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EFFECTIVENESS OF THE USE OF EDUCATIONAL INNOVATIONS IN TEACHING THE TOPIC OF POLYATOMIC ALCOHOLS

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ABSTRACT

This article provides information on the use of new pedagogical technologies based on creativity in teaching the topic of alcohols in chemistry classes.

Keywords: Chemistry, Organic Chemistry, Creativity, Monohydric Alcohol, Methanol, Ethanol, SWOT Analysis, “O’ylab o’rniga qo’y”, “Juftini top“,“Davom ettir” Methods.

INTRODUCTION

Creativity manifests itself in a person's pursuit of new ideas, reforming and changing established stereotypes, making unexpected and unusual decisions in the process of solving life problems. Creativity cannot be achieved by repeating the given knowledge, the emergence of a new thought, a new idea is the main condition in the process of creative thinking.

Often, unusual ideas and solutions come to a person's imagination unexpectedly. For this, first of all, it is necessary to put an end to uniformity and routine in the process of thinking.

Do not be indifferent to coincidences. Many inventions were made in emergency and accidental situations. That is, fate itself gives subtle hints to a person. It can be in the form of the apple that fell on Isaac Newton's head, This can be seen in the moldy laboratory bottles of Alexander Fleming, the scientist who discovered the antibiotic.

Lessons organized on the basis of advanced pedagogical technology, that is, interactive methods, help students to acquire knowledge thoroughly, develop their thinking, and teach them to think independently and creatively. Therefore, it is of practical importance to analyze interactive education and methods, and to apply them to the teaching process.

LITERATURE ANALYSIS AND METHODOLOGY

Interactive methods used in the educational process B.L. Farberman, L.W. Golish and R. Ishmuhamedov studied.

Organic compounds have been known to people since ancient times, and they knew how to extract ethyl alcohol, acetic acid and some dyes from plants. The structure, isomerism and properties of saturated organic alcohols were written by S. Masharipov and I. Tirkashev in the

Chemistry textbook. At the end of the topic, it was mentioned that glycerin is used in the food industry to sweeten wine, liqueurs and lemonades.

Currently, on the topic of alcohols in chemistry can be approached and improved through various teaching methods. Alcohols are organic compounds formed as a result of the substitution of one or more hydrogens in hydrocarbons by the "OH" - hydroxyl group. Depending on the number of hydroxyl groups, alcohols can be monoatomic, diatomic, triatomic, and others polyatomic. Therefore, it is important to use teaching tools based on the cross-class approach and the relationship between class representatives and chemical properties on the subject of alcohol.

In modern conditions, it is appropriate to use innovative forms of education in order to increase the educational and knowledge activity of students, to increase the quality of teaching and to increase its efficiency. Today, practical games, problem-based education, interactive education, module-credit system, distance education, mixed education and master classes are recognized as innovative forms of education.

SWOT-ANALYSIS METHOD

The purpose of the method is to analyze and compare existing theoretical knowledge and practical experience, to consolidate knowledge, to repeat, to evaluate, to find ways to solve problems through independent, critical thinking, non-standard thinking.

S-(strength)-strong sides

W-(weakness)-weak, weak sides

O-(opportunity)-opportunities

T-(threat)-barriers and safety

DISCUSSION AND RESULTS

In order to increase the creativity of students, it is recommended to use phrases such as "Guess", "Be creative" to think figuratively, express the problem clearly. In developed countries, great experience has been accumulated in the use of pedagogical technology that increases the educational and creative activity of students and guarantees the educational process, and the basis of these experiences is the method and graphic structures.

Below are examples of ways to teach the topic of alcohol.

"Think and replace" method

It is convenient to use this method mainly in organic chemistry classes. In this, the questions that activate the students are reflected. The given table consists of 3 columns, and the characteristics and definitions of the shapes are written in the first column.

In the second column is the image or formula of these shapes, and in the 3rd column, the student finds the rule that corresponds to the shape and formula and puts the letter.

Structure	Name	Structure and Name
$CH_3–CH_2–CH_2–OH$	Propanol-2	
$CH_3–CH(OH)–CH_3$	2-methylpropanol-2	
CH_3- $CH(CH_3)$-CH_2-OH	Propanol-1	
$CH_3–C(CH_3)(OH)–CH_3$	2-methylpropanol-1	

"Find a pair" method

№	Formula	№	Name	Couple
1	CH_3 OH	a	Propanol-2	1-f
2	C_4 H_9 OH	b	2-methylpropanol-2	2-b,d
3	C_3 H_7 OH	c	Propanol-1	3-a,c
4	C_6 H_{13} OH	d	2-methylpropanol-1	4-g
5	C_5 H_{11} OH	e	Methanol	5-h
6	C_2 H_5 OH	f	Ethanol	6-f
7	$CH_3C_5H_{11}OH$	g	Hexanol	7-g
8	$CH_3C_4H_9OH$	h	pentanol	8-h

Take the topic of alcohol from the continuing education method

"Continue" method:

This method not only teaches students to think quickly, but also develops memory skills; The assignment according to the "Continue" method is organized as follows: The teacher gives the opening words on the topic, and the student continues these words.

Expert sheet on the "Continue" method:

Complete the sentence by replacing the period with the appropriate words.

Monohydric alcohols..... Methyl alcohol..... Ethyl alcohol..... Monohydric alcohols..... is used
Dihydric alcohols..... Ethylene glycol ..... Properties of dihydric alcohols..... Dihydric alcohols..... is used
Trihydric alcohols..... Glycerin ..... Properties of trihydric alcohols..... Trihydric alcohols..... is used
Aromatic alcohols..... Aromatic alcohols are obtained..... Properties of aromatic alcohols..... Aromatic alcohols ..... is used

CONCLUSION

In conclusion, it can be said that the appropriate and purposeful use of various innovative pedagogical technology methods in the teaching of alcohol science increases the effectiveness of the educational process and students' interest in science, openness to communication,

creative thinking, synthesis and analysis of thoughts. doing so provides ample opportunities to develop the skill of finding logical connections between different views.

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