#### Khalikova Fidalia Damirovna

candidate of pedagogical sciences, associate professor

Alexander Butlerov Institute of Chemistry

of FSBEI of HE "Kazan (Volga Region) Federal University"

### Sabirova Chulpan Radikovna

student

FSBEI of HE "Kazan (Volga Region) Federal University"

Kazan, Republic of Tatarstan

## UPBRINGING POTENTIAL OF INTEGRATED CHEMISTRY AND ENGLISH LESSONS IN TEACHING GIFTED YOUTH

Abstract: the article is devoted to the upbringing potential of integrated chemistry and English lessons in the process of teaching gifted students. The relevance of the article is determined by the fact that a modern lesson should be an integrated lesson, since for deep interpenetration, merging of disparate knowledge in different subjects, intersubject connections are used during integration, which contribute to the formation of upbringing potential. The article is addressed to teachers of chemistry and English, students of pedagogical directions and specialists in this field.

*Keywords*: integrated lesson, gifted student, chemistry, English, upbringing potential.

#### Халикова Фидалия Дамировна

канд. пед. наук, доцент Химический институт им. А.М. Бутлерова ФГБОУ ВО «Казанский (Приволжский) федеральный университет» *Сабирова Чулпан Радиковна* студентка ФГАОУ ВО «Казанский (Приволжский) федеральный университет» г. Казань, Республика Татарстан

# ВОСПИТАТЕЛЬНЫЙ ПОТЕНЦИАЛ ИНТЕГРИРОВАННЫХ УРОКОВ ХИМИИ И АНГЛИЙСКОГО ЯЗЫКА В ОБУЧЕНИИ ОДАРЕННОЙ МОЛОДЕЖИ

Аннотация: статья посвящена воспитательному потенциалу интегрированных уроков химии и английского языка в процессе обучения одаренных учащихся. Актуальность статьи определяется тем, что современный урок должен быть интегрированным уроком, поскольку для глубокого взаимопроникновения, слияния разрозненных знаний по разным предметам при интеграции используются межпредметные связи, способствующие формированию воспитательного потенциала. Статья адресована учителям химии и английского языка, студентам педагогических направлений и специалистам в этой области.

*Ключевые слова*: интегрированный урок, одаренный ученик, химия, английский язык, воспитательный потенциал.

The educational process considers not only learning, but also upbringing, which is a very important direction in the educational process of comprehensive schools.

A modern lesson in our understanding should be an integrated lesson, because for deep interpenetration, merging of disparate knowledge in different subjects, it is necessary to apply interdisciplinary connections that give rise to intrapersonal integration as a prerequisite for the formation of upbringing impact on a gifted student. It seems to us that with the integration of chemistry and English subjects, it is possible to achieve upbringing potential, since in the process the content of the lesson is transformed towards the desired result.

This problem was considered in the works of various researchers (T.S. Borodina, V.V. Kraevsky, etc.), they identified such concepts as: integration, integrative approach, integrated lessons, etc. [1; 5].

It should be recalled that the author of this article, within the framework of doctoral research, has developed a new innovative and integrative approach for the development of gifted students, which implies the integration of educational resources and management decisions when teaching gifted students in general education institutions. Also, the author F.D. Khalikova defines the teaching potential of an innovative and integrative approach, which consists in the use of different types of pedagogical integration in teaching, including interdisciplinary integration. The emphasis is placed on such a point that when preparing and conducting integrated lessons, it is necessary to rely on the components and elements of different subjects (chemistry and English) in order to obtain the desired result [3].

For the practical implementation of the innovative and integrative approach, integrated lessons in the «chemistry+" format were developed (biology, physics, ecology, geography, mathematics, geometry, history, society were added as integrating subjects) by fourth-year students during pedagogical practice. Technological maps were compiled for the developed lessons, indicating the topic and the type of the lesson, forms of work used in the lesson. For each lesson, the purpose and objectives of the lesson are defined, the planned learning outcomes (subject, meta-subject and personal) and learning tools are indicated. Integrated lessons in the Chemistry+ format were successfully conducted by students in 10–11 grades of various educational institutions [4].

