Project-Based Learning (PBL) as a tool for teaching foreign languages to students of non-linguistic universities

El aprendizaje basado en proyectos como herramienta para enseñar un idioma extranjero a estudiantes de universidades no lingüísticas

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Received: 04/10/2019 • Approved: 10/02/2020 • Published: 27/02/2020

1. Introduction

Currently, in connection with the processes of globalization, with the rapid development of the world’s high technologies, the training of specialists capable of adapting to new trends in world development is becoming increasingly important in the field of education (Anyushenkova, 2018a; Voskovskaya & Karpova, 2018).

Enhancing employment opportunities for graduates is a major goal on the strategic agenda of higher education institutions around the world, emphasizing the key role of higher education in developing skills that will help apply their disciplinary knowledge in the workplace (Frison, et al., 2019).
These skills are considered critical to graduates, and cover areas such as interpersonal communication and teamwork skills.

It is known that when hiring, employers are especially attentive not only to the professional skills of applicants but also to a combination of personal qualities, which include the ability to work effectively with others (Sin & Neave, 2016). Promoting the effective development of these competencies in a university context is becoming obvious and essential (De Weert, 2007).

The project-based learning is a comprehensive teaching technique allowing teachers to individualize the learning process, and enables students to be independent in planning, organizing and monitoring their activities. E.S. Polat (2000) considers the PBL as a set of search, problem-solving methods, creative in their essence, which are a didactic means of enhancing cognitive activity, developing creativity and at the same time the formation of certain personal qualities of students in the process of creating a specific product.

This method is widely used in teaching a foreign language, as it contributes to the formation and increase of communicative competence of students, developing their creative thinking (Digtyar, 2019). Participation in the project and implementation of project tasks allow students to see the practical benefits of learning a foreign language and helps increase motivation for students (Voskovskaya et al., 2019).

In addition to all of the above-mentioned advantages, project work gives students the opportunity to express their imagination, creativity, and autonomy, regardless of their level of language proficiency. Participation in the project involves reflective activity since it is also aimed at independently searching for the necessary information and making decisions. The project method also teaches the selection and analysis of information (Melnichuk, 2016).

This article presents the results of experimental verification of the effectiveness of a professionally oriented project-based learning system developed by us, which was carried out on the basis of the Department of Public Administration and Financial Control of the Financial University under the Government of the Russian Federation, and was of a training nature. It covered a total of 40 teaching hours and included two projects: “Corporate Culture”, “Corporate Structure”, combined into one mutual project “The Business”. The experiment involved the second year students in the amount of 96 people. Students of this faculty were chosen for the experiment because their future profession implies continuous team problem solving using communication skills and critical thinking as well as by means of a foreign language.

The idea of our research was to combine scientific research and practice into a mutual process. The main objectives of our experiment were as follows: on the basis of a system of developed professionally oriented projects, using the methodology for Project-Based Learning, to analyze and draw conclusions about the pedagogical effectiveness of teaching a foreign language using the PBL method.

### 2. Methodology

The experiment was conducted in three stages. The first stage was the Preparatory Phase (August - September 2018).

The preparation for the experiment included defining its topic and goals; planning and selecting participants for the experiment.

In the first lesson, the preliminary (diagnostic) test was conducted. The test consisting of 80 reading, writing, listening and speaking tasks let the teachers evaluate the original language proficiency level of the participants in order to determine the content of educational materials. In the preliminary test, the following skills were tested:

- **speaking** — to plan and organize a message (cognitive skills), to formulate a statement in a foreign language (linguistic skills);
- **writing** — to organize and formulate a message (cognitive and linguistic skills), to write a message;
- **listening** — to perceive a statement (phonetic skills), to identify a linguistic message (linguistic skills), to understand a message (semantic skills);
- **reading** — to perceive the written text (visual skills), to identify the message (linguistic skills), to understand the message (semantic skills).

