

**EXPLORING CHEMICAL CONCEPTS AND TEXTS BASED ON NATURAL
SCIENCE LITERACY IN CHEMISTRY CLASSES**

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Abstract: This article discusses the importance of natural science literacy in science lessons. It also provides information on creative thinking based on natural science literacy, as well as opportunities for students to understand chemistry knowledge along with new ideas and thoughts. In particular, there are questions and assignments based on creative thinking of ozone.

Keywords: Natural science literacy, creative thinking, conflict situation, evaluation criteria, different thinking.

Today, attention to the education system is increasing. Much work on the development of a number of sciences has been carried out by the respected head of our state. Our respected leader Shavkat Mirziyoyev said this in his speech at the solemn ceremony dedicated to “October 1 - Teacher and Coach Day.” “We have made decisions on the development of mathematics and chemistry and biology. On their basis, schools in these subjects will be gradually created in every district and city. This year alone, 27 schools in the field of chemistry and biology have been created... this is the beginning of things”. Therefore, we, chemistry teachers, must be able to use our skills and talents to convey the secrets of science to students. Chemistry is a difficult but very interesting subject. When explaining a topic, it is advisable to choose appropriate teaching methods based on the content of the topic, the age and psychology of the students.

At a time when our republic is rapidly developing, it is important to fully use the creativity of the younger generation, who is considered our future, to form their knowledge in accordance with the established state educational standard, to establish an assessment system based on the experience of developed foreign countries and international requirements.

Today, the need for education and training is increasing as people's food and energy needs increase, while at the same time they need to adapt to climate change. As one of these needs, science literacy plays an important role, as stated above. At the same time, this will lead to further development of scientific achievements. At the same time, according to the commission created in Europe.

If our younger generation is not well versed in science, they will not be able to solve the problems associated with today's advanced technologies. However, this does not mean that all young people should occupy this area, but rather that young people should sense changes in the world around them and be able to respond to these changes. Having this knowledge allows them to understand the opinions of experts in the field and express their opinions in accordance with these opinions. All problems of our old age require deep scientific thinking and solutions based on scientific discoveries. And our society needs scientists and scientists who are mature in all aspects, capable of solving and eliminating both economic, social and environmental problems.

Science literacy refers to the student's ability to know and understand terms related to the sciences and, as an independent citizen, to be able to express opinions on all problems related to these sciences and to be able to solve these problems. A person with natural science literacy is able, on the basis of his existing knowledge, to participate in the discussion of conflict situations related to natural science, problems related to technology, and knows how to act in such situations. Science literacy, although considered a distinct area with social impact, is more universal and generalizable than one might think. That is, if we consider it in a broad or relatively narrow sense, every person has the possibility

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of natural science literacy. In addition, according to a common understanding among psychologists and educators, thinking, which is closely related to creativity and is understood as participation in mental processes, improves a number of other specific thinking skills. In particular, it improves metacognitive abilities, interpersonal and personal problem-solving skills, development of the concept of equality, mastery of science, future professional success and integration with society. Divergent thinking is the ability to take new approaches and generate unexpected combinations from existing information, and to use the capabilities of connections, thinking and transformation, such as semantic variability and fluidity, to create original ideas. Divergent thinking is also described as the ability to refuse ready-made instructions, look for different solutions to a problem, resort to unexpected measures when all other means have been exhausted, look at problems from a different point of view, and abandon ready-made solutions. -create methods and try new ones. . In general, divergent thinking often involves creating new, unusual, and unexpected responses.

For example, the ability to generate new and valuable ideas may depend on the prior execution of other processes, such as problem definition. Indeed, Goetzels and Csikszentmihalyi (1976) found that art students' success in problem setting was closely related to criteria for the aesthetic value and originality of the paintings they drew. These criteria, in turn, are far from these students.

The role of science literacy in chemistry teaching is unparalleled. We can look at this with a few examples. The Six Hats Method. Edward de Bono's "Six-Color Hat Method" involves choosing a theme. Hats are put on one by one: white - carefully, without any emotions, all facts are checked; black – defects detected; yellow - current status is analyzed; green - new ideas added; red – emotional mood is expressed; blue—work has stopped.

For example, if in an inorganic chemistry course the subject of chemical bonding is studied, then first the subject of chemical bonding is studied in detail, i.e., what are chemical bonds and what are chemical bonds? How many types of chemical bonds are there? What are examples of each type of substance? They must have the knowledge to answer such questions. Then all points are checked. During the inspection, deficiencies will be identified. All concepts on the topic are analyzed. If students have additional thoughts and ideas, they are included as additions. Readers' opinions and judgments are checked. Suggestions are made for quickly and easily mastering the topic, depending on how correct and relevant these new ideas are. The level of effectiveness of these proposals is explained by several considerations. The proposal is drawn up in the form of a project.

The atmosphere is an ocean of air and an invaluable natural resource that supports life on Earth. Unfortunately, human selfish activities are harming the common resource represented by the depletion of the thin layer of ozone that protects life on Earth. Unlike diatomic oxygen molecules, ozone molecules are made up of three oxygen atoms. Ozone molecules are extremely rare: less than ten per million air molecules. However, the presence of ozone in the atmosphere for almost a billion years is of great importance for the preservation of life on Earth. Ozone can protect or harm life on Earth, depending on where it is located. Ozone in the troposphere (up to 10 km above the Earth's surface) is "bad" ozone, which can damage lung tissue and plants. But about 90% of ozone in the stratosphere (10 to 40 km above the Earth's surface) is "good" and beneficial because it blocks the sun's harmful ultraviolet rays.

Humanity developed gradually until it reached its present advanced age. Chemistry, like other fields, has its place in this process of development. Today it has taken its place as the leading science for many other fields. Further improvement and development of this science is necessary. To do this, it is necessary to educate students at a high level, starting from school education. It has been established that the thinking abilities and thinking frameworks of students can be formed and improved using interactive methods in school lessons. These methods also provide great help to students in learning chemistry. Because with the help of the same techniques and methods, the learning potential of students increases, their thinking abilities develop, and they easily find the given

news. They exchange easily with each other. This will strengthen the science learning process. Individual, that is, individual work of students requires a lot of work on themselves. This sets the stage for faster and more efficient learning of chemistry. Schools are convenient places to observe and assess students' thinking, both individually and in groups. Forms of creative expression (i.e., inner world and experience through writing, drawing, music, or other art forms) as creative milestones and progress in the classroom expression) refers to the acquisition of knowledge (that is, the creation of new knowledge for a group) or a creative approach to solving problems.

The main task of education is to form the skills that the student will need today and in the future to lead a successful life in society. In doing so, creative thinking is one of the most important skills that today's youth should have.

Therefore, teachers can also hinder students' creative thinking. For this, pedagogues should abandon the above-mentioned factors that stifle creative thinking in the course of the lesson.

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