


**Educational implications of incorporating contemporary interactive techniques into the curriculum**


**Implicaciones educativas de la incorporación de técnicas interactivas contemporáneas al currículo**

**Implicações educacionais da incorporação de técnicas interativas contemporâneas no currículo**

Bayan S. Seifullina\*

 <https://orcid.org/0009-0007-7015-9948>

Zhenis A. Shokybayev\*\*

 <https://orcid.org/0009-0005-9091-4862>

**Abstract:** Analysing methods for integrating modern interactive techniques into university curricula is necessary due to the growing digitalization of education. The research seeks to assess the effectiveness of current interactive teaching methods, explore their potential integration with traditional approaches, and examine their influence on student learning outcomes. The study employs analytical, systematic, statistical, comparative, synthesis, and deduction methods to demonstrate that interactive methods can be categorised and evaluated in relation to other pedagogical techniques. The integration of interactive and conventional methods has been demonstrated to improve student achievement. The paper emphasises the necessity of incorporating interactive methodologies in addition to lectures for English-taught inorganic chemistry courses. A survey of 16 university instructors indicates that the most frequently employed interactive approaches are situational methods (88%), discussion methods (63%), and experimental methods (75%), often used in combination. Interactive learning is defined in the paper as the process of promoting two-way communication between instructors and students in order to enhance engagement and expedite the acquisition of knowledge. The use of the English language provides benefits such as the ability to access primary scientific literature and the development of skills necessary for international professional opportunities. The obtained results have practical significance as they can be utilised to create methodological materials and provide recommendations for teachers in higher educational institutions, colleges, or specialised schools that teach inorganic chemistry in English.

**Keywords:** Digitalization. Educational process. Pedagogical approaches. Exact sciences. Higher education seekers.

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\*Master in Chemistry, Doctoral Student, Department of Chemistry, Abai Kazakh National Pedagogical University, Almaty, Republic of Kazakhstan. *E-mail:* <seifullinab@gmail.com>.

\*\*Full Doctor in Pedagogy, Professor, Department of Chemistry, Abai Kazakh National Pedagogical University, Almaty, Republic of Kazakhstan. *E-mail:* <zshokybayev@outlook.com>.

**Resumen:** Es necesario analizar métodos para integrar técnicas interactivas modernas en los planes de estudio universitarios debido a la creciente digitalización de la educación. La investigación busca evaluar la efectividad de los métodos de enseñanza interactivos actuales, explorar su posible integración con enfoques tradicionales y examinar su influencia en los resultados del aprendizaje de los estudiantes. El estudio emplea métodos analíticos, sistemáticos, estadísticos, comparativos, de síntesis y deducción para demostrar que los métodos interactivos pueden categorizarse y evaluarse en relación con otras técnicas pedagógicas. Se ha demostrado que la integración de métodos interactivos y convencionales mejora el rendimiento de los estudiantes. El artículo enfatiza la necesidad de incorporar metodologías interactivas además de conferencias para cursos de química inorgánica impartidos en inglés. Una encuesta realizada a 16 profesores universitarios indica que los enfoques interactivos empleados con mayor frecuencia son los métodos situacionales (88%), los métodos de discusión (63%) y los métodos experimentales (75%), a menudo utilizados en combinación. El aprendizaje interactivo se define en el artículo como el proceso de promover la comunicación bidireccional entre profesores y estudiantes para mejorar el compromiso y acelerar la adquisición de conocimientos. El uso del idioma inglés brinda beneficios como la capacidad de acceder a literatura científica primaria y el desarrollo de habilidades necesarias para oportunidades profesionales internacionales. Los resultados obtenidos tienen importancia práctica ya que pueden utilizarse para crear materiales metodológicos y proporcionar recomendaciones para profesores de instituciones de educación superior, colegios o escuelas especializadas que enseñan química inorgánica en inglés.

**Palabras clave:** Digitalización. Proceso educativo. Enfoques pedagógicos. Ciencias exactas. Candidatos a Educación Superior.