Possession of these skills allows communication in a foreign language in daily and professional activities. The results of the preliminary test are presented in fig. 1.

The second stage was the Main Phase (September 2018 - April 2019). According to our plan, the project combined a number of topics that were simultaneously studied...
in the course “Foreign Language for Special Purposes” by the students from the Departments of the university above mentioned. During the experiment such projects were carried out as “Corporate Structure”, “Corporate Culture”, each of which, on the one hand, was an independent project, on the other hand, was related to the implementation of another project and highlighted one of the sides of the problem posed in the mainstream project “The Business”. Students' projects were aimed at highlighting such aspects of the enterprise as the structure of the company, the work of various departments, as well as problems of interaction within the company, its effectiveness and foreign experience in problem-solving. The sources, ways of collecting and analyzing information were identified, ways of presenting the results of the project were determined, and the tasks were distributed among the members of the working group. During the research there was collection and refinement of information; in the assignment, such basic tools as interviews, surveys, observations were suggested.

The last lessons included presentations of the projects, evaluation, and discussion of the work done. The presentation of the results took place in the form of a conference at which students from different groups held a presentation of finished products (Anyushenkova et al., 2019). Students presented their reports describing various aspects of the enterprise in the form of presentations in PowerPoint and interactive projects using the Popplet service, where text, graphic and video files were presented. It was decided to place this material on the website of the university.

Assessment of the project was carried out by experts, which were students themselves, invited teachers of a foreign language, and teachers of special disciplines. When evaluating the project, we considered its innovativeness, originality, substantive compliance, relationship of the projects with the future specialty, quality of the slides, and compliance with the time frame.

It should be mentioned that students and teachers discussed the project. During the discussion, we managed to find out the students' attitude to project training and it was decided unanimously that the goals of learning and project implementation were achieved. Both students and teachers expressed the opinion that it was the project-based technology that allowed us to fully realize the tasks set. All the participants emphasized the advantages of project-based learning as a professionally oriented technology (Digtyar, 2017).

The final stage (May 2019) - a stating experiment
Analysis of the results achieved and determination of prospects for further development. After defending the “The Business” project, students completed the final test. The purpose of testing is to check the assimilation of linguistic material, the formation of linguistic skills, and to control the linguistic and communicative competence of students. The test consisted of three parts, where the ability to work with texts was tested, lexical and grammar tasks were given, as well as listening and speaking tasks. The results of the preliminary and final tests are presented in fig. 1. At the end of the experiment, all the participants were asked to answer a series of open and closed questions in order to understand the students' attitude to the work on the project, i.e. what types of work on the project seemed to them the most important and relevant in the context of their future profession and knowledge of a foreign language. The respondents answered on the Likert scale in the range from 1 (not at all important) to 5 (extremely important). The results are shown in table 1.

3. Results
The results of the final test showed (fig.1): the students’ reading comprehension increased by 24%; their listening comprehension increased by 22%; the number of sentences used by the students almost doubled from 45% to 84%, that indicates the language fluency; the number of grammatical errors decreased by 22%, that indicates the language accuracy.

Figure 1
Preliminary and final testing results (%)
The respondents' answers to the questionnaire about the results of their project work gave the following table of benefits: 100% of students noted an increase in their skills in using modern technologies; 98.34% of students emphasized an increase in their language knowledge; 95% improved their time management skills; almost 92% noted an improvement in their teamwork skills; 87% mentioned improved their autonomy skills; and almost 86% increased their motivation in learning a foreign language. Moreover, I would like to emphasize, that students' ability to think critically increased by 78.23%, according to the assessment by the project participants themselves.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Importance %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language skills</td>
<td>98.34%</td>
</tr>
<tr>
<td>Communication</td>
<td>83.33%</td>
</tr>
<tr>
<td>Use of Technology</td>
<td>100%</td>
</tr>
<tr>
<td>Teamwork</td>
<td>91.8%</td>
</tr>
<tr>
<td>Creativity</td>
<td>72.18%</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>78.23%</td>
</tr>
<tr>
<td>Motivation</td>
<td>85.81%</td>
</tr>
<tr>
<td>Autonomy</td>
<td>87%</td>
</tr>
<tr>
<td>Time management skills</td>
<td>95%</td>
</tr>
</tbody>
</table>

