



THE FUSION OF CHEMISTRY AND ENGLISH – A UNIQUE INTERDISCIPLINARY APPROACH TO LEARNING

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ABSTRACT

The article covers the prospects for studying chemistry and English in integration. In this case, the science that governs scientists from all over the world when accessing a database derived from chemistry the problem of the need to know English is covered in acquaintance with his work. On linking chemistry and English in the process of integrated lessons the most effective forms of work were considered.

Introduction

Today, without the science of chemistry, which determines the scientific and technical potential of the country, it is impossible to develop social progress without the development of specific natural sciences. Obtaining new knowledge in the field of chemistry, like any other exact science, is impossible without the exchange of information, including among specialists who speak different languages. Qualified chemistry teachers should be aware of all the innovations that have appeared in science abroad, as well as receive useful information. This requires knowledge of English. Society needs scientifically literate teachers who can master and use information not only in their native language, but also in a foreign language.

LITERATURE ANALYSIS AND METHODOLOGY

It is worth noting that English has become the main language of international dialogue in the fields of politics, business and science. Thus, the skills and willingness to communicate and work with information in several languages become important requirements of society for a modern young - High School graduate [2].

In the course of study, English involves expanding the general cultural worldview of a person, getting acquainted with the Customs and customs of other countries, mastering new methods and methods of communication, that is, frequent implementation of a common development and educational function. to a greater extent than other educational disciplines. This allows us to consider a foreign language as an acceptable means of interdisciplinary integration not only with the subjects of the humanities, but also with the subjects of the Natural Science cycle.

Thus, interdisciplinary integration of chemistry education is not possible without knowledge of English. Unfortunately, the problem of integrating chemistry and English at



school is not much paid attention, perhaps because of the insufficient training of the language by teachers of Natural Sciences, and therefore also the lack of interest in using interdisciplinary connections with the field in which they were not studied.. "There is little serious research on this topic in the Uzbek methodology of teaching chemistry. If many works are devoted to the integration of foreign languages with the humanities, then the issue of its integration with the sciences of the cycle of Science and technology has not been sufficiently developed in domestic science and practice. There are separate studies on the integration of foreign language and chemistry.

The basis of interdisciplinary integration is "*language*", "*chemical language*" and "*English*". English is a multifunctional natural signal system that is used as a means of communication, as a means of knowledge and professional activity. Chemical language is a system of concepts and rules used to represent chemical data. It is a complex artificial language, rich in terms, whose etymology goes back to different languages of the world.

The organization of work on the assimilation of knowledge in the field of chemistry in the context of integration with a foreign language includes several features:

- involvement of students in active communication in a foreign language in various communicative situations due to the content of the topic;
- constant monitoring of student achievements in order to make a diagnosis and take into account the formation of Science and information and communicative competencies;
- use of different visual supports[2].

For the connection between chemistry and a foreign language, the most effective forms of work can be lessons and selected courses, which use science and popular texts, articles from magazines and educational and methodological manuals.

In a comprehensive school, the subject of "chemistry" begins to be studied from the 7th grade. By this time, students are fluent in English, which allows them to expand the possibilities of its application [3]. However, the stock of knowledge in chemistry is still minimal, so it is primarily advisable to study small-scale texts related to biographies of famous scientists, as well as interesting physicochemical phenomena, discoveries in physics and chemistry[1].

RESULTS AND DISCUSSION

As knowledge in chemistry increases, the interdependence of Sciences will consist in the formation of skills and competencies necessary to work with special literature in English belonging to the corresponding branches of Science and technology; the ability to instill in students the skills of reading and translating a simple special text that understands special terminology, abbreviations, etc., the ability to conduct a simple conversation on In high school, the level of knowledge increases, which makes it possible to work with texts of a scientific nature, but to work with such texts, "special training is required, since the vocabulary of scientific texts exceeds the norms established in the program. Therefore, in this case, the relationship begins with mastering a special dictionary, abbreviation, signs, etc.and working on the text (reading, translating, speaking, working with grammatical material) [1,12]. When working with a text in a foreign language, the subject of which is associated with scientific achievements, you need to apply a method of gradual accumulation of lexical material, which



allows you to form a practical language skill. Working with text is the best way to expand the stock of foreign words in the field of chemistry.

One of the first integration classes was "period law and period System D. I. Mendeleev". This topic was considered at the beginning of the study of the chemistry sphere in the 7th grade, and the system of integrative lessons is ideal for mastering back-to-back new knowledge. As an example, from the textbook M. M. Kutepova "English for chemistry". You need to find and write words related to chemistry[3,14].

Periodic table and periodic law.

"D. I. The story of how Mendeleev created the periodic system of elements has long been of great interest to researchers.

When Mendeleev began teaching at the University of St. Petersburg, chemistry was still far from being a well-organized and harmonious field of science that we know. Most scientists firmly believed that the atoms of different elements are in no way related to each other, and that they are independent particles of nature. Only a few advanced scientists understood that each element should have a system of general laws that regulate the behavior of its atoms. However, several attempts by Beguyer de Chancourtois, Newland, Meyer and others failed to bother to find a system of laws controlling the behavior of atoms, and did not affect Mendeleev, the future founder of the system of periodic elements.

"Mendeleev was a person who could not cope with any disorder and disorder," writes the academician.

A. A. Boikov. "Therefore, at the beginning of the chemistry course at the University of St. Petersburg, where he was appointed to the Department of chemistry, D. I. had to establish order in chemical elements".

By comparing the chemical properties of different elements, researchers have long ago found that elements can be placed in several groups according to their similarity in properties. Mendeleev applied the principles he developed in his system and included in his table a list of elements by increasing weights..." [4].

When studying chemistry in the 8th grade, you can use the style of conversation in a foreign language. The teacher will be able to prepare questions, in response to which students will show their knowledge (in chemistry) on the topic of the lesson, as well as learn to express their thoughts in a foreign language. Students should also learn to write questions on paragraph materials in English. As an example, on the topic "Sulphur and its compounds" / sulfur and its compounds (Grade 8), the following questions are asked[5,16]:

1. What allotropic modifications of sulfur are known to you? What allotropic modifications of sulfur do you know?
2. What are the physical properties of sulfur? What are the physical properties of sulfur?
3. In what compounds sulfur occurs in nature? In what compounds does sulfur occur naturally?
4. What chemical properties of sulfur make this application possible? What chemical properties is the actual use of sulfur based on?
5. What practical application has free sulfur in everyday life? How to use sulfur in everyday life?



The most difficult type of work is listening. This type of work allows you to develop the ability to perceive information by ear. In the process of listening to a chemical text, there will be certain difficulties in the process of understanding it, since there are chemical terms in the text. To simplify the task, the teacher can write unfamiliar words in advance, after listening, a discussion is held, and a new chemistry material is written, which is necessary for studying the topic[4,18].

An important element in the study of Chemical Science is the development of knowledge obtained by solving chemical equations and issues. Solving problems and performing exercises can also be done using a foreign language.

The use of work in this direction, such as preparing a lecture and essay in high school or first-year students, allows you to express your opinion on a subject that meets the requirements, which in the future may be associated with their professional activities. English senior provides the opportunity to expand vocabulary on this topic and gain new knowledge from foreign sources. The following topics can be repeated:

1. What are polymers?
2. Which Glass is called organic?
3. Why is penoplast (many) so light?
4. What are car tires made of?
5. What is chewing gum made of? What is the basis of gum?
6. What is tetanus obtained from? What is paper made of?
7. What does starch and cotton wool have in common? What does starch and cotton wool have in common?

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