**Resumo:** A análise de métodos para integrar técnicas interativas modernas nos currículos universitários é necessária devido à crescente digitalização da educação. A investigação procura avaliar a eficácia dos atuais métodos de ensino interativos, explorar a sua potencial integração com abordagens tradicionais e examinar a sua influência nos resultados de aprendizagem dos alunos. O estudo emprega métodos analíticos, sistemáticos, estatísticos, comparativos, de síntese e dedução para demonstrar que os métodos interativos podem ser categorizados e avaliados em relação a outras técnicas pedagógicas. Foi demonstrado que a integração de métodos interativos e convencionais melhora o desempenho dos alunos. O artigo enfatiza a necessidade de incorporar metodologias interativas além de palestras para cursos de química inorgânica ministrados em inglês. Uma pesquisa com 16 professores universitários indica que as abordagens interativas mais frequentemente utilizadas são métodos situacionais (88%), métodos de discussão (63%) e métodos experimentais (75%), muitas vezes usados em combinação. A aprendizagem interativa é definida no artigo como o processo de promoção da comunicação bidireccional entre instrutores e alunos, a fim de aumentar o envolvimento e agilizar a aquisição de conhecimento. O uso da língua inglesa proporciona benefícios como a possibilidade de acesso à literatura científica primária e o desenvolvimento de competências necessárias para oportunidades profissionais internacionais. Os resultados obtidos têm significado prático, pois podem ser utilizados para criar materiais metodológicos e fornecer recomendações para professores de instituições de ensino superior, faculdades ou escolas especializadas que ensinam química inorgânica em inglês.

**Palavras-chave:** Digitalização. Processo educativo. Abordagens pedagógicas. Ciências exatas. Candidatos ao Ensino superior.

## Introduction

The global spread of the Internet, as well as communication technologies, provokes the modernization of the educational process and creates new methods for its organization. In this way, interactive methods of education, which have distinctive features from classical educational techniques, are formed and consolidated. The use of didactic tools allows for an increase in the level of flexibility of the course, as well as to satisfy the needs and interests of students with different expectations and levels of knowledge (G'ayratovich, 2022). At the moment, in pedagogical science, there is a need to develop and implement such pedagogical forms that will be able to ensure the continuous development of the personality of the student of education. Based on this, there is a need to create favourable conditions for the education of students, in which they will not only

acquire high knowledge but also develop skills for their successful implementation in practice (Buckley, 2019).

The term "learning with the aid of interactive technologies" is suitable for describing and analysing technologies used in both teaching and learning. Considering this, the specified category is broad in its content, which does not allow it to be clearly defined. Accordingly, teaching using interactive techniques can also be applied in the context of digital technologies or various types of educational software (Tzima et al., 2022; Nennig et al., 2020). Such technologies significantly reform the educational environment and the work of educational institutions, as they not only speed up but also facilitate the acquisition of new information by students. Based on this, digitalization contributes to the implementation of technical progress, which is expressed in the formation and spread of interactive learning technologies. The latter is characterized by advantages not only for students but also for teachers (Gaybullo oglu & Sayfiddinovich, 2021).

Thus, it should be established that the problem of expressing the impact of interactive learning methods on the activities of students and teachers is relevant in scientific doctrine. In particular, V. Tsvetanova and S. Boboshevski (2020) and N. Yakavets et al. (2022) draw attention to the need to distinguish between the advantages of interactive classes and the pedagogy of active learning. They proved that these components were interconnected because teachers quite often used active learning approaches in the process of building an interactive education system. In turn, C. R. Kulueva et al. (2020) and B. Sulaimanova et al. (2022) studied the changes in human life in society as a result of the impact of digitalization. They established that computer technologies were the basis of the vast majority of spheres of social life, and the number of students of distance education prevails over the number of students of regular full-time education. In this regard, they concluded that, in addition to reading and writing skills, a modern student of education should master information technologies perfectly. S. G. Karstina (2021) investigated the peculiarities of the training of pedagogical workers taking into account modern technological trends. The author carried out an analysis of the modern labour market and established that the modernization of educational programs should take into account several factors, namely regional needs, immediate requirements of employers and career expectations of students. According to the scholar, this is precisely why it is necessary to implement interactive approaches that will allow for constant monitoring of effective areas of specialist training, for them to achieve the maximum level of their professional development.

The objective of the study is to examine different interactive methods of instructing inorganic chemistry in the English language. To elucidate the fundamental nature of interactive educational methods, their characteristics, and their impact on students' outcomes. To ascertain the precedence of incorporating cutting-edge technologies in the contemporary education system.

## Materials and Methods

The analytical approach in the work was used to study the didactic principles of using interactive methods in the study of inorganic chemistry in English. It was necessary for consideration of the object of research, which is a system of interrelated elements, namely the presentation, mastering, and implementation of knowledge. Also, the analytical method was applied to express the influence of various interactive concepts and techniques on the educational environment, in particular, the success of students and their ability to achieve educational goals.

The comparison method was applied in the process of simultaneous study of two or more objects. Phenomena, ideas, and research results were compared in the paper, which made it possible to distinguish common and distinctive features from them. The comparison involved studying the

role and effectiveness of various interactive methods by evaluating their impact on the educational process, the teacher's work, and student activity. In addition, this method was necessary to compare the success of students with the use of interactive techniques and without them.

