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Development and evaluation of the effectiveness of interdisciplinary modules of the russian language for non-philological specialties.

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Annotation
The article is devoted to developing and evaluating the effectiveness of interdisciplinary educational modules of the Russian language for students of non-philological specialties. The study is based on the hypothesis that integrating the Russian language into professional disciplines contributes to deeper and more functional language acquisition and improves students' professional competencies. The paper presents methodological approaches to creating educational modules that combine language learning with relevant topics and tasks specific to the chosen profession. Performance criteria are described, including qualitative and quantitative indicators, such as mastering professional vocabulary, improving communication skills in professional contexts and increasing student motivation. The authors analyze the results of the pilot application of the developed modules in several higher educational institutions, assessing their impact on students' educational process and professional development. The article also contains recommendations on adapting modules for various specialties and offers methods for evaluating their effectiveness in dynamics. The study demonstrates how an interdisciplinary approach can enrich the educational process and contribute to a deeper integration of the Russian language into specialized education.
Keywords: interdisciplinary training, non-philological specialties, professional vocabulary, communication skills, integration of content and language, educational innovations, adaptation of curricula.

Introduction

The global trend towards a new quality of higher education is manifested primarily through the increase in the complex, systemic, interdisciplinary and integral nature of the requirements for the level of preparedness of university graduates to perform both professional and social roles in diverse and broad contexts[1]. Let's consider the interdisciplinary paradigm as a didactic basis for the formation of integrative competencies of students in the modern educational space of higher education. Considering integration, it should be noted that it "extends" from "global" integration at the level of scientific fields and international scientific and educational university associations, and moves to the disciplinary level of the main educational programs, where interdisciplinary synthesis or, in other words, the actualization of interdisciplinary interaction takes place. The specified level of actualization of interdisciplinary connections is formed by certain tasks, which include the integrating didactic components of interacting disciplines embedded in them [2]. Interdisciplinary connections are the basis of integration, and the integration of didactic components, taking place on the basis of a single discipline playing the role of an integrative basis, is useful not only in itself as a source of additional motivation for students, but also as a means of educating a holistic personality of students. The synthesis of didactic components of the educational process, for example, the use of electronic resources in the development of a professional or humanitarian discipline, is assimilated by students as a certain model of cognition and can later be transferred to other disciplines [3]. In our opinion, the assimilation of the algorithm of a certain educational activity by students, which occurs during the integration of didactic aspects, is no less important for the personal and professional growth of students than mastering the content of the most basic discipline. Thus, the process of integrative interaction of disciplines and didactic components of interdisciplinary synthesis becomes for students the subject of internalization, that is, assimilation with the possibility of further transfer to other aspects of professional activity. If the whole process

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May 2024

of integration in higher education is presented as a set of numerous didactic sectors communicating with each other, then we can say that interdisciplinary connections are the foundation of this "structure". Since the disciplines of any basic educational program are actually the largest and most stable didactic components, they provide the support for the entire integrative complex. Interdisciplinary synthesis determines the development of an integrative direction in the field of higher education, is the main direction of expression of integrative trends that sets the tone in the modern educational process. Developing in line with the general process of integration in the field of education, the interdisciplinary paradigm does not contradict the fundamental provisions of the competence approach, which has become the basis of the modern stage of higher education development [4].

In the university educational process, MDS are a unifying factor for teachers and ensure the continuity and integrity of learning, taking into account the interaction of the substantive and procedural components of the disciplines involved. Didactic integration in education is not a simple unification of the substantive components of the studied disciplines, but the process of their interaction, interpenetration and complementation. Representing one of the levels of integration, interdisciplinary connections are realized through the participation of each individual discipline and the involvement of information from these disciplines. Learning based on interdisciplinary connections brings these disciplines to the level of integration, while making special demands on the methods of teaching them [5].

