Implementation of Blended Learning Rotation Model in Teaching Business English and Business Ukrainian in Higher Education Institutions

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Abstract

The article is devoted to the problem of implementation of a blended learning approach in the language training of undergraduate students specializing in International Economic Relations and Public Management and Administration. The historical background, structural and functional features of blended learning are outlined. The relevance of the study is determined by the benefits of combining online and offline learning modes at Ukrainian universities in wartime as well as by the absence of specialized scientific works providing linguistic and methodological support for interdisciplinary teaching of Business English and Business Ukrainian. Based on the ideas of foreign and Ukrainian scientists and modern methods of scientific research, the present experimental study proves the effectiveness of the rotation model of blended learning for the acquisition of systematized linguistic knowledge, skills, and abilities needed for the effective use of the native and foreign languages in professional communication. The article is illustrated with tables, figures, and samples of instructional materials placed on the Moodle online platform. It also outlines the perspectives for future research on other aspects of blended language learning and interdisciplinary teaching at the university.

Keywords: blended learning, station rotation model, flipped classroom model, Business Ukrainian, Business English, interdisciplinary learning

1. Introduction

The last decade is a period of challenges for Ukraine in general and for Ukrainian education in particular. The war, which has been ongoing since 2014, the coronavirus pandemic, and the beginning of Russia's full-scale military invasion of Ukraine in 2022 limited the ability of students to attend educational institutions. These events stimulated scientists to search for optimal technologies, models, and training formats that would ensure continuity and accessibility of the educational process and the proper quality of educational services. Today the technology of blended learning is widely used in educational institutions of all levels, which highlights the relevance of this study.

1.1 Historical Background of Blended Learning

The idea of blended learning appeared in the 1990s. However, an important prerequisite of its development can be considered the creation of the interactive computer environment "Videoplace" by Myron W. Krueger in 1974, which is known in modern education as an element of gamification of the educational process. The use of blended learning technology in education was first mentioned in the press release of the company Interactive Learning Centers. It said that the company offered not only online courses but also courses with blended learning activities (Garrison & Vaughan, 2008). However, there was no clear consensus on the term "blended learning" in the scientific literature. In "The Guide to Blended Learning" this concept was defined as a range of opportunities provided by combining the Internet and digital media with forms that require the physical presence of a teacher and students in the classroom (Bonk, Graham, & Moore, 2006).

In modern foreign scientific and methodological literature (e.g., the works of C. Bonk, I. Allen, G. Mayer, R. Larsen, Ch. Graham) blended learning is interpreted as a new educational format, which synthesizes traditional and innovative forms of learning. Scientists believe that blended learning offers students all the advantages of classical education and the latest educational technologies (Buck & Tyrrell, 2022; Singh J., Steele, & Singh L., 2021; Ustun & Tracey, 2021).

1.2 Blended Learning Research in Higher Education

Having analyzed the implementation of blended learning in higher education, Ukrainian researchers pointed out the following important aspects: 1) distance learning in the pandemic period gave way to blended learning during wartime; 2) blended learning has advantages over distance learning – it provides an opportunity to communicate both online and "live", promotes socialization and adaptation of first-year students within the educational environment, increases the level of students' motivation to study; 3) blended learning activates the process of mastering digital technologies (online learning tools) by future specialists; 4) the introduction of blended learning technology promotes the accessibility and personalization of education, taking into account the interests of each student; 5) in blended

learning approach the roles of the teacher are: "facilitator" (organizer of group discussions, who takes a neutral position); "tutor" (adviser on organization of individual or group work) and "mentor" (transmitter of new knowledge, skills and professional experience); 6) during the monitoring the teacher experimentally checks the effectiveness of certain methods and models of blended learning, such as the project method, flipped classroom model, cloud technologies, etc. (Korniat, Cherednyk, & Dira, 2022; Osadcha, Osadchyi, Spirin, & Kruhlyk, 2022).

Some other relevant characteristics of this educational approach are: 1) blended learning reduces costs and saves time; 2) it optimally combines traditional forms, electronic learning, and independent work; 3) it consists of three main stages – learning theory online; practical application of theoretical knowledge in offline classes; assessment of knowledge, skills, and abilities in the academic discipline in the examination (Kormiltsyna & Yakovenko, 2016).