The statistical method in the research involved the study of interrelated methods of mass objects and phenomena, namely the results of the survey of teachers and the expression of their quantitative characteristics. Thus, in April 2023, a questionnaire was conducted among the teachers of the Lviv Polytechnic National University. There was a total of 16 respondents, 8 men and 8 women, with 5 years of work experience, the age of the teachers was from 25 to 30 years. Accordingly, they indicated the most common and effective approaches to the organization of interactive learning. In addition, the statistical method was necessary to carry out a quantitative description of the results of the success of students' educational activities using various pedagogical methods.

The method of system analysis was used to structure materials related to current interactive methods of studying inorganic chemistry in English. Its importance in the work consisted of determining an effective sequence of actions aimed at expressing structural connections between permanent and variable parts of pedagogical activity and the educational process as a whole.

The following scientific methods were also used during the research: the method of system analysis, the comparative method, the statistical method, the method of synthesis, and the method of deduction.

In the study, the synthesis method was used to combine such functional parts as information technology, lectures, and inorganic chemistry into a single whole. This method was used in combination with the analysis method to express the connection and dependence between the elements described above. Thus, the meaning of the article was to express the influence of interactive education techniques on each other and educational subjects. The deduction method involved studying the role of specific interactive methods based on knowledge about the general process of studying inorganic chemistry in English. Its meaning was to express the academic results of students, which they can obtain through the use of various interactive methods individually or in combination.

## Results

### **The difference between interactive and non-interactive teaching methods**

Interactive teaching methods are essential in contemporary education as they prioritise the active involvement of students and cultivate their ability to think critically. These methods surpass the conventional lecture-style approach, in which students passively acquire information, by promoting active engagement and cooperation. Through participation in activities such as group discussions, debates, and hands-on experiments, students not only gain knowledge but also cultivate vital skills such as teamwork and problem-solving (Achkinadze et al., 2022).

An important benefit of interactive teaching is its capacity to cater to various learning styles and preferences. Teachers can meet the unique needs and interests of their students by offering a range of learning activities and opportunities for student participation (Wu, 2024). This flexibility fosters a more comprehensive learning environment where each student feels esteemed and assisted. Furthermore, interactive instructional techniques enable prompt feedback, enabling students to monitor their advancement and promptly address any misconceptions. This prompt

and efficient feedback loop facilitates ongoing enhancement and empowers students to assume responsibility for their educational progression (Kulyk, 2023).

Nevertheless, it is crucial to acknowledge that non-interactive teaching methods still hold value in the field of education (Marushko, 2022). Although lectures and presentations may lack interactivity, they are still effective in conveying intricate information and establishing a fundamental understanding of a subject. Furthermore, engaging in independent study and completing individual assignments cultivate self-discipline and autonomy, which are essential skills for continuous learning throughout one's life (Onishchenko, 2022).

Essentially, successful teaching frequently requires a harmonious blend of interactive and non-interactive approaches, which are determined by factors such as the subject matter, learning goals, and characteristics of the students (Grajcevcic & Shala, 2021). By capitalising on the advantages of both methods, educators can develop captivating and influential learning experiences that accommodate the varied requirements of their students.

## **Educational process**

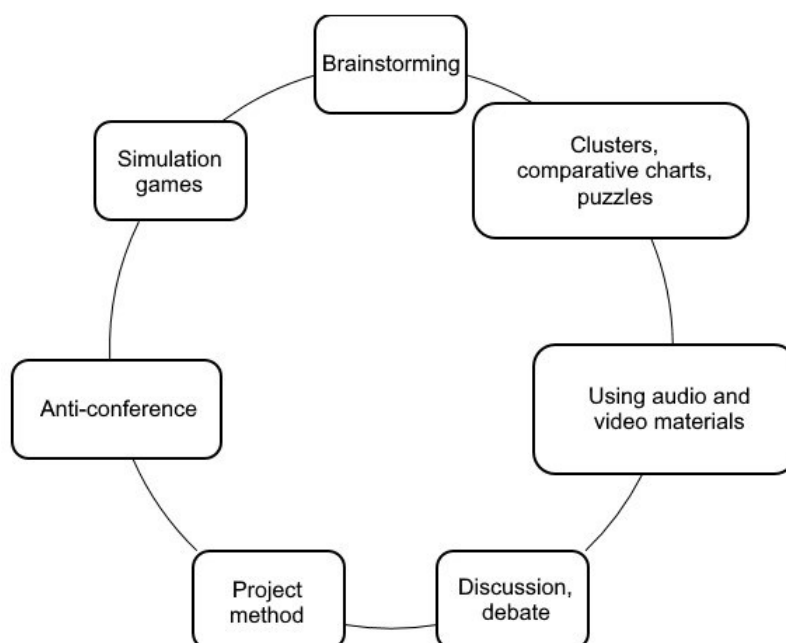
The initial stage of the lecture (both interactive and not) consists of researching the object of the educational session to determine the approaches to its study. The main task of the lecture is the analysis of unknown and new materials for students from a specific academic discipline. It should be noted that the lecture should be structured logically and step by step so that it does not contain unnecessary information for students. Also important is the teacher's tone of voice, which should be calm and balanced (Taat et al., 2020; Rosenbaum, 2020).