It should be noted that the upbringing potential of integrated chemistry and English lessons in teaching gifted youth is found in the personal learning outcomes, since when integrating the content of different subjects, they act as the leading results. Let's list these personal learning outcomes when compiling integrated lessons: the ability of students to establish links between the purpose of educational activity and motive; the ability to take a responsible attitude to work, the ability to manage themselves and their behavior; the ability to realize the motives of educational activity; the ability to navigate in intrapersonal and interpersonal relationships, etc. It can be said that when the content of different subjects is integrated with the personality of a gifted student, an intrapersonal understanding of this «association» occurs, there is a possibility of «birth» of intrapersonal integration.

If learning goes through three goals – educational, developmental, upbringing, then upbringing goals will be of particular importance for integrated lessons: fostering

organization, tolerance and independence; caring for oneself and the environment; promoting the development of self-control and mutual control skills; developing the ability to listen and correctly evaluate the answers of classmates, etc.

There is experience in conducting integrated lessons «chemistry + English», the lesson was called «Introduction to organic chemistry in English», where chemical nomenclature and classification of organic compounds in English were very successfully used. A distinctive feature of this lesson was also that during the lesson, students were introduced not only to the biographical data of famous organic scientists who made a significant contribution to the development of organic chemistry, as well as familiarity with their personal qualities. Indeed, integrated lessons prepared by teachers of different subjects, with the participation of students, have a huge upbringing potential, since the integrity of the lesson, and not the mosaic in the selection and systematization of the necessary material creates a whole idea of the past, where there is a place for moral education and upbringing acts [2].

Therefore, the relevance of integrated lessons is determined by the fact that several contradictions are resolved at the same time:

– if we consider each subject separately, then in teaching English there is a possibility of forming unrealized communicative competencies, in teaching chemistry there is a need to increase cognitive interest in studying the subject;

– it is possible to detect in the traditionally stable content of the teaching of chemistry a lack of reproduction of spectral knowledge of the English language and informational, communicational and other skills;

- the traditional methods of teaching chemistry require the need to include integrating elements and techniques in the content that will help implement the ideas of renewal, integration, humanization, sociability, continuity, personalization;

- there is a socially conditioned need to educate a competent personality in the field of communication, which supports acquaintance and communication in the field of chemistry in English, and due to the lack of appropriate methods for the formation of such a personality, modern students assimilate the content of only a standard set of

knowledge and skills in chemistry, there is an urgent need to integrate Russian and European chemical education.

Of course, it is quite difficult to prepare such integrated lessons due to the fact that most chemistry teachers have weak language training, and the resulting reason is their disinterest in using interdisciplinary connections with a little-studied area. It can be noted that today there are not enough publications on this problem, there are only elaborations of integrated lessons (chemistry + English), as one of the forms of work (in extracurricular activities) in educational institutions with in-depth study of English.

When preparing combined lessons, the basis for integration is languages – chemical and English, when the chemical language is represented by a system of concepts and conventional signs (designations) used for expressing information in an artificial language, and when the English language relies on a multifunctional natural sign system used for communication, cognitive and professional skills.

Teaching chemistry at the lyceum begins with the seventh grade, by which time gifted students speak English well, taking into account the fact that integrated lessons «chemistry + English» refer to personality-oriented lessons aimed at forming a successful graduate, just thanks to the educational potential of integrated lessons in teaching gifted youth.

#### References

1. Borodina T.S. Principles of integration of educational and research activities of students [Electronic resource] // Modern problems of science and education. – 2014. – No. 5. – URL: http://science-education.ru/ru/article/view?id=14571 (date of reference: 03/19/2021).

Khalikova F.D. Introduction to organic chemistry in English / F.D. Khalikova,
G.I. Akhsanova, E.O. Massarova, D.L. Valiullin // Magarif. – 2015. – No. 12. – Pp. 54–60.

3. Khalikova F.D. Innovative-integrative approach and ways of its implementation in teaching gifted students // Business. Education. The right.  $-2020. - N_{2}3$  (52). - Pp. 430–436.

4. Khalikova F.D. Integrated lessons "Chemistry +": textbook / F.D. Khalikova, S.I. Gilmanshina. – Kazan: Fatherland, 2021. – 136 p.

5. Kraevsky V.V. General fundamentals of pedagogy [Text]: textbook. manual for university students studying in the specialty «Pedagogy» / V.V. Kraevsky. – 4th ed., ster. – M.: Academy, 2008. – 254, [1] p.