Models and forms of blended learning implemented in higher education have also gained theoretical justification in several scientific works. For example, Ukrainian researchers distinguish between the following kinds of blended learning: 1) face-to-face learning; 2) self-study; 3) online collaborative learning. Summarizing foreign experience in this sphere, they conclude that multifunctionality and a large number of didactic tools led to the formation of four main models of blended learning, namely the rotation model, flex model, self-blend model, and enriched virtual model (Tsiuniak & Rozlutska, 2021).

1.3 Hypothesis, Purpose, and Objectives of the Study

The Ukrainian language, as the state language, occupies an important place among compulsory academic disciplines for bachelor students in all fields of knowledge. At the same time, knowledge of a foreign language is the key to successful professional communication in the context of Ukraine's integration into the European and world economy. Therefore, the communicative competence of future specialists presupposes their ability to use Ukrainian and foreign languages in professional discourse.

The use of different models of blended learning in the courses of Business Ukrainian and Business English takes into account the interdisciplinary connections between these subjects. For example, the study of the topic "Ukrainian Business Etiquette" by the first-year students is carried out simultaneously with the study of the topic "Nice to Meet You", the study of native and borrowed vocabulary in the Ukrainian language implies working with bilingual (English-Ukrainian) dictionaries. Numerous parallels between the two languages can be drawn in the field of professional terminology.

Because of the abovementioned facts, this work aims to experimentally test the hypothesis that the technology of blended learning when simultaneously used in the courses of Business Ukrainian and Business English is optimal for the formation of systematized knowledge in both languages as well as skills and abilities relevant for their use in various situations of professional communication. Accordingly, the objectives are: 1) to design and conduct a pedagogical experiment; 2) to provide students with educational materials in Business Ukrainian and Business English on the online platform; 3) to organize a subject-subject interaction between teachers and students when implementing the rotation model of blended learning; 4) to sum up the results of the experimental study and determine the prospects for future research.

2. Method

2.1 Participant Characteristics

The working hypothesis was verified within the pedagogical monitoring conducted in the fall semester (September to December 2022) among 42 first-year students (2 groups) studying International Economic Relations and Public Management and Administration at the Polissia National University (Zhytomyr, Ukraine). The following criteria were used in the selection of respondents: all respondents were students at the Polissia National University; they were simultaneously learning Business Ukrainian and Business English at the time of the experiment.

The experiment involved three stages: analytical and ascertaining (creating the scientific basis of the research and conducting an ascertaining experiment at the beginning of September 2022), formative (implementation of the chosen varieties of the rotation model of blended learning in Business Ukrainian and Business English classes, September to December 2022), control (conducting control of acquired knowledge, abilities, and skills in Ukrainian and English – at the end of December 2022).

2.2 Experiment Procedure

At the analytical and ascertaining stage: 1) scientific sources and educational programs in Business Ukrainian and Business English courses were analyzed; 2) criteria and formation levels of language knowledge, skills, and abilities of students were indicated, diagnostic tools were determined; 3) tests, oral assessment, and a questionnaire were conducted; 4) the obtained data were analyzed; 5) a model of blended learning (rotation model) was chosen for implementation, appropriate adjustments were made to the content of the disciplines Business English and Business Ukrainian. The formative stage included testing the models "Flipped Classroom" and "Station Rotation" in Business English and Business Ukrainian classes. At the control stage of the pilot study: 1) the control was carried out in the form of subject tests, oral assessment, and a questionnaire; 2) the obtained data were processed using methods of mathematical statistics; 3) the outcomes were compared with those of the ascertaining experiment; 4) effectiveness of the implemented rotation model of blended learning was assessed; conclusions were drawn regarding the confirmation/refutation of the research hypothesis; prospects for future research on the problem of blended learning in higher education were outlined.

3. Results and Discussion

In this part, we will present the results of the experiment. It must be noted that the longitudinal organization of this experimental study seemed optimal to us for tracking the dynamics of learning based on the rotation model in one student group (42 people).