Special attention should be paid to the interactive method, which is aimed at organizing the proper conditions to ensure interactive communication of the subjects of education during the educational session, improving their educational results and speeding up the educational process as a whole. The main task of the teacher in this case is to involve students in the activity, which consists in mastering new educational material. As a result, future specialists can use the acquired theoretical knowledge in practice, both in professional and everyday life. An important property of interactive reading of lectures is an increase in the level of activity of interaction between educational subjects and the content of the educational session. The practical value of interactive teaching methods consists of the fact that with its help, the level of attention and motivation of students increases, and thus provides high-quality feedback between the teacher and the student. As a result, it makes it possible to increase the level of satisfaction with the learning process. It is also worth noting that the involvement of interactive methods in the educational process involves the study of a larger amount of material during the academic semester. This is because they are directly involved in the acquisition of knowledge and skills, which allows them to understand, and most importantly, use the studied material. An interactive lecture is characterized by the involvement and participation of the educational audience in joint activities, which provokes a change in approaches to the functions and role of the teacher. Accordingly, they should not only teach new information but also ensure its discussion among educational subjects. The positive thing is that the lessons take on a diverse character, for example, due to the participation of students in discussions within small and large teams in the class.

It is worth highlighting the goal of an interactive lecture, which consists of increasing the interest and motivation of students to study using the formulation of effective interaction between them and the teacher, as well as other students. For the lecture to become interactive, the teacher should focus on those elements of the lesson that are interesting for students. At the same time, the implementation of such an approach requires a certain level of training of education seekers,

so that their activities are of high quality and ensure the achievement of all educational goals (Figure 1) (Gaber et al., 2020).

**Figure 1** - Modern interactive teaching methods



**Source:** D. A. Gaber et al., 2020.

For the beginning of the lecture to be effective, the teacher should use an interaction trigger and, accordingly, draw the attention of students to the educational activity. Since the interactive teaching method belongs to the category of active approaches, it should be noted that they require a greater amount of time to study and consolidate the educational topic compared to non-interactive lectures. To save time, the teacher can choose for the lesson more difficult and complex educational information that is not contained in the textbooks. This will allow them to expand the scope of students' knowledge, as well as increase their motivation to study.

In addition to information materials, the teacher needs to choose the right educational tasks that will be the basis for the interactive differentiation of the lecture. With the help of interactive methods, it will be possible to involve all students in educational activities. This will prevent the teacher from forcing a specific student or group of people to answer. As a result, all students will be able to participate in the discussion and interact with each other, which will positively affect their attentiveness and memorization of the material. The teacher needs to involve tasks aimed at the development of critical thinking in the educational process. This is because the students' training in such skills allows them to self-assess and determine the available progress in the course of educational activities. The use of interactive methods enables students to use the newly learned material in practice immediately after the training session or, on the contrary, to detect their mistakes in time. The latter is important in the course of self-control and overcoming difficulties with the help of a teacher.

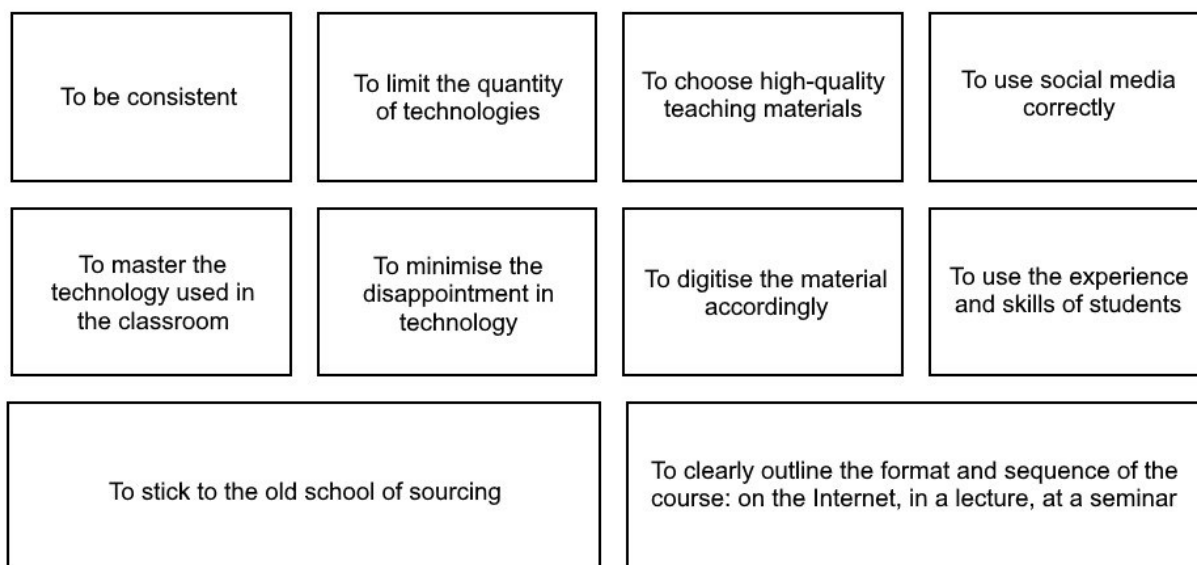
It should be noted that for an interactive lecture to be effective, the teacher needs to combine several different interactive approaches within one educational session. In addition, it is important to establish channels for feedback, with the help of which students can ask the teacher questions or solve joint tasks with them. The presence of this link allows for effective interaction of educational subjects, which deepens their level of knowledge and understanding of the academic

