

ПЕДАГОГИЧЕСКИЕ НАУКИ

TEACHING ENGLISH TO CHEMISTRY STUDENTS IN THE KARAKALPAK AUDITORIUM

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ПРЕПОДАВАНИЕ АНГЛИЙСКОМУ ЯЗЫКУ СТУДЕНТОВ ХИМИИ В КАРАКАЛПАКСКОЙ АУДИТОРИИ

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ABSTRACT

The article deals with the importance of teaching English for specific purposes (ESP), and methods of teaching English to chemistry students in the Karakalpak auditoriums. In this article, works and theories of methods in teaching the foreign language have been analyzed and suggestions are given. Descriptive method analysis is used in this article. The article gives information about the problem and ways of teaching chemistry in the English language. Also, in the article, sample of the lesson activities to teach English to chemistry students have been described.

АННОТАЦИЯ

В статье рассматривается важность обучения английскому для конкретных целей (ESP), а также методика преподавания английского языка студентам-химикам в каракалпакских аудиториях. В статье проанализированы работы и теории методик обучения иностранному языку и даны предложения. В статье использован описательный метод анализа. В статье представлена информация о проблеме и способах обучения химии на английском языке. Также в статье был описан образец занятий по обучению английскому языку студентов-химиков.

Key words: English for specific purposes (ESP), chemistry, student-centered approach, methods.

Ключевые слова: Английский для специальных целей (ESP), химия, студентоцентрированный подход, методы.

1. Introduction

In the study of chemistry didactics, great importance is attached to its professional and practical orientation, which is important for the formation of both general cultural and general professional and subject competencies in students, which are necessary for their preparation for the upcoming pedagogical practice at school. Foundation of students' chemical and didactic training is created, first of all, by professionally significant knowledge: 1) the foundations of chemical, psychological and pedagogical, cultural, historical and philosophical sciences; 2) the functions of a chemistry teacher; 3) modern requirements for educational activities (class, extracurricular, optional, home, additional); 4) educational goals (teaching, educating, developing); 5) the principles of selection of the content of lesson, extracurricular and extracurricular activities; 6) chemical language, which includes chemical symbols, nomenclature, terminology in its structure; 7) various types of lessons and their structure; 8) a variety of teaching methods and means; 9) traditional and innovative educational technologies; 10) techniques and methods of school chemistry experiment, especially student, safety and labor protection requirements in the chemistry room, rules (safe

performance of chemical experience, sale of products of chemical reactions, storage of chemical reagents).

In the process of teaching didactics of chemistry, special attention is paid to also the formation of readiness (general professional and subject competence) of students-chemists-teachers: 1) apply theoretical knowledge and skills in educational practice, received at the university, in the process of teaching chemistry in modern basic and high school; 2) determine the goals and objectives of chemistry lessons, select content, develop lesson notes and conduct lessons of different types with using a variety of didactic tools, introducing educational process innovative technologies; 3) use a demo chemistry experiment in combination with a student experiment, realizing its various functions; 4) organize a variety of independent work (copying, heuristic, frontal, individual), using ready-made and self-made teaching aids, didactic materials, video recordings, presentations and other ESM; 5) implement interdisciplinary and meta-subject communications, techniques problem, algorithmic and other training; 6) adjust, monitor and evaluate personal, meta-subject and subject results; 7) analyze the quality of professional activity taking into account the formed competencies, taking into account the quality of extracurricular, optional, additional classes, research and educational work.