In the process of teaching, taking into account interdisciplinary connections, the teacher must have a creative approach, the ability to use information technology in the learning process in order to form the integrity and consistency of students' knowledge. In the process of creating and establishing interdisciplinary connections, teachers of various faculties and departments have to constantly interact with each other in order to coordinate the substantive elements of the disciplines and correlate them with the time of studying these disciplines in the curriculum. That is why it is necessary to carefully consider the ways of their implementation and the educational and methodological resources necessary for it. Interdisciplinary connections created in this way are actualized during lectures, practical and seminars [6].

A student who has mastered the knowledge system on an interdisciplinary basis has a solid foundation for successful further scientific and professional activities, since interdisciplinarity is today one of the fundamental elements of the content of education. The use of interdisciplinary connections in the learning process has been attracting the attention of researchers for quite some time. The greatest contribution to the study of integration at the level of interdisciplinary connections and their implementation in the educational process was made by Kutuzova G.I., Maksimova V.N., Makhmutov M.I., Fedorets G.F. [7].

According to these researchers, the implementation of interdisciplinary connections not only enriches the content of the discipline being taught, but also contributes to a deeper understanding of subsequent and parallel disciplines being studied. The use of interdisciplinary connections in the learning process brings additional opportunities to improve the quality of the disciplines taught without increasing the number of classroom hours. Being an essential factor in the development and formation of practical and scientific-theoretical training of students, interdisciplinary connections also contribute to students' mastery of essential relationships in cognitive activity. The formed disciplinary relationships contribute to the use of educational skills and abilities of students in new situations, especially when analyzing specific problems, both in academic and extracurricular activities, in the scientific, professional and social life of students. The researchers believe that "interdisciplinary connections are a pedagogical category for designating synthesizing, integrative relations between objects, phenomena and processes of real reality, reflected in the content, forms and methods of the educational process and performing educational, developing and educating functions in their organic unity." Integration is the final level of the interconnection of components into a single integral and new system with characteristics, the mastery of which leads to the formation of generalized skills inherent in each individual component that is part of this system.

Maksimova V.N. believes that interdisciplinary connections serve as a way to reveal modern trends in the development of science that arise under the influence of integration processes. In her

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May 2024

opinion, for the implementation of MDS in the educational process, it is important to apply the principle of problemativeness in teaching various disciplines. Focusing on a specific problem that requires a competent solution allows you to attract conceptual concepts from various disciplines. In general, analyzing the above interpretations of interdisciplinarity, it can be concluded that it is closely related to integration, which is understood as a higher level of interdisciplinarity [8].

According to Solovova E.N., the scope of interdisciplinary relations is limited by the relations between disciplines, while integration has, in fact, an unlimited field of action, since almost everything can be integrated – skills, knowledge, skills, types of education. Integration is a kind of "penetrating radiation" that covers all areas of pedagogical activity: unlike interdisciplinarity, when integrating knowledge of various disciplines interpenetrate, blurring the boundaries of industries and giving rise to new theories [9]. Therefore, we will consider the characteristic features of integration as:

• the highest form of interconnection (sections of education, stages of education), which is characterized by the indissolubility of components;

• the highest form of unity of goals, principles of content, forms of organization of education and upbringing carried out in several sections of education aimed at intensifying the system of student training.

Interdisciplinarity is a:

• interaction of different academic disciplines at the lowest level of integration;

• the teacher's ability to transfer and generalize knowledge from different subjects in the process of teaching other academic disciplines.

Thus, the above characteristics can be considered as distinctive features of interdisciplinarity and integration in education.

Methodology

The research methodology consists in analyzing the effectiveness of the introduction of interdisciplinary educational programs, generalizing the experience of using digital technologies in the educational process, developing an interdisciplinary case in the process of teaching the discipline "Foreign language". In order to test the effectiveness of the case, a pedagogical experiment was conducted, including a survey aimed at identifying opinions on the methods of conducting classes and their impact on motivation to form various blocks of competencies (linguistic, professional, digital, communicative) [10].