discipline. As a result, students can independently determine the essence of concepts and ideas expressed by the teacher during the lecture and presentation of educational materials. In this process, students need to establish a connection between new information and previously acquired knowledge and skills, which will allow them to better consolidate the material and involve a larger number of students in joint educational activities. Conducting lecture classes with the active participation of students has several important advantages. In particular, the enthusiasm for educational subjects provokes the improvement of the process of assimilation of new information and allows it to be retained for a longer time during an interactive lecture than during ordinary listening or viewing of the material. Also, the advantage of this approach is to increase the motivation of students, which allows them to develop their self-esteem and confidence in their knowledge.

At the same time, it should be noted that different teachers can use interactive teaching methods in different ways. As a result, this is reflected in the experience and training of students. However, to a greater extent, they have positive signs, as they are aimed at the development of communication between students of education. This component is the basis of social life, as well as the educational activity of students as a whole. Communication can be both in real life and in social networks, through the use of e-mail.

According to the results of the analysis in other studies of the use of interactive methods in the process of studying exact sciences, several recommendations can be formulated for teachers regarding the improvement of the use of modern interactive technologies in education (Figure 2) (Silva et al., 2020).

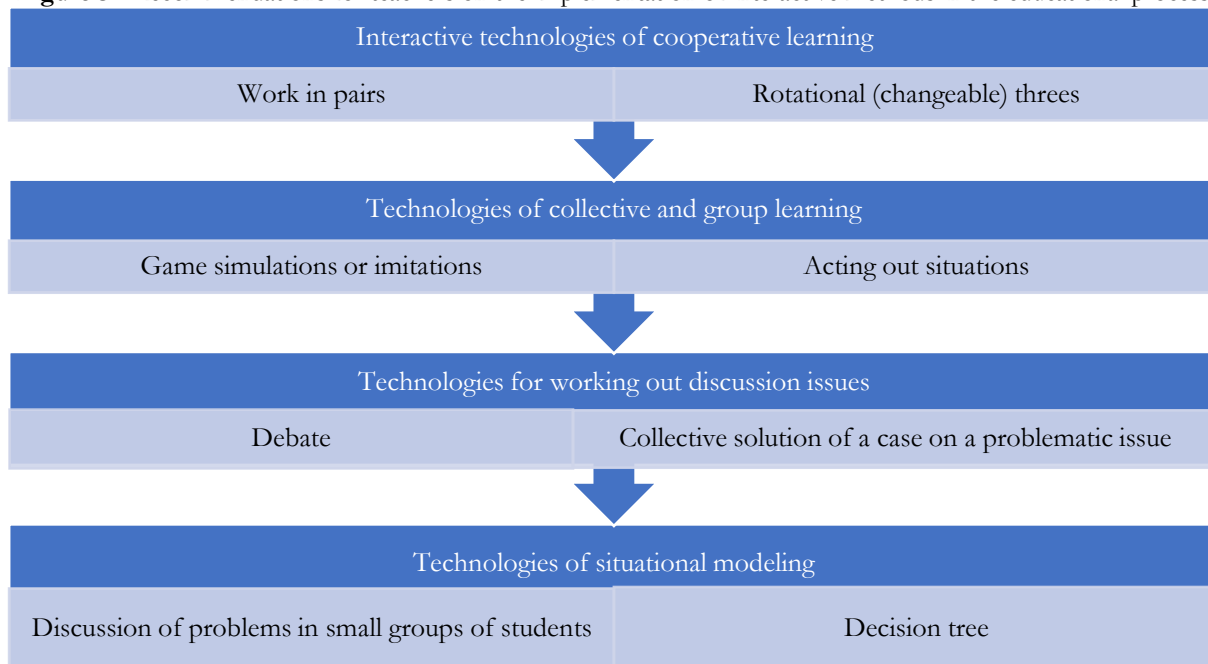
**Figure 2** - Recommendations for teachers on the implementation of interactive methods in the educational process



Source: F. L. Silva et al., 2020.