2. Methodology

A student-centered approach to teaching foreign languages influences the choice of teaching technologies. Less and less space is taken up in the educational process such educational speech actions in which at least a conditional communicative orientation would be absent. For example, reading by all students of the same text and retelling it to each other. Group work on different texts is used more and more, allowing each student to perform feasible functions. For example, in student reading (with full comprehension), one student reads the text in an undertone, another highlights unfamiliar words, the third searches their meaning in the dictionary, the fourth translates the sentence causing difficulties for understanding, etc. Such work prepares students for real communication - exchange of information with other groups who have read other texts, for value judgments about what they have heard and read from others. Correct organization of such activities promotes the development of speech initiative, improves educational and communication skills. Great practical focus in the study of a foreign language has a project methodology that provides an outlet for speech activity in other types of activity relies on a personality-oriented paradigm of education, consolidates it variability, taking into account the capabilities and needs of students, the ability to choose educational services [3]. Personality-oriented approach to teaching a foreign language allows you to provide and support the processes of self-knowledge, self-development and self-realization of a student's personality, the formation of his unique individuality. For a more effective implementation of personality-oriented approach in teaching, it is recommended to adhere to the following didactic recommendations in the following:

- organize the teaching material in such a way that the student has a choice when completing assignments;
- provide incentives for the student to self-valuable educational activities, provide opportunities for self-education, self-development in the course of mastering knowledge;
- constantly align the student's experience with scientific content assigned knowledge;
- material presented in the textbook should be directed to the expansion already accumulated knowledge, structuring, integration, generalization of subject content, as well as the transformation of personal the experience of each student;
- when introducing knowledge about techniques for performing educational activities to highlight general logical and specific methods of educational work, taking into account their functions in personal development;
- to provide control and assessment not only of the results, but also, mainly, of the learning process, that is, those transformations that the student carries out, assimilating the educational material [5].

A lesson can be considered effective only when the relationship between the work of the teacher and the student is at the highest level. Student-centered learning can help educators achieve set goals. Thus, the main

provisions are personal oriented learning - about the significance of the student's subject experience, individual style of his educational activities, dialogue construction educational process, the need to maintain an individual map of its development - should be embodied in a foreign language lesson.

3. Literature Review

The documents on the modernization of the school clearly identify three priority areas of education in the modern information society: informatization of education, teaching foreign languages and mastering social and economic knowledge. Therefore, proficiency in English is not just a wish, but an urgent need and an irreplaceable component of the specialist's profессиogram. A certain level of English proficiency now not only testifies to the general cultural level of a specialist, but also bears the character of a professional necessity. In this case, the choice of the most effective approaches and methods of teaching a foreign language is of particular relevance. In this the article discusses a personality-oriented approach to learning foreign languages, which arose as an antithesis to the teaching process, in the center of which is the personality of the teacher. Within the framework of the humanistic approach at the end of the twentieth century, personality-oriented learning was originally aimed at creating psychologically comfortable atmosphere conducive to the development of creative, intellectual abilities of students and strengthening their self-confidence [4, p. 11].

Turning to a person-centered approach is due to the desire to resolve the contradictions between the declared goals teaching a foreign language at school and real practical results [2]. Thus, as the goal of training, the development of communicative skills is put forward, which makes it possible to carry out verbal communication in real situations, and the conditions and means of implementation are not adequate to the set goal, that is, they are artificial. Analysis of practice shows that school students lack motivation based on the natural need to communicate in a foreign language. In addition, the inability to use a foreign language speech experience in real life is not allows you to achieve significant results in learning a foreign language.

4. Results and Discussion

In the following, we suggest sample activities to use in the Karakalpak classroom: English for Chemists: Games.

Exercise 1. Chemical elements and play.

It is with this part of vocabulary enrichment that integrated lessons of English and chemistry should begin. As a result, students will learn pronunciation of elements in English and develop spelling by writing flashcards or dictation. How to work with new words so as not to "die of boredom"?

For a group lesson, the good old game *Bingo* is perfect. You need to select 25-30 suitable elements, make a list of their abbreviations. Students draw a simple 5-cell spreadsheet and fill them with abbreviations of the item names at random. Then the drum spins or a card with a reduction is drawn by drawing lots. Pupils find the names they need in their table and add their version. The winners are those

students who have collected the maximum number of words and spelled the full names correctly. This game helps to develop listening skills - it is easier to perceive the names of chemical elements by ear, and also helps to correct the spelling of students. It also teaches them to associate English names with chemical symbols - a vital skill for chemists. This would be good for students, level B1-B2.