3.1 Outcomes of the Analytical and Ascertaining Experiment

The criteria and levels of the formation of language knowledge, skills, and abilities of the first-year students correspond to the requirements of educational programs for bachelor students of a certain specialty; they are also focused on the main types of speech activity of students as communicators. The results of the ascertaining experiment for the disciplines of Business Ukrainian and Business English are given in Tables 1 and 2:

Table 1. Criteria, levels, and indicators of the formation of students' knowledge, skills, and abilities in Business Ukrainian (42 people) – ascertaining experiment

Criteria (competencies)	Number of students (%)			
	Levels of proficiency			
	High	*Above average*	Average	*Low*
Ability to gain and systematize knowledge, independently analyze information sources and create a synopsis, plan, theses, and thematic presentations.	8%	40%	40%	12%
Ability to produce oral and written professional texts. Knowledge of professional terminology.	10%	36%	44%	10%
Ability to notice and correct errors in one's own speech and that of other people. Mastery of the basics of translation and editing.	14%	28%	35%	23%
Mastery of the art of oral public speaking.	4%	32%	51%	13%
Ability to work in a team, show creativity, and achieve a communication goal. Mastery of speech etiquette.	20%	34%	39%	7%

Table 2. Criteria, levels, and indicators of the formation of students' knowledge, skills, and abilities in Business English (42 people) – ascertaining experiment

Criteria (competencies)	Number of students (%)			
	Levels of proficiency			
	High	*Above average*	Average	*Low*
Listening skills	6%	36%	46%	12%
Reading skills	8%	34%	48%	10%
Speaking skills	4%	32%	54%	14%
Writing skills	4%	32%	50%	14%
Ability to work in a team, show creativity, and achieve a communication goal. Mastery of speech etiquette.	12%	28%	45%	15%

At the stage of the analytical and ascertaining experiment, the indicators (see Tables 1 and 2) were obtained as a result of manual processing of completed subject tests (multiple choice (single answer) tests), oral assessment, and questionnaire responses. The test assignments in the Ukrainian language covered such topics as: "Vocabulary and phraseology", "Grammar", "Text stylistics" and "Ukrainian spelling". For the assessment of students' proficiency in English, we used different types of assignments, including oral assessment (assessment of speaking skills), test assignments (assessment of reading and listening skills), and writing a thematic essay (assessment of writing skills).

The results of the questionnaire in both disciplines were as follows:

A. Assess your proficiency level in the following language activities on a 10-point scale:

1. Conducting a discussion, justifying one's opinion – average score of 6;

2. Making electronic presentations – average score of 7;

3. Organizing computer files with lectures and other learning materials – average score of 4;

4. Public speaking offline or online – average score of 5;

5. Essay writing – average score of 5;

6. Translation and text editing – average score of 3;

7. Doing written and oral exercises – average score of 5;

8. Work with terminological dictionaries and other reference sources – average score of 3.

B. What mode of studying do you prefer? Explain your choice:

1) live (offline) – 29 people;

2) remote (online) – 4 people;

3) blended learning – 9 people.

C. What do you think the role of a teacher in class should be?

1) organizing and coordinating students' independent work offline or online – 5 people;

2) consulting on theoretical issues to be studied independently – 6 people;

3) imparting knowledge (offline or in the classroom) – 36 people;

4) being a living example of a scientist, a public speaker – 19 people;

5) assessing learning achievements – 27 people.

The analysis of the data obtained in the analytical and ascertaining experiment made it possible to come to the following conclusions:

1) In Business Ukrainian 23% of the students had a low level of the "feel for language" as well as translation and editorial skills. Only 4% of the students had high indicators of the formation of public speaking skills and more than half of the students showed an average and low level of these skills (64%). An average and low level of ability to produce oral and written professional texts and to use professional terminology was demonstrated by 54% of the respondents.

2) In Business English only 4% of the students possessed high-level speaking and writing skills, which is a very low indicator. For reading and listening skills these indicators were 8% and 6%, respectively. An almost equal number of students (32% to 36%) demonstrated an average level of speaking, reading, listening, and writing skills. The main part of the students possessed language skills of above average level (46-54%). 14% of the respondents had a low level of speaking skills; for reading, listening, and writing skills these indicators were 10%, 12%, and 14%, respectively.

3) As for the common criterion "The ability to work in a team, show creativity, and achieve a communication goal. Mastery of speech etiquette", the indicators differed slightly in favor of the Ukrainian language: a high level of these skills in Ukrainian was demonstrated by 8% more students than in English (20% and 12%, respectively), an above average level – by 6% more (34% and 28%, respectively), an average level – by 6% less (39% and 45%, respectively), a low level – by 8% less (7% and 15%, respectively). The fact that the indicators of skill formation in the Ukrainian language were higher is naturally explained by its status as the mother tongue; the insignificant difference between the indicators for both languages arises from the commonality of linguistic and methodological approaches to teaching language courses.