The proposals disclosed above are aimed at improving the training courses in inorganic chemistry to ensure the interests and needs of students in the English language. Educators have a positive attitude to interactive learning methods, as they facilitate the process of educational activity and are currently an integral part of it. In this case, it is appropriate to describe the main categories of interactive approaches to the study of inorganic chemistry in English. Among them are the methods of corporate training, collective group training, situational modelling, and working out debatable issues (Figure 3).

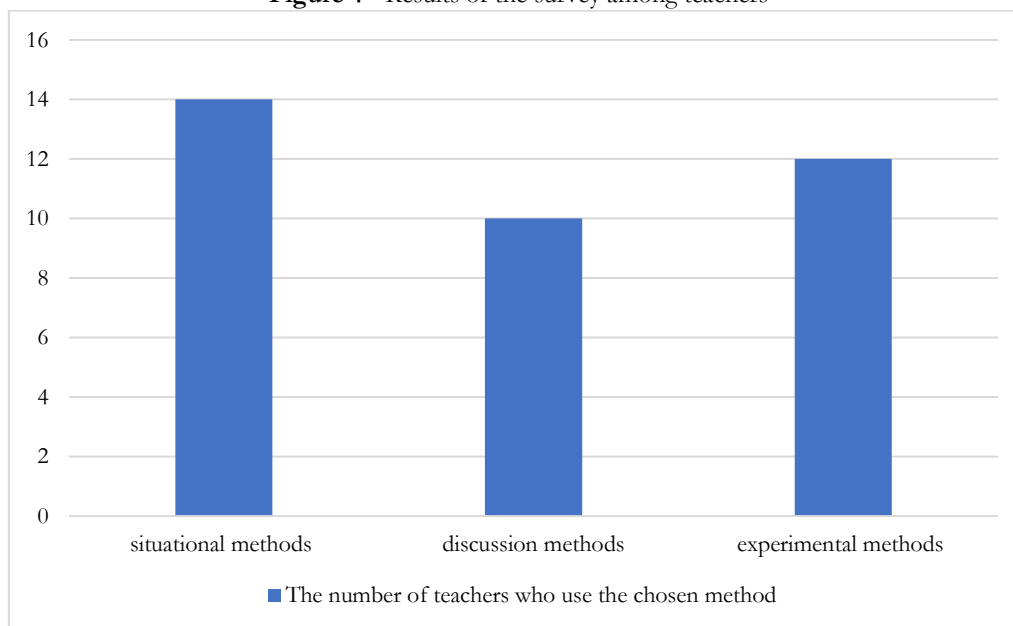
**Figure 3 - Recommendations for teachers on the implementation of interactive methods in the educational process**



**Source:** created by the authors.

With this in mind, a survey of 16 teachers was conducted in April 2023 on the most common and effective interactive learning approaches. As a result, 88% of teachers chose situational methods (for example, cases, simulation of situations and conditions), 63% of respondents preferred discussion methods (for example, discussion, discussion, brainstorming), and 75% of respondents indicated experimental methods (e.g., observation, temperature measurement). At the same time, according to the obtained results, all teachers try to systematically involve different approaches, namely by combining them (Figure 4).

**Figure 4 - Results of the survey among teachers**



**Source:** created by the authors.

Interactive learning methods are often used in online learning. Its essence is to learn and consolidate a wide body of knowledge that undergoes daily development, resulting in the formation



of new online practices (Ronto et al., 2020). The peculiarity of conducting online lectures is that teachers must not only understand their subject but also possess digital technologies or other non-classical ways of distributing educational material. Regarding the development of an online course, during this process, the teacher must take into account the content of the course and the specifics of its implementation. It should have a student-centred approach so that the information presented in the course meets the interests and needs of higher education seekers.

It should be noted that lectures developed based on the interactive method can be presented not only in the form of PowerPoint presentations, and textbook reading tasks but also in projects and cases. It is during their implementation that it is possible to organize communication between students and the teacher. In the course of this process, not only the learning of new material takes place, but also the solution of problematic aspects faced by the acquirers. It should be noted separately about the value of certification activities, which consist not only of conducting exams and assessments but also of other forms of assessment, such as discussions, brainstorming, and group cases. In this case, assessment should take into account not only the cognitive features of students but also their emotional skills.