4. Discussion and conclusion

Having studied the work of Russian researchers (Zimnyaya, 1991; et al., 2005) and foreign authors (Dewey, 1922; Hutchinson, 2001; Thomas et al., 1999; Beckett & Slater, 2005; Fried-Booth, 2002; Stoller, 1997), we should note that by the dominant method, the project can be defined as a mixed one. This method can be defined as: investigational, since various aspects of the company's activities were studied by means of a foreign language; practice-oriented, since the end products of all groups were oriented towards practical application in the context of students' future professional activities; informational, since the search for information on the problem was constantly carried out. Based on the fact that the preparation and presentation of the final products of the projects required certain creativity from students, the project can also be defined as creative. The use of team forms of cooperation (business games) during the implementation of the project allows us to define the project as a role-play (Anyushenkova, 2018b). The integration
of the topics studied during the experiment with the topics of a number of special disciplines allows us to determine the described project as an **interdisciplinary one**. Students worked on the project in groups, which indicates the **group type** of the project. By coordination, the project is **direct, flexible**, as the teachers tried to provide students with the maximum autonomy of the implementation of project activities. The activities were changing from coordinating to **partnering** with students. The project was **long-term**, and by the nature of the contacts it was both an **internal** and an **external project**, which involved the interaction of students from different groups of the same faculty. According to the supervisory functions, the project was the **final one**, since according to the results of its implementation; the students' assimilation of educational material on a specific topic was evaluated.

According to the experiment, the effectiveness of Project-Based Learning in the framework of a professionally-oriented study of a foreign language is as follows:

- assimilation of a large number of speech units;
- development of experience in using vocabulary in a foreign language, and understanding foreign speech;
- creation of learning motivation;
- removal of psychological barriers (constraint, fear).

PBL also contributes to the successful formation of the necessary personal characteristics (cross-cultural competence) and academic skills (communicative competencies) that will help graduates to master their knowledge of modern communication and business technologies.

This method is always focused on students’ independent activities (individual, paired, group). Moreover, this method is well-combined with collaborative or cooperative learning methods. (Melnichuk et al., 2017).

PBL always involves problem-solving. The solution to the problem involves using various teaching methods and means, and also requires the need to integrate knowledge from various fields of science, engineering, technology and the ability to apply this knowledge (Polat et al., 2000).

Topics for project-based learning can be found in abundance during the study of special subjects. The role of the teacher is to coordinate the chosen topic of the project with the required level of language proficiency (Stoller, 1997).

It should be underlined that projects intended for teaching a foreign language possess both common features for all projects and distinctive features, among which the main ones are the following:

- use of the language in situations as close as possible to the conditions of real communication;
- emphasis on the independent work of students (individual and group);
- choice of topics of great interest to students and directly related to the conditions in which the project is carried out;
- selection of language material, types of tasks and work sequence in accordance with the theme and purpose of the project;
- visual representation of the result (Anyushenkova, et al., 2019).

The final tests and the questionnaire prove that the results obtained allow us to conclude the feasibility of applying project-based learning. During the implementation of the project, students acquire skills in searching and using the information to problem-solving (Arevkina & Anyushenkova, 2018). Also, PBL forms and improves students' skills in independent work; develops creative and critical thinking (Digtyar, 2018), raises their cross-cultural awareness and teamwork ability; contributes to the formation of their own point of view.

The practical experience of the authors and the results of the experiment allows us to conclude that the project-based learning is an effective pedagogical technique increasing students' motivation in learning a foreign language, stimulating the study of grammar and vocabulary, and helping to engage students in foreign language speech activity on the subject of their future profession.

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