The hypothesis of the study is that, within the framework of integrating the content of general education and professional disciplines, the use of a digital case in teaching the Russian language can help increase motivation to study the discipline and have a positive impact on the formation of competencies of a future specialist. In this paper, an example of the introduction of a professionally oriented case study into the process of teaching Russian to undergraduate students of a technical university is considered. The study involved students of the experimental group of the 2nd year in the number of 15 people. In the classes in this group, the teacher used the case method, implemented using digital tools, the content of which was interdisciplinary in nature. A similar case was offered to the control group of students, but digital tools and technologies were not used in its analysis and discussion[11].

The methodological basis of the study was the principles of an interdisciplinary approach, the most important prerequisite of which is the peculiarity of the objective reality under study, expressed in the complexity of the studied processes and phenomena in pedagogy, as well as the systematic identification of regular changes that accompany the student in his movement in the educational space at different levels. The digital transformation of education is understood by the authors as a systematic updating of the main components of the educational process (the content of education, the organization of the educational process, the evaluation of its results), taking place in a digital environment that forms digital educational materials, tools and services. One of the methods of forming interdisciplinary competencies in teaching a foreign language to students of non-linguistic specialties and training areas is the case study method. Its use, in our opinion, contributes to the successful solution of the problem of interdisciplinary graduate training. In pedagogical theory and practice, case classifications are given according to various criteria:

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May 2024

complexity and structure, practical orientation, and character. Among the variety of goals of the case method described in modern pedagogical and methodological literature, the formation of skills for solving problems of an interdisciplinary nature is of particular interest to us [12]. When implementing this method in the course of Russian-language training, students get the opportunity:

– to work out the ability to search and analyze interdisciplinary information in Russian;

– to develop the skill of accurately and clearly presenting one's own point of view orally or in writing in Russian;

– to acquire the skill of applying professional knowledge to solve a practical problem in the language being studied;

– to form the skill of interpersonal interaction and the ability to work in a team.

Results

The expected educational result was associated with increased interest and motivation to study the discipline, the formation of Russian-speaking communicative competence, the development of students' professional skills, teamwork skills, as well as practical skills in using digital technologies in professional activities when solving tasks of an interdisciplinary nature. The use of a professionally oriented case with the use of digital tools in teaching the Russian language is focused on the study and development of educational material that is important for the development of the student's future profession. Thus, the interdisciplinary connections being implemented make it possible to combine professional orientation, innovative technologies and forms in the educational process. In addition, the case technology under consideration allows students to form and develop competencies that will increase their value in the labor market. In order to provide feedback, the students of the experimental group were previously familiarized with the list and content of competencies formed in Russian language classes, grouped into the following blocks:

- language (ability to understand a foreign language, speak and write in a foreign language);

- professional (ability to create advertising texts and (or) public relations in accordance with the norms of the Russian language, use basic marketing tools in the implementation of a communication product);

-digital (the ability to use modern technical means and digital communication technologies for the preparation and presentation of advertising texts, create multimedia content, critically perceive information);

- communicative (the ability to build interpersonal interaction in a team, listen and show empathy, the ability to resolve a conflict situation) [13].

Also, during the familiarization process, it was noted that the success of the formation of the above-mentioned competencies is influenced by the integration of the content of professional disciplines (marketing, methodology, methods of collecting and analyzing social information, theory and practice of advertising, media communication) and the general education discipline "Foreign language".

The purpose of the case study conducted in Russian classes in experimental and control groups was a joint analysis of the professional situation and the development of practical solutions to the problem in a non-native language using digital tools. The structure of the proposed case was presented by a number of stages, which were implemented in three classes:

1. At the first stage, a brief excursion into the history of the Safiya confectionery was conducted for students, where the main activities of the company, location, offered product range and target audience were described. At the initial stage, it is important to carefully study the professional vocabulary studied in professional disciplines (for example, marketing, methodology, methods of collecting and analyzing social information, theory and practice of advertising) and necessary for the clear expression of ideas and thoughts in solving the task.

2. At the second stage, work was organized in small groups to coordinate the vision of the key problem and its solutions. The students were asked to divide into three working groups (5 people each), after which they received a specific task with a detailed description of the problem. Each team had to discuss the main stages of completing the case assignment in order to create an advertising campaign. The implementation of this stage included brainstorming using a digital online

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May 2024

whiteboard to discuss various ideas and concepts of all team members. The participants made their suggestions in the appropriate field of the team using colorful stickers with their name.