4) The analysis of the questionnaire responses showed that at the beginning of the course, the students had the most negative perception of such activities as organizing and managing electronic files with lectures and other materials, translating and editing texts, and working with terminological dictionaries and other reference sources. An overwhelming majority of the first-year students preferred offline learning as the most acceptable for them, they ignored self-learning and perceived their teacher only as a transmitter and controller of knowledge. It testifies to a lack of experience in systematic and effective work in conditions of distance education and blended learning among first-year students.

Therefore, the results of the analytical and ascertaining experiment led to the introduction of appropriate corrections to the content of the courses Business English and Business Ukrainian.

3.2 Organizing and Conducting a Formative Experiment Based on the Blended Learning Rotation Model

The formative experiment began with the preparatory stage, which involved familiarization of the participants with the aim and objectives of the experiment, and designing an online platform with educational materials for students. It should be noted that the Moodle online platform proved to be very effective during the experiment – it provided a wide set of tools for individual and group work, thus expanding the opportunities for blended teaching and learning.

In the main stage, the two variants of the rotation model of blended learning, namely the flipped model and the station rotation model were used in classes in Business English and Business Ukrainian. In the final phase, the results of the experimental training were analyzed and interpreted.

3.2.1 Experimental Teaching of Business Ukrainian according to the Rotation Model (Formative Experiment)

The implementation of the flipped model in teaching Business Ukrainian presupposed an independent study of certain topics with the help of materials placed on the Moodle platform and the subsequent reinforcement of the acquired knowledge in the classroom with the help of training exercises and other types of tasks. We will give an example of an "inverted" study of the topic "General Scientific and Specialized Terminology in the Ukrainian Language", which is part of the module "Scientific Communication as a Component of Professional Activity".

An important part of the language competence of future specialists in international economic relations and public administration is knowledge of general scientific and specialized terms, most of which are borrowings from other languages. In this field, it is especially efficient to rely on interdisciplinary connections between Business Ukrainian and Business English as well as other specialized subjects.

Independent learning of terminology was organized with the help of electronic resources recommended by the teacher. This form of learning is accessible to all students. Nowadays there exist several Internet resources offered by international and national organizations dealing with the standardization of terms, which can be used in teaching Business Ukrainian. So, when studying the problems of norming, codification, and standardization of Ukrainian scientific terminology, the students have to familiarize themselves with the activity of these

organizations using their official web portals. Among such organizations are: International Organization for Standardization (ISO) – https://www.iso.org/home.html; International Terminological Information Center – http://www.infoterm.info/; American National Standards Institute – https://www.ansi.org/; European Committee for Standardization – https://www.cencenelec.eu; Standardization Institute of the Ukrainian Standardization Agency - http://uas.gov.ua/; SOE "Ukrmetrteststandart" – http://csm.kiev.ua/. The use of these network resources makes it possible to give the complex theoretical material a convenient visual form, familiar to students (Dziuba & Malevych, 2020).

When doing exercises and research assignments outside the classroom, the students were encouraged to use electronic terminological dictionaries.   Below are some examples of out-of-class language activities:

1. Match the following English terms (A) with their Ukrainian equivalents (B).

A) Linguistics, accumulation, auction, biography, barter, industry, broker, defect, incentive, management, devaluation, guarantee, prevail.

B) Переважати, торги, мовознавство, обмін, життєпис, посередник, нагромадження, промисловість, вада, стимул, забезпечення чогось, зниження (офіційного курсу національної валюти), управління.

2. Arrange the following terms in alphabetical order. Look the words up in a dictionary to clarify their meaning.

Аудит, аукціон, дефіцит, валюта, активи, податкова декларація, квота, комерція, облігація, субсидія, номінальна вартість, дивіденд, реверс, самоврядування, геополітика, виконавчий комітет, багатопартійна система, вето, відкликання, державність, імпічмент, легітимність, муніципалітет, омбудсмен, об'єднана територіальна громада.

(Audit, auction, deficit, currency, assets, tax return, quota, commerce, bond, subsidy, face value, dividend, reverse, self-government, geopolitics, executive committee, multiparty system, veto, withdrawal, statehood, impeachment, legitimacy, municipality, ombudsman, amalgamated territorial community).

