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**INTERDISCIPLINARY APPROACH IN TEACHING FOREIGN
LANGUAGES AT A NON-LINGUISTIC UNIVERSITY**

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Abstract

The article deals with the problem of training a specialist who is able to face the challenges of the global economy and successfully integrate into the international professional community. The authors believe that foreign language communicative competence formed and developed in the course of LSP (Language for Special Purposes) is a significant component of the model of the modern specialist. Interdisciplinary approach as an effective way of teaching a foreign language at a non-linguistic university is presented and analyzed; the notion of interdisciplinarity is given; the requirements for the structuring the process of teaching foreign languages on the basis of an interdisciplinary approach are specified. Active and interactive teaching methods used to implement interdisciplinary approach, such as problem learning, case-studies, role-playing games, quizzes, discussions are presented. The authors consider the method of content-language integrated learning (CLIL) as the most productive one for teaching foreign languages in higher educational institutions in the format of an interdisciplinary approach. The history of this method, its specific features and two main approaches to the implementation of the method of content-language integrated learning are outlined. Some practical experience of CLIL application in the Southern Federal University and Moscow Institute of Physics and Technology is described. The advantages and problems of using CLIL approach are specified.

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1. Introduction

In the modern world, universities and institutes of higher education are centers for the preservation and propagation of both moral and cultural values and the intellectual potential of the country. For example, the Southern Federal University (SFedU) sees its mission in the development of the scientific, educational and innovative space of the Southern Federal District based on the generation and transfer of scientific knowledge and technologies, the preservation and enhancement of cultural traditions and values. The MIPT (Moscow Institute of Physics and Technology) mission is defined as training leaders in science and technology, specialists capable of solving key scientific and technical issues that determine the success of the country and the international community in the 21st century. The primary task is the growth of local science, the process of integration with the world scientific and technological community, and the preservation of human capital. Thus, the main value of the university is determined: students - young promising scientists - who must be ready to solve unique problems both independently and in a team. One of the leading tasks of any institution of higher professional education is to train world-class specialists who are competitive enough to join the global socio-cultural and professional community. To successfully implement the task of training a professional who can compete in the global labor market, cooperate and interact with colleagues from different countries, integrate and disseminate both our experience and the experience of our foreign colleagues, we believe it is necessary to use an interdisciplinary approach to training. An interdisciplinary approach, being an integrated approach to finding solutions to various problems and tasks, both scientific and industrial, can lead to quick and significant results. The main characteristic of the interdisciplinary approach is the use of research methods of one area of scientific knowledge in other scientific fields, which implies the synthesis of scientific results obtained in various scientific disciplines.

Lysak (2016) identifies two approaches to the definition of interdisciplinarity. In the first case, interdisciplinarity is considered as the interaction of several scientific disciplines with their own subject, terminological apparatus and research methods. Within the framework of the second, the main task of the interdisciplinary approach is to identify areas of scientific knowledge that are not covered by the research of existing scientific disciplines.

We support the ideas of interdisciplinarity presented in the works of (Annan-Diab & Molinari, 2017; Fuller, 2016; Lysak, 2016; Mokhova, 2016; Slesarenko, 2007; Urea, 2015) and believe that the use of an interdisciplinary approach in the learning process in higher educational institutions allows the formation and development of both scientific and professional thinking of students, and contributes to the formation of interdisciplinary knowledge that is necessary to solve complex scientific and technical problems.

2. Problem Statement

We consider that one of the main tasks of institutions of higher professional education in modern conditions is to train competent specialists who can successfully integrate into the global professional community, which is practically impossible without a formed professional foreign language communicative competence. This, in its turn, can be successfully achieved through the interdisciplinary

approach, in particular the method of content-language integrated learning. Our task is to define aspectization and add it to the general understanding of the problem.

3. Research Questions

3.1. Interdisciplinary approach in teaching foreign languages

In her works, the researcher Mokhova (2016) notes that the integrity of the learning process at a university is based precisely on interdisciplinary connections. We believe that the use of an interdisciplinary approach in teaching foreign languages in universities contributes to increasing the motivation of students, the development and formation of critical scientific thinking. This is especially effective and efficient within the framework of a foreign language course for professional purposes (for example, Language for Special Purposes - LSP). It is the interdisciplinary approach to teaching that allows integrating professional knowledge and knowledge of a foreign language in order to form the foreign language communicative competence of students. Popova and Stepanova (2010) consider teaching a foreign language in a non-linguistic university on the basis of an interdisciplinary approach as a way to combine the linguistic, professional, computer and cultural orientation of teaching undergraduates into a single whole. In addition, we suppose that it is the interdisciplinary approach, like the integrating link, that makes it possible to teach foreign languages, modeling the professional activities of future specialists (Sidelnik et al., 2018).