Exercise 2. Puzzle

This activity requires thorough preparation by the teacher and is designed for levels B2-C1.

It is necessary to take two elements, not as simple as carbon (carbon), but also not as complex as thorium (thorium), and prepare a detailed description of these elements. For research, you can use English-language textbooks on chemistry or the Internet. The information should include information such as atomic number, atomic mass, chemical and physical properties of the elements. Students work in groups of 4, where each receives a piece of information from the teacher. After reading the information to himself, the student chooses the 3 most significant facts in his opinion and makes a puzzle for his opponent. The other students' job is to understand which element is being described. Timing can be set for students, and if the puzzle is too difficult, the student can add one or two more pieces to the description. Such exercises can be repeated if the teacher chooses different sets of chemical elements.

In an individual lesson, such a quiz can be set as an independent work: the student and the teacher are opponents of each other. Everyone prepares descriptions for 2 unknown elements. During the lesson, they present each other with pieces of prepared information and put forward their answer options. This exercise helps to improve not only vocabulary, but also the speaking skills of students who immediately apply new vocabulary in speech.

Exercise 3. Chemical reactions: find, compose, read.

Students are given cards with elements that easily enter into reactions, such as carbon, hydrogen, oxygen, sulfur, calcium. One student gets one card. After receiving the student must find the maximum number of elements that will enter into a reaction with "him" and write it down. The winner is the student who will not only have more reactions, but who will write them down correctly and will be able to read them aloud correctly. This exercise is suitable for level B1-B2 students.

Exercise 4. Chemical compounds

This exercise is a hybrid of independent work and paired with a teacher. The teacher prepares a report or presentation about a selected group of chemical elements, for example, lipids or alcohols. During the presentation, the student should take notes, briefly outline, highlight the main thoughts. After the end of the presentation, the teacher asks 5-6 control questions. The final score is given according to the results of his answers. You can write these presentations and questions yourself or take them from the English language (IELTS, TOEFL) exam preparation textbooks.

During independent work, the student is given a text, with a study for another group of chemical elements. The student's task is to highlight the main thoughts of the text, compose a short 5-minute report, to write definitions for the highlighted words. For more advanced students, you can use the exercise to find grammatical, stylistic and semantic errors in the text. This would be perfect for individual work with students at levels B1-C1.

Therefore, above I listed the basic rules that guided me in preparing for classes, as well as the exercises that my students liked the most. If you work with chemistry students, share in the comments what materials you use, what difficulties you face.

5. Chemical experiments: Level: B2-C1

In this task, students in the auditorium will work with the basic vocabulary used in a laboratory, they should move to the next stage, to describe a chemical experiment. Teacher should introduce the subject bringing an article from a scientific publication, mainly an experimental part. During the activity, students will learn expressions such as place the solution in a separating funnel, dilute with water, transfer the solution thus obtained to..., adjust the pH of the solution to... and other phrases [7, 94]. Then teacher asks the students to work in pairs and describe an experiment they have recently completed. Students are asked to write each step on a separate line. When this activity is completed, teacher will distribute pairs of scissors and ask the learners to cut their descriptions into thin strips, and then mix up and swap with another pair of students. Finally, students should put the sentences received from the other pair of students in the correct order, remembering that the wrong sequence could result in an explosion. The author will check the final version.

5. Conclusion

Thus, many factors influence the conduct of a game based, interactive activities with students: atmosphere, the right time, rules of activities, required number of participants, age matching, the required knowledge base, and so on. Therefore, it is vital to highlight the methodological aspects: - a preparatory stage must be carried out (make sure that students have the necessary knowledge base (vocabulary and grammar); - the activity should be appropriate for the age of the participants and be understandable; - the teacher himself must, first of all, believe in the effectiveness and usefulness of the game/activity; - the game should be productive and arouse the student's desire to complete the task as best as possible; - the teacher must make sure that the game is accepted positively by the whole group; - it should be carried out in a creative and supportive atmosphere; - it is advisable to use clarity in the game and, if necessary, gestures and emotions to add fun to the process.

