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Improving The Methodology Of Teaching Materials Through Information Technology

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ABSTRACT

At present, chemistry education solves problems related to improving the quality of education, identifying new values to improve students 'personal development and learning strategies, which rags students' interest and commitment to the natural sciences strengthens. The main focus is on interactive teaching, putting the topic into practice with ICT. Therefore, our goal is to create and test an interactive chemistry course for high schools based on the features of interactive, ICT-related education and a more interesting presentation of the topic. The first phase of our work consisted of an analysis of previous studies to establish a theoretical basis for the use of ICT. In this article, the idea of improving the methodology of teaching the subject of non-metals through information technology is discussed.

KEYWORDS

Interactive Course, Interactive Lecture, High School, Chemistry Teaching, Non-Metals, Information Technology.

INTRODUCTION

Metallurgical D.I. Mendeleev is in the main groups in the periodic table and to the right of the periods. The properties of non-metals are drastically different from those of metals. Metals are generally poor conductors of electricity and heat. They are insoluble or poorly soluble in water under normal conditions. Metals do not dissolve or mix in organic solvents.The number of electrons in the outer layer of a metal is equal to the number of the group in which they are located (excluding helium). Metal alloys tend to attach

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electrons to replenish their outer electrons. Only 22 of the chemical elements are non-metallic. Among them, in the solid state under normal conditions (B, C, Si, P, As, S, Se, Te, I, At), gases (H_2, N_2, F_2, O_2, Cl_2), only bromine is a liquid. The color of metals also varies greatly and varies. The study of the laws of physicochemical properties and biological effects of metals can be of great practical importance in the development of new drugs and in the management of their properties in the body.

When diagonally converted from boron to astatine in the periodic table, the above elements are: boron, carbon, silicon, nitrogen, phosphorus, arsenic, oxygen, sulfur, selenium, tellurium, fluorine, chlorine, bromine, iodine, astatine, helium, neon, argon, krypton, xenon, elements such as radon are non-metals and all belong to the p element family. These elements exhibit oxidizing properties. The electron binding property increases with increasing number of sequences over time, and decreases with increasing number of sequences in groups. The binding properties of electrons change and decrease in the following order.

Physical properties. Under normal conditions, some metals are in the gaseous state (hydrogen, nitrogen, oxygen, fluorine, chlorine), liquid (bromine), solid (sulfur, carbon, iodine, phosphorus, etc.). Metals are poor conductors of heat and electricity.

Chemical properties. Typical non-metals form ionic bonds with metals. (NaCl, CaO, FeS) Covalent bonds are formed when metals interact. (H_2O-polar, NH_3-non-polar) Acidic oxides with oxygen form volatile hydrogen compounds with hydrogen.

Inert elements. The main group VIII elements are helium, neon, argon, krypton, xenon, radon, metal alloys and are called common inert gases (original gases). Inert elements are very stable with 8 electrons (2 in helium) on the external energy levels. Therefore, the chemical activity of inert elements is low. They do not bond to each other or interact with hydrogen or metals. Only in 1962 was it possible to obtain xeon tetrofluoride XeF_3. Several compounds of krypton, xenon, and radon with fluorine and oxygen have now been obtained. Molecules of inert elements consist of only one atom.

In order to provide students of secondary schools, academic lyceums and professional colleges with in-depth and thorough knowledge of chemistry at the level of modern requirements, it is very important to prepare the teacher for this subject, to increase his knowledge. One of the urgent tasks of today is to move on the basis of new pedagogical and information technologies.

The upbringing of a comprehensively mature, harmoniously developed generation that can make a worthy contribution to the future development of Uzbekistan, and the important goals and objectives of today are realized in educational institutions. The main goal of the educational process will be to teach the content of materials on each topic of chemistry education on the basis of new pedagogical technologies, to develop the student's thinking skills, to prepare the teacher for independent work.

The problem of activation of mental activity, the development of self-reliance and creativity of students was and remains one of the topical problems of science. Universities, schools and governments spent large sums of money to

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build a sufficient infrastructure, to develop multi-media-based learning materials, and to equip students with the necessary computers

According to the state educational standard, the purpose of teaching subjects or general education is determined. The purpose of general education is to provide education and upbringing to students in accordance with the requirements of the state educational standard and their development, as well as to ensure the individual's right to education in accordance with education. General education lays the foundation for the required amount of knowledge that students acquire, developing students' organizational skills, competencies, and practical experience.

In the course of school chemistry the method of teaching the subject of non-metals from different forms of teaching and the formation of imagination and knowledge, the idea of educating a perfect person was formed. Formation of elements of patriotic, spiritual, moral, aesthetic, physical, ecological and labor education of students in the educational process of educational institutions.

The main advantages of interactive methods of teaching and learning are widely known:

- Improving the quality of knowledge, because students are actively involved in the learning process;
- Increasing the motivation of students in the educational process, acquisition of new material by not as passive listeners but as active participants;
- Bringing flexibility and convenience in learning;
- We have presented some of the developed methodological options, which illustrate the ability to use interactive lectures and innovated subject matter.

The purpose of teaching the natural sciences is to educate the individual in the spirit of universal values, to increase the opportunities for mental and physical activity, to teach them the laws of nature and society, the connections and contradictions between them, the continuous evolutionary processes in the external world. It is necessary to pay attention to demonstration in teaching chemistry. Electronic, video and other non-traditional lessons can instill in students a love for science. As a result, the quality of education will increase, which is the main goal of the National Training Program. Chemistry education in general secondary schools is an integral part of the pedagogical process and serves to develop the student's personality in accordance with the general goals of education.

In conclusion, the 21st century is an era of engineering and technology. At this time, the use of information technology, like all other areas of teaching chemistry to students, is required. Much work is being done to improve the methods of teaching the subject of non-metals through information technology. Examples include electronic publications, videos, audio, new sources in the form of infographics, or all other online information. These techniques will definitely help to make the topic of non-metals easier to explain to students.

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