When studying inorganic chemistry in English, it is advisable to use the following interactive approaches, namely: elicitation; differentiated groups; free practice; and informative window. Accordingly, in the course of elicitation, it is possible to organize students' receipt of information from the teacher using logically constructed question-answers, for example: "What are the distinguishing features between the categories of simple substances and compounds of transition metals?" As for differentiated groups, this sub-type of the educational process involves learning in small groups, each of which is asked specific questions, for example: "The first group name examples of the elements of the main groups"; "The second group describe compounds of transition metals"; "Third group, indicate the organometallic compounds known to you". In this case, each member of the small group must answer the question.

Next is free practice, which involves the independent activity of the whole class, while the teacher must control their activity without affecting their result. In this case, it is advisable to invite all students to discuss and give examples of methods for researching inorganic compounds.

As for the informative window, this type of activity should encourage students to transfer information to each other. For this, the teacher should provide one student with information about the historical development of inorganic chemistry in English and ask them to pass it on to the following students in turn. The last student should present their report, and the other students should report theirs in turn.

It is especially important to note the role of the English language in this process, as it has several advantages. First of all, it should be noted that studying neo-organic chemistry in a foreign language allows the student to expand the scope of their competence and have access to original primary sources. In addition, it positively reflects on their future employment or scientific activity, as they can conduct research at the international level, teaming up with foreign specialists. At the same time, it should be noted that studying inorganic chemistry in English is a more complex process, unlike using the native language, which is why it is mandatory to introduce interactive approaches. This is explained by the features of these educational tools and their influence on the course of the educational process as a whole, which was revealed above.

Therefore, it can be established that interactivity is an indispensable component of the modern education system. However, its involvement must necessarily occur in interaction with traditional educational tools and approaches. Undoubtedly, this requires a change in the process of training teachers to conduct lectures and training sessions, as well as students to actively participate

in educational activities. For the process of studying inorganic chemistry in English to become highly effective, it is necessary to minimize obstacles for students, which is possible with the help of the teacher's combination of conventional and interactive methods of teaching the educational material. As a result, the formation of a favourable emotional group and individual microclimate in the classroom is expected, which will positively reflect on the level of students' training and their competence.

## Discussion

The popularization of the problems of teaching English in higher education is due to such processes as globalization and internationalization. In this regard, foreign language skills have become particularly relevant in various professional areas, which has caused a debate in scientific doctrine. Questions regarding the reform of the educational environment, as well as its reintegration using new methods and forms of educational activity, are debatable. This process takes place thanks to the introduction of interactive learning methods, which are aimed at increasing the intensity of learning of higher education seekers. Therefore, the pedagogical doctrine raised the question of the expediency of combining classical approaches to learning and modern interactive methods.

In their scientific studies of the effectiveness of modern education, such scientists as C. Barnes et al. (2020) claim that the formation of students' skills and experience that will help them perform future professional tasks is a complex process. Accordingly, this determines not only the transfer of theoretical material but also control over the acquired level of knowledge of students. The teacher's level of responsibility increases due to the understanding and support of the future specialist's concept of success. Researchers claim that for effective training of students, teachers need to carefully study and establish their responsibilities and role in the process of training future specialists. Thus, they are entrusted with the function of developing students' motivation, so that the latter can freely express their position in the course of learning, and point out doubts and problems. Researchers believe that before choosing teaching methods, a teacher should analyse the interests and needs of students, taking into account their authentic and relevant experiences. In the course of communication, the teacher can independently determine both the strengths of the student and the difficulties they have in a specific academic discipline or topic. In this case, the teacher must provide the student with additional explanations or educational materials. Therefore, interactive learning involves both the training of students and the continuous development of the teacher, namely their pedagogical skills, through the acquisition of new practices and concepts. According to the researchers, an important component of the educational process is the assessment of the level of deductions of students of higher educational institutions. With this in mind, they suggest that teachers use several methods and criteria for monitoring the level of students' training at once. The impact of digitalization on the educational environment was emphasized, namely that the modern teacher needs constant updating of educational materials and tools with which they interact with students. Based on the above, the work of the researchers and the conclusions of this article are united by the fact that teaching the next generation is the main responsibility of the modern teacher. At the same time, one should also support the idea of mandatory consideration of the number of students' deductions when choosing learning methods from the course. This will make it possible to provide an objective assessment of the prevalence of the discipline among students and its relevance in today's conditions.

