use advanced pedagogical technologies in lessons, the correct use of educational technologies, methods. In academic lyceums and professional colleges, the issue of independent learning of students, the development of logical thinking, their professional orientation should be the main focus of teachers.

In the process of training, the creation of problem situations on the topic using modern methods and information technology, the organization of lectures, seminars, trips, debates, conversations, conferences, problem-solving lessons, ensuring their successful solution is of particular importance.

In addition to theoretical and practical lessons in the teaching of chemistry, laboratory lessons also play an important role in obtaining the main result. In today's era of advanced technology, we also have the opportunity to conduct laboratory training virtually. For example, it is important to consider and apply the process of obtaining acetylene on "alkynes", "chemical bonds of atoms" on "chemical bonds", "interaction of particles and nuclear reactions" in the nuclear reaction mazes.

Let's take a look at some of the didactic materials on advanced pedagogical technology methods presented below in the course process. For example: by the method of "Analysis of concepts"

Analysis of concepts	
Saturated hydrocarbons	
General formula	
Homological row	
Nomenclature and isomeracy	
Properties	
To be used	

The new knowledge learned through the reading method may be able to test the readers' ability to read well. This method allows you to go to check the knowledge of a force that is removed.

The "Compatibility Fill" method

Find compatibility		
Alkane formula		$C_nH_{2n}$
Cycloalkan formula		$C_nH_{2n-2}$
Alkadien formulalasi		$C_nH_{2n+2}$
Alken formula		$C_nH_{2n-2}$
Alkin formula		$C_nH_{2n-6}$
Aren formula		$C_nH_{2n}$

In the process of teaching chemistry, it can be said that students often confuse the names of the elements that are formed as a result of chemical reactions, and in order to prevent such cases, we use the method of "finding compatibility" that encourages students to be sensitive.

Find the answer to the question on the problematic situation method		
Naming according to the systematic nomenclature	$  \begin{array}{ccccccc}  1 & 2 & 3 & 4 & 5 & 6 & 7 \\  CH_3 - CH_2 - CH - CH_2 - CH_2 - CH_2 - CH_3 \\    \\  CH_3  \end{array}  $	Naming according to the rasonal nomenclature

The method of attracting the reader's attention This "problem situation" method gives good results in any subject. We can use this method at the culmination of a lesson or in the process of finding the new knowledge we are looking for.

## Assignment by assessment method

<p>Test:</p> <p>1. What is the difference between ethyl alcohol and dimethyl ether.</p> <p>A) Interclass isomerism B) Status isomerism C) geometric isomerism</p> <p>2. The difference of dimethyl ether from ethyl alcohol A) liquid B) solid C) gas</p> <p>3. Find methylpropyl ether formula?</p> <p>A) <math>\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{O} - \text{CH}_3</math> B) <math>\text{CH}_3 - \text{O} - \text{CH}_2 - \text{CH}_2 - \text{CH}_3</math> C) <math>\text{C}_2 \text{H}_5 - \text{O} - \text{C}_2 \text{H}_5</math></p>	<p>Problematic situation:</p> <p>It can be one - atomic ,two-atomic, three-atomic and multi-atomic, depending on the number of compounds-the hydroxyl group .These compounds are used a lot in various industries and in medicine. They are obtained mainly in two ways-synthesis and biochemical . They are poisonous. Which compound belongs to the above points. Answer:</p>
<p>Symptoms of methyl alcohol poisoning. Answer:</p>	<p>Practical skill</p> <div data-bbox="829 772 1195 1010" style="text-align: center;"> </div> <p>What is depicted in the picture?</p>

In short, “Find Compatibility”, “Concept Analysis”, “Test”, “Correct Answers”, “Assessment”, “Exprom”, “T-Scheme”, “Concept Analysis”, “SWOT”, “SCAMPER”, The use of methods such as “SCORE”, “Resume”, “Oral Journal” in the teaching of chemistry gives interesting results, increasing student activity, increasing knowledge and quality.

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