Speaking about the requirements for the structuring the process of teaching foreign languages on the basis of an interdisciplinary approach, Slesarenko (2007) notes that:

- curricula of courses should be aimed at the formation and development of both communicative and professional foreign language competences;
- a foreign language should be considered as a means of forming professional competence, and not as a goal of learning;
- foreign language communicative competence should facilitate productive cooperation in the group of students to solve professional problems;
- the language material used in the classroom should be focused on the development of critical thinking of students and the formation of skills in using the studied linguistic phenomena in their speech;
- educational programs based on an interdisciplinary approach should complement each other and promote professional communication in foreign language classes;
- the content of a foreign language course should be based on the professional interests and needs of the students.

The structure of the technology of teaching foreign languages to engineering students using an interdisciplinary approach is considered in more detail in the work of Catana (2014). The proposed technology consists of methodological, substantive and organizational stages. When using this technology, as the author notes, achieving a single integrative interdisciplinary learning goal is obtained as a result of the synthesis of the goals of professional disciplines and a foreign language.

In the modern methodology of teaching foreign languages, there are different teaching methods that contribute to the implementation of an interdisciplinary approach, among them problem learning, case-studies, role-playing games, quizzes, discussions, etc. can be distinguished. All these active and interactive teaching methods are characterized by a high level of student involvement in the learning process, and stimulate their cognitive and creative activity, which in turn leads to the successful development of universal competencies of students. For example, interdisciplinary projects that allow organizing the face-to-face interaction of students in the course of learning foreign languages are aimed at studying professional problems using the target language (Salnaia et al., 2019).

3.2. Content-language integrated learning

However, we believe that the most productive method of teaching foreign languages in higher educational institutions in the format of an interdisciplinary approach is the method of content-language integrated learning (CLIL). This method allows you to most effectively design the process of learning a foreign language, using an interdisciplinary integrative framework, especially in the framework of the ESP academic discipline (Arnó-Macià & Mancho-Barés, 2015; Dalton-Puffer et al., 2011; Llinares et al., 2012; Temirova, & Westall, 2015; Tokareva, 2018; Tsimerman, 2018).

Despite the fact that the method of content-language integrated learning is considered relatively young, its roots go back to the educational technologies of the XVI-XVIII centuries. Already in those days, in the process of teaching foreign languages, historical texts were used to study the cultural characteristics of the country of the target language (Yakaeva, 2016). In the middle of the last century, curricula were developed in schools in Canada with the aim of integrating the academic discipline with a foreign language. In Russia, in bilingual schools, where some of the subjects were taught in the target language, integrated curricula were also designed.

It was only at the end of the last century that David Marsh, a specialist in the field of bilingual education from Finland (University of Jyväskylä), introduced the term “content-language integrated learning” (CLIL) into professional discourse. Marsh defined this method of teaching foreign languages as an approach in which a foreign language is a means of studying a non-linguistic discipline (Coyle et al., 2010). He also noted that a foreign language and a non-linguistic discipline should complement each other.

There are several main characteristics of the method of content-language integrated learning:

- mutual integration of the content of the academic discipline and a foreign language;
- the target language is only a vehicle for the study of professional disciplines (vehicular language);
- professional communication is an environment for natural learning of a foreign language;
- professional communication is primary, and grammar is secondary (if grammatical errors do not impede communication);
- professional interest increases the level of motivation of students.

Today scientists distinguish two main approaches to the implementation of the method of content-language integrated learning - Polish and European.

There are four teaching models in the “Polish” approach:

Model I: training takes place entirely in a foreign language, the use of the native language is limited only by the introduction of complex professional terms.

Model II: training takes place in both foreign and native languages.

Model III: the use of a foreign language in the learning process is strictly timed and should not be more than 50%.

IV model: a foreign language is used in the learning process only when necessary.

There are three main teaching models in the “European” approach:

- 1) soft,
- 2) language-led (focuses on the linguistic features of the professional context),
- 3) hard, content-oriented.

4. Purpose of the Study

The purpose of this work is to analyze the theoretical material and practical experience of using an interdisciplinary approach in teaching foreign languages in a non-linguistic university, in order to identify the most effective type of approach and to present an example of applying CLIL by means of aspectization in the course of language for special purposes for second year students.

5. Research Methods

The methods of observation, generalization, test method and data grouping were used in the given research.

The study involved 104 2nd year students of non-linguistic specialities. The improvement of professional foreign language communication skills in the experimental groups was considered as the criterion for the effectiveness of using CLIL approach.

6. Findings

Models of content-language integrated learning are very flexible and easily change from thematic language modules to inter-program approaches in which subjects are taught in a foreign language. In Russian institutes of higher professional education, the latter is most widespread. For example, at SFedU a number of specialized courses is taught in English (Social Policies in Market Economies, Public Policy, International Business, etc.). MIPT has English-language programs for foreign students, where all disciplines are taught by university teachers in English. Currently, 680 foreign students from 37 countries of the world study at the institute, which is approximately 10% of the total number of students. Thus, an interdisciplinary approach becomes relevant not only for students, but also for teachers.

In the modern situation, we are talking about content-language integrated learning as a means of creating a multidimensional research space that ensures the consolidation of students' knowledge areas. The practical use of this method in the study of foreign languages at the university is demonstrated below.

Here is an example of working with 2nd year students who speak a foreign language at the B2 level. At this stage of teaching a foreign language (English), it is necessary to devote considerable time in class to the aspect of the English language as an integrated part of an interdisciplinary approach. By

aspectization, we mean the allocation of certain aspects of the topic, contributing to the solution of a specific problem in a specific situation. Aspectization contributes to the identification of the main and structuring of the language, the vision of perspective, which is fundamentally closely related to the study of language for special purposes (LSP). Aspectization allows to treat the issue from different points of view, which develops the versatility of the future specialist. Many students will link their future activities with teaching, some have already had experience in conducting classes or are going to join international educational programs. As one of the tasks, students are offered a step-by-step work on a lecture with a topic related to the profile of the university. Lectures are delivered in English by eminent scholars at the world's leading universities. The lecture duration is 50-60 minutes. The content roughly corresponds to the material that students are currently studying in Russian with Russian-speaking teachers. Students in a group are divided into teams of three. As homework, they watch the lecture twice: the first time to familiarize themselves with the general content, the second time to perform specific tasks. They get an algorithm for working on a lecture.

What students need to do at home while analyzing the contents of a lecture:

1. Watching the video with the lecture, getting acquainted with the general content.
2. Watching the video again, highlighting 10 terms, arranging them as a slide for presentation in class: term, definition, translation. The translation is not demonstrated immediately, the students are given the opportunity to explain the meaning in the classroom, thus the involvement of the entire group of students is ensured.

What is done by the team in the class:

The first student gives a summary of the lecture, trying to use the terms presented earlier. The slides are used in the presentation of the lecture. The duration of the performance is 3-4 minutes.

The second student analyzes the lecturer's success from the point of view of the impact on the audience, the ability to retain attention, competence, novelty of the presented material, a brief analysis of the correspondence of the material to the declared level is carried out. The performance lasts 3-4 minutes.

The third student chooses the most interesting moment of the lecture from his point of view and conveys it with maximum detail, using the key terms proposed by his team at the beginning of the presentation. This performance also lasts 3-4 minutes.

The final stage of the team's performance is answering questions from the audience. This takes 5 minutes.

This type of work allows us to single out another way to implement an interdisciplinary approach: content analysis of a lecture in a foreign language, which allows students to use professional vocabulary in natural situations, while developing students' critical and analytical abilities.

Having analyzed the results of diagnostic and final tests, surveys conducted in experimental groups, we can assume that CLIL method helps to significantly enlarge students' vocabulary, develop listening skills in terms of professional content, as well as speaking skills and abilities to present ideas and participate in discussions.

The table below presents the results of the experimental and control groups (Table 01).

Table 1. The results of the experimental and control groups

	Diagnostic test average score	Final test average score
Group 1 (control)	3,86	4,3
Group 2 (experimental)	4,0	4,85
Group 3 (control)	4,1	4,5
Group 4 (experimental)	4,3	4,9
Group 5 (control)	4,0	4,45
Group 6 (experimental)	4,15	4,96

7. Conclusion

Implementation of CLIL method is an effective way of teaching a foreign language to non-linguistic students and a challenge for a teacher.

Aspectization of training a specialist helps to improve the ability to use a foreign language as the means of solving professional problems, a tool of personal and professional development.

Considering our experience of using the method of content-language integrated learning in teaching academic non-linguistic professionally oriented disciplines at a university, we can highlight a number of its significant advantages:

- the integration of linguistic and non-linguistic content is the possibility of creating a reasonable and authentic context, which ultimately leads to an increase in the level of students' motivation;
- higher competitiveness of graduates in the international labor market due to vocational training in a foreign language;
- successful socialization of graduates in the global professional community due to the formed foreign language professional communicative competence;
- formation of intercultural consciousness.

However, there are objective difficulties in using the method of content-language integrated learning for teaching non-linguistic disciplines at a university:

- the unwillingness of students to perceive the content of an academic discipline in a foreign language without a preliminary preparatory stage in training due to an insufficiently formed level of communicative competence in this professional field;
- heterogeneity of academic groups, in terms of the formation of foreign language communicative competence;
- the teacher should design the academic course taking into account the above difficulties.

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