L. Goosen (2020) proved that the most common teaching methods are demonstration and individual. In his opinion, during the interaction of students, consolidation of new knowledge occurs faster than during independent work. To improve this process, he suggests that teachers do

a set of tasks sequentially and then collectively check them. In this way, it is possible to increase the activity and interest of students in new educational material. He also conducted an experimental study, according to which the use of interactive learning methods in the process of teaching natural and exact sciences, including chemistry, made it possible to increase the success rate of students of higher educational institutions by 24%. Based on this, he established that an interactive approach allowed for in-depth mastery of a subject in the field of natural and exact sciences. Comparing the revealed position of the author and the results of this study, it should be established that for the effective implementation of interactive teaching methods, teachers of inorganic chemistry need a combination of professional experience with practical skills in using digital technologies. In this regard, it is advisable to agree with the proposed approaches of L. Goosen (2020) regarding the effectiveness of the integration of an interactive approach to the study of exact sciences, which is confirmed by his experiment and corresponds to the results of this study.

M. Taat et al. (2020) and F. Tuma (2021) studied the process of implementing interactive learning methods for student learning. According to M. Taat et al. (2020), this is extremely resource-intensive, which provokes a feeling of relative costs, as well as receiving educational benefits. He found that interactive approaches required teachers to spend more time designing and implementing them, as well as developing listening skills. The researcher proved that team teaching was characterized by higher efficiency than ordinary lectures. This is explained by the fact that during such training a wide range of students is involved, and their educational activity increases. However, to organize high-quality team and interactive work, the teacher must have the skills to master various pedagogical approaches and concepts. At the same time, F. Tuma (2021) believes that such skills and knowledge are not universal, as they develop by the teacher's professional experience. Also, an important characteristic of a professional teacher is flexibility and willingness to share information about the advantages of various pedagogical methods in the pedagogical community. Similar to the conclusions of these researchers is the opinion about the need to present progressive thoughts among students and teachers and their development in modern conditions. Accordingly, such a position should be supported to form requirements for a modern teacher, considering the global spread of information and its dominant place in all spheres of social life.

S. Xu et al. (2021) and A. Sardor and A. Nafosat (2023) in their scientific works described one of the most common interactive teaching methods, namely the didactic game. S. Xu et al. (2021) reveal its essence as a teaching method consisting of actions and modelling, as well as an active approach to the acquisition and expansion of student skills. Thus, as a result of the introduction of didactic games into the educational activity, the level of effectiveness of the latter increases. The authors note that didactic games belong to the category of active methods of assimilation of educational material not only during lessons but also during extracurricular hours. In addition, the researcher notes, they can be used in the process of forming specific and narrowly focused concepts and terms, which allows deepening the level of students' training. As a result, there is a development of intelligence, a creative approach to exercises and tasks, as well as the freedom of thinking of students. A. Sardor and A. Nafosat (2023) note that due to the use of such games, students become more intellectually flexible, and therefore can go beyond rigid frameworks. Thus, students increase their level of confidence in their abilities and get satisfaction not only from the educational process but also use the acquired knowledge. The stated positions of the researchers and the results of this work are united by the fact that to overcome the monotony of classical lectures, it is necessary to use various didactic forms, in particular, game forms. In this case, the proposed idea regarding the use of didactic games is promising, as it involves increasing the activity of education seekers. That is why such a position should be supported, and for its improvement, it is appropriate to suggest using social networks during the organization of such activities.

Based on the above, a common approach among scientists is to prove the advantages of interactive learning and its effectiveness in the context of student success. The implementation of an interactive approach is difficult, and for it to be of high quality, this process should be combined with classic educational tools and concepts.

## Conclusions

In summary, this study has shown the significance and advantages of integrating interactive teaching techniques into the curriculum, specifically for instructing university students in inorganic chemistry using the English language. Utilising contemporary interactive methodologies such as case studies, simulations, discussions, and experimental techniques can greatly enhance student involvement, memory retention, and practical implementation of concepts in comparison to solely relying on traditional lectures. It is advisable to integrate interactive methods with traditional teaching tools to establish an ideal learning setting that accommodates diverse student requirements and learning preferences. Utilising interactive methods necessitates additional time for instructors to prepare, but yields benefits in terms of increased student motivation, participation, and attainment of learning objectives.

English as the medium of instruction enhances students' skills, facilitates access to primary resources, and equips them for global scientific cooperation and job prospects. To successfully implement interactive inorganic chemistry courses, instructors must undergo thorough training in interactive teaching methods, educational technologies, and techniques for promoting student engagement and receiving feedback. In summary, incorporating interactive techniques into chemistry education is a valuable way to update and align with current socio-technological trends such as digitalization. Although it may be difficult to put into practice, interactive learning holds the potential to develop highly skilled professionals who are well-prepared for success in their careers. This is achieved through increased engagement, practical hands-on experience, and improved language proficiency. Further investigation into improving interactive STEM teaching methods remains essential.

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Received: 20/01/2023

Final version: 10/05/2024

Accepted: 11/05/2024

Published online: 28/05/2024