Also, it should be noted that the game is an integral part in the process of learning a foreign language at the initial stage. It helps to present information to students in an unobtrusive and engaging way, to make educational process more exciting, interested this subject of students. Furthermore, game based activities make the learning process easier for both the teacher and the students, without forming in

them the image that English is boring and uninteresting, but, on the contrary, helps to involve, motivates, develops, educates, inspires and opens up new opportunities. Activities described above, shows the way that the teacher might transfer famous techniques to different contexts teaching English as a specific purpose. In our assumption, lessons can be considerably improved by the tasks and activities that will bring variety in the English language learning process.

References

1. Dobrovolskiy D., Piirainen E. Cultural Knowledge and idioms. *International Journal of English Studies*. 6/1. 2006. pp. 27-41.
2. Personality-oriented approach in teaching [Electronic resource]. Access mode: <http://www.psychologos.ru/articles/view/lichnostnoori>

entirovannyu_podhod_v_prepodavanii (date of access: 19.01.2014).

3. Mardasova N.A. Personality-oriented approach [Electronic resource]. Access mode: <http://mardasovana-zhdha.narod.ru/index/0-12> (date of access: 01/20/2014).

4. Milrud R.P. *Methods of teaching English. English Teaching Methodology: textbook. manual for universities*. 2nd ed. M.: Bustard, 2007. pp. 257.

5. Lesson plans // British Council BBC. Teaching English [Electronic resource]. Mode of access: <http://teachingenglish.org.uk/try/lesson-plans> (дата обращения: 26.01.2014).

6. *Common European Framework of Reference for Languages*. Council of Europe, Language Policy Division. 2005.

7. Domański P. *English in Science and Technology*. Warszawa: Wydawnictwa Naukowo-Techniczne. 1996. pp. 94.

УЧЕБНО-ИССЛЕДОВАТЕЛЬСКАЯ ДЕЯТЕЛЬНОСТЬ СТУДЕНТОВ: РАБОТА ПО ИНСТРУКЦИИ ИЛИ ИНИЦИАТИВА?

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EDUCATIONAL-RESEARCH ACTIVITIES OF STUDENTS: WORK ACCORDING TO THE INSTRUCTIONS OR AN INITIATIVE?

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АННОТАЦИЯ

Насколько директивными должны быть указания, получаемые студентом от руководителя? Как относиться к тому, что студент предпочитает торить путь к истине самостоятельно? В статье эти проблемы иллюстрируются примерами обучения математическому экспериментированию и построения математических моделей. Делается вывод о необходимости активизировать познавательные способности студентов, поручая им комплексную самостоятельную разработку и анализ моделей с широким использованием информационных ресурсов и вычислительных инструментов.

ABSTRACT

How directive should the instructions received by the student from the supervisor be? How to treat the fact that a student prefers to find the way to the truth on his own? In the article, these problems are illustrated by examples of teaching mathematical experimentation and building mathematical models. It is concluded that it is necessary to activate the cognitive abilities of students, entrusting them with a comprehensive independent development and analysis of models with a wide use of information resources and computing tools.

Ключевые слова: Учебно-исследовательская деятельность студентов, математическое моделирование, информационные технологии в обучении.

Keywords: Educational-research activity of students, mathematical modeling, information technologies in teaching.

Исследовательский рефлекс относится к сильнейшим рефлексам, сопровождающим человеческую жизнь с первого до последнего дня. Интересно, что исследовательская активность не так уж часто связана с потребностью в пище и других материальных благах. Её запуск, скорее, происходит как реакция на новую среду (в том числе, информационную).

Прежде всего, необходимо провести определённое разграничение между учебно-

исследовательской деятельностью студентов и их обычной учебной работой. Исследовательская задача – это проблемная, творческая задача, соответствующая познавательным потребностям обучающегося, с заранее не вполне известным методом решения, требующая проведения теоретического анализа, применения методов научного исследования, с помощью которых будут открыты ранее неизвестные для обучающихся знания. Такая задача вносит творческую