3. Find in the specialized texts terms specific to your discipline and create a mini-dictionary of terminology. Clarify the meaning, etymology, and grammatical characteristics of the words.

The classroom activities were in the first place aimed at the formation of speech skills and the ability to use one's self-acquired knowledge in professional communication. Such language activities as games and role-play exercises helped students develop their communicative and creative skills as well as skills of working with professional texts, e.g.:

1. Didactic game on the topic "General Scientific and Specialized Terminology in the Ukrainian Language". The participants play this three-round game in pairs. At first, they must form as many derivatives as possible from the given terms *(e.g., audit, deposit, tax, bank, economy, rent, investment, currency, power, election).* The one to form more new words wins the round. In the second round, the participants must use the appropriate form of a word in a given grammatical context; the one who has more correct answers wins the round. Finally, the students use terms and their derivatives in sentences of their own. The winner is the one who has made up more correct sentences. The role of the teacher is to give advice and provide support.

2. Role-playing game on the topic "Business Communication Etiquette". The participants work in small groups ("Employer", "Job Applicant", "Secretary"). The task is to act out a job interview. The students earn points for their creativity, involvement, and understanding of the roles.

The use of the station rotation model in the course of Business Ukrainian made it possible to implement a differentiated approach for language learners with different proficiency levels. For example, when studying the topic "Translation and Editing of Professional Texts", a group of 42 people was divided into three teams. The task of the first team was to translate a professional text using the Google Translate application; the second team worked on the translation of the text using electronic dictionaries; translation editing was carried out by the third team. The results of the group projects were then presented and discussed in class. Also, the station rotation model was successfully used for the work with texts of different functional styles of the Ukrainian language. It is noteworthy that, along with station rotation, the implementation of the co-teaching approach (teachers of both languages – Ukrainian and English working together in the classroom) proved to be effective as well.

3.2.2 Experimental Teaching of Business English Based on the Rotation Model (Formative Experiment)

The experimental foreign language training program included two content modules – "Nice to Meet You" and "Work and Leisure". When planning lessons, we took into account general didactic requirements for conducting practical language classes and specific requirements related to the application of the flipped classroom model of blended learning. When selecting teaching materials, we also considered the goals and objectives of the course and the level of students' language proficiency at the time of the experiment. The online learning environment of the students included different information sources – specially developed instructional materials as well as authentic materials, like photographs, audio and video selections, presentations, podcasts, etc.

In the flipped classroom model the algorithm for working with educational material consisted of the following stages: the preparatory stage (setting learning goals, predicting students' outcomes), the stage of independent online learning (acquisition of skills necessary for independent learning), the stage of classroom learning (acquisition of communication skills in an interactive mode), the stage of improving the acquired knowledge, skills, and abilities (self-assessment of learning outcomes and planning actions aimed at their improvement) (Kalinina & Klymovych, 2021).

Here are some examples of the assignments on the topic "Work and Leisure".

1. Preparatory Stage (Classroom).

• You are going to familiarize yourself with the topic "Work and Leisure". What problems are worth discussing? Come up with your ideas.

• Look at the photos and in groups choose the photo which in your opinion characterizes British leisure time activities. Ground your choice and say how it may differ from leisure time activities in your country.

• Think and decide what final activity can demonstrate the result of your studying on the topic (debates, projects, essays, brochures, etc.).

2. Independent Online Learning.

• Watch the video about different leisure time activities in Britain and say which one you like the most and why.

• You are going to read a text about the working day in different English-speaking countries. Before you start match the words on the left with their definitions on the right. Use a dictionary if necessary.

• Read the text and fill in the blanks with the words from the box.

• Clarify the meaning of unknown words using a monolingual and a terminological dictionary.

3. Classroom Learning.

• Questions-and-Answers sessions based on the results of students' independent work.

• Analysis of completed out-of-class assignments.

• Diagnostic tests, which can be quickly checked.

• Creative group work on problem-based tasks (e.g., Read the posts about problems people face while working in different countries. Suggest solutions to these problems).

• Round-Table Talk on the topic "My Future Profession. International Economic Relations".

4. Self-Assessment and Improvement of Learning Outcomes.

This stage involves independent fulfillment of creative assignments that demonstrates whether the learning goal has been achieved.

• Project Work. In groups prepare a presentation about the most unusual jobs around the world. It may be a presentation, a video, a poster, etc.

3.3 Evaluating the Effectiveness of the Rotation Model of Blended Learning (Control Experiment)

The aim of the final, control, stage of the experimental study was to perform a statistical verification of the research hypothesis regarding the effectiveness of the simultaneous application of blended learning technology, namely its rotation model in teaching Business English and Business Ukrainian using an interdisciplinary approach. Assessment data in both disciplines were obtained from subject tests (on the topics outlined in the initial stage of the experiment), oral assessment, and a questionnaire.

3.3.1 Outcomes of Blended Learning Implementation in Teaching Business Ukrainian (Control Experiment)

In the control experiment, the data were obtained after manual processing of completed multiple choice (single answer) subject tests, oral assessment, and questionnaire responses. The tests in the Ukrainian language were designed to assess the level of knowledge, skills, and abilities acquired by the students in vocabulary and phraseology, grammar and stylistics, basics of rhetoric, specialized translation, and spelling after the implementation of the rotation model. The results of the conducted control are given in Table 3 and Figures 1 and 2.

Table 3. Criteria, levels, and indicators of the formation of students' knowledge, skills, and abilities in Business Ukrainian (42 people) – control experiment

Criteria (competencies)	Number of students (%)			
	Proficiency levels			
	High	Above average	Average	Low
1. Ability to gain and systematize knowledge, independently analyze information sources and create a synopsis, plan, theses, and thematic presentations.	17%	48%	31%	4%
2. Ability to produce oral and written professional texts. Knowledge of professional terminology.	14%	46%	35%	5%
3. Ability to notice and correct errors in one's speech and that of other people. Mastery of the basics of translation and editing.	15%	40%	32%	13%
4. Mastery of the art of oral public speaking.	12%	45%	40%	3%
5. Ability to work in a team, show creativity, and achieve a communication goal. Mastery of speech etiquette.	28%	40%	30%	2%

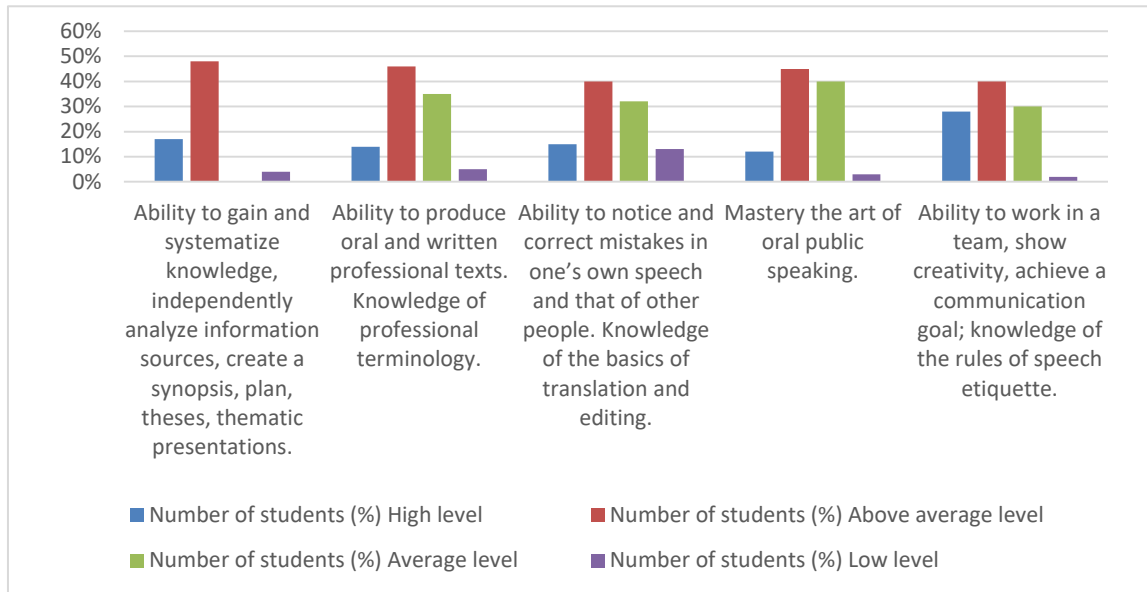Figure 1. Indicators of the formation level of students'competencies in Business Ukrainian (ascertaining experiment)
