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REFLECTION OF THE PROBLEM OF FORMING INTEREST IN CHEMISTRY, BASED ON THE IMPLEMENTATION IN TEACHING THE PRINCIPLE OF CONNECTION WITH LIFE IN THE METHODOLOGY OF TEACHING CHEMISTRY

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Abstract

Relevance of the topic: In recent years, interest in chemistry among university students has declined, despite the fact that modern people increasingly use chemical substances and products in their daily lives. At the same time, the number of hours allocated to chemistry study is decreasing, and the volume of material covered is increasing. A contradiction arises between the need for chemical knowledge for modern people and a lack of understanding of the practical significance of the material being studied. The contradiction that exists in the practice of teaching chemistry today between the increased theoretical level of study of the subject at the initial stage and the insufficient development of logical thinking skills is the reason for the sharp decline in student interest in the subject. Therefore, the need to develop a culture of using chemicals in students, elements of conscious and safe handling of these substances, environmental standards and rules of conduct in the created artificial environment is the main goal of chemistry. Developing students' interest in chemistry, their cognitive activity, independence, and curiosity based on the principle of connection with life in teaching is the most important task of the modern school. This issue receives considerable attention in methodological literature and the practice of modern universities. Throughout the history of chemistry teaching methods in our country, this topic has occupied varying places in the curriculum. For example, in the 1920s, connection to real life was the foundation of the subject, and at times, the study of chemistry was replaced by practical work.

Subsequently, at different historical periods, this issue was given varying amounts of attention in school chemistry curricula. Depending on historical circumstances, various forms and methods of teacher instruction were emphasized. Chemistry teaching methods include works devoted to the connection between chemistry and life. For example, I.M. Titova studied various aspects of learning motivation, G.V. Pichugina proposed assignments devoted to specific problems in our everyday lives, L.Yu. Alikberova devotes considerable attention to historical

information and demonstration experiments, I.A. Leenson examines the history and methods of the greatest discoveries of chemists, and A.A. Zhurin studied the integration of media education into the chemistry curriculum in secondary schools.
Despite the research, the issue of fostering interest in chemistry through the application of the principle of connection to life remains understudied. This is also evidenced by a study of the state of this issue among teachers and schoolchildren.

Introduction

The Aim of the Study

To increase students' interest in studying chemistry based on the implementation of the principle of connection with life in teaching.The Object of the Study is the process of teaching chemistry.

Subject of the Study

The process of developing students' interest in chemistry based on a more complete implementation of the principle of connecting learning with life in teaching.
Hypothesis: Chemistry teaching will be more effective and students will develop an interest in the subject of chemistry if the principle of connecting learning with life is more fully implemented in the teaching process.
To achieve the goal and test the hypothesis, it was necessary to solve the following problems**:**
1) to study the state of the problem of developing interest in chemistry based on the implementation in teaching of the principle of connection with life in psychology, pedagogy and methods of teaching chemistry;
2) to determine a set of means by which opportunities can be created to develop interest in chemistry;
3) develop a methodology for developing interest in chemistry based on the implementation of the principle of connection with life in teaching;
4) to experimentally test the influence of the developed methodology for developing interest in chemistry based on the implementation of the principle of connection with life in teaching on the development of cognitive interest and the quality of learning.
To solve the set tasks, the following research methods were used**:**
- analysis of methodological, psychological and pedagogical literature on the research problem;
- modeling the basis of lessons that form interest in chemistry based on the implementation of the principle of connection with life in teaching;
- observation of the educational process, testing, survey of teachers and students, comparison;
- pedagogical experiment;
- analysis and processing of research results.

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Research Results

The study was conducted in several stages. The first stage allowed us to: determine, based on the working hypothesis, the goal, subject, and objectives of the experimental study; analyze literary sources on the problem of implementing the principle of connecting learning with life in psychology, pedagogy, and methods of teaching chemistry; and develop an experimental methodology. In the course of the exploratory experiment, the reasons for the declining interest in the subject of chemistry among 2nd-3rd year students, as well as the students' lack of understanding of the significance of the studied material for practical life, were identified. The second stage, taking into account the results of information and scientific search, made it possible to identify the conditions for developing interest in chemistry based on the implementation of the principle of connecting learning with life in teaching; and to develop a methodology for developing interest in chemistry. A formative experiment was conducted. During this stage, teachers of the experimental schools conducted classes using the developed methodology. Methodological recommendations for the use of material related to life in teaching chemistry were prepared.

During the third stage, a final analysis of the experimental data was conducted, methodological recommendations were adjusted, the research materials were summarized, conclusions were formulated, and the final version of the dissertation was prepared.

It has been established that, at various stages in the development of chemistry teaching methods, the problem of fostering interest by connecting learning with real-life situations has been explored by many educators, psychologists, and methodologists. The most effective motivations for teaching chemistry are "interesting" and "useful." Identifying these motivations is important because current chemistry curricula and textbooks focus exclusively on chemical concepts and pay insufficient attention to the practical application of knowledge acquired in class. There is a need for systematic use of real-life material in chemistry lessons, building connections between in-class and extracurricular activities.

Methodological conditions have been identified that ensure the most effective use of real-life material in chemistry lessons. Thus, to foster the "interesting" motive, it is necessary to create mentally active situations using real-life material. The foundation for developing "usefulness" is teaching skills for the competent and rational use of chemicals and chemical reactions, as well as harmonious coexistence in the "chemical" world. Modern teaching tools allow for new ways to utilize real-life material in chemistry teaching.

A set of tools has been identified that can help foster interest in chemistry. These include: the comprehensive, systematic, and targeted use of real-life materials at various types and stages of chemistry lessons and in extracurricular activities; consistent connection of the material being studied to students' lives; the use of modern information technologies; and the interrelationship between in-class and extracurricular chemistry activities.

Principles have been developed that allow teachers to select real-life material for chemistry lessons, based on the criteria of "interesting" and "useful."

Conclusions

A diagram demonstrating the relationship between in-class and extracurricular activities has been developed to implement the principle of connection with life in chemistry lessons. A method for fostering interest in chemistry by implementing the principle of connection with life in teaching has been developed. The positive impact of the developed method on the development of cognitive interest and the quality of learning has been experimentally confirmed. Methodological recommendations for the use of life-related material in chemistry lessons in comprehensive schools have been prepared. These recommendations constitute a flexible system that allows for adjustments to individual components based on the specific conditions of the educational process.

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