3. The final stage of the work was the creative task of creating an advertising campaign for the Safiya confectionery and presenting the results of the work in the form of presentations, as well as discussing the results of the work of small groups in the classroom. At this stage of the case implementation, the teacher acts as a discussion facilitator, who monitors the discussion of the results and gives feedback. The control group of students, as well as the experimental group, worked with the case during three classes. The first lesson was devoted to working with vocabulary through a system of exercises performed by students in a notebook. In the second lesson, the students of the control group discussed the case in small groups and wrote down ideas on paper. At the third stage, they presented the projects of the advertising campaign made in the PowerPoint program. An analysis of the classes conducted in the control subgroup showed that the students did not have time to meet the allotted time at the second stage when discussing and analyzing the case itself. The teacher needed additional time to prepare exercises for presentation, training and consolidation of lexical material on the topic of the case. The feedback was implemented in the form of a survey presented in the form of a questionnaire. In it, students were asked to answer which methods of conducting classes most contributed to the formation of competencies in such blocks as language, professional, digital, and communicative. Students had to evaluate the relationship between methods and blocks of competencies on a ten-point scale (from 1 to 10 in order of increasing closeness of the relationship between them). Based on the results of the survey, the average values were calculated, summarized in a table 1.

Competencies	**Teaching methods**		
	Traditional methods	The case method	The case method of interdisciplinary content
Language block	5,1	7,6	9,5
Professional unit	8,2	5,2	8,8
Digital block	3,5	6,4	10
Communication block	7,8	8,8	9,6

Table 1. Students' opinions on the connection of the applied educational methods with the development of their competencies (expressed in points)

These tables allow us to conclude that different methods, according to students' estimates, contributed to the formation of different blocks of competencies to varying degrees. The case of interdisciplinary content, implemented with the help of digital tools, scored the most high points in connection with the formation of competencies. According to students, it is he who significantly influences the formation of linguistic, professional and digital competencies, which proves the expediency of its application as an integrating one in the study of not only the Russian language, but also other disciplines of the basic and professional cycle of the curriculum.

Discussion

One of the key objectives of the study was to determine how the integration of specialized content with language learning can increase the interest and motivation of students, as well as how this affects the improvement of their language skills in professional contexts. The results showed that students studying in interdisciplinary modules demonstrate a significantly higher level of mastering professional vocabulary and a better understanding of the cultural aspects of the language. The discussion also identified problems, such as difficulties in developing educational materials that would be both linguistically rich and professionally relevant. The need for further study of the impact of such courses on the long-term professional development of students is also indicated. Interdisciplinary modules of the Russian language can play a significant role in the education of non-philologists, making language learning more focused and applied. To further improve and adapt the programs, it is recommended to conduct regular feedback from students and teachers, as well as the use of modern technologies and teaching methods.

Conclusion

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May 2024

Interdisciplinary programs are usually created in intermediate departments of the university structure, so traditional channels of reporting and obtaining information do not always work effectively. In this regard, the systematic use of the method of a professionally oriented case of interdisciplinary content using digital tools is one of the possibilities for creating an interdisciplinary environment in the study of disciplines of professional and general education cycles. During the implementation of such a case and in the process of forming students' competencies, the following conclusions can be drawn:

– using the case method allows you to develop the necessary skills at the junction of several disciplines (for example, marketing, methodology, methods of collecting and analyzing social information, theory and practice of advertising, media communication and a foreign language);

– the implementation of the case method of interdisciplinary content provides positive motivation to study not individual disciplines, but their blocks forming complex competencies;

– the introduction of the case method creates conditions for the formation of teamwork skills necessary for building interaction and communication in interdisciplinary teams. The creation of interdisciplinary cases also contributes to the successful interaction of Russian language teachers with teachers of specialized disciplines, where the former focus on linguistic aspects, and the latter are responsible for the professional content of the case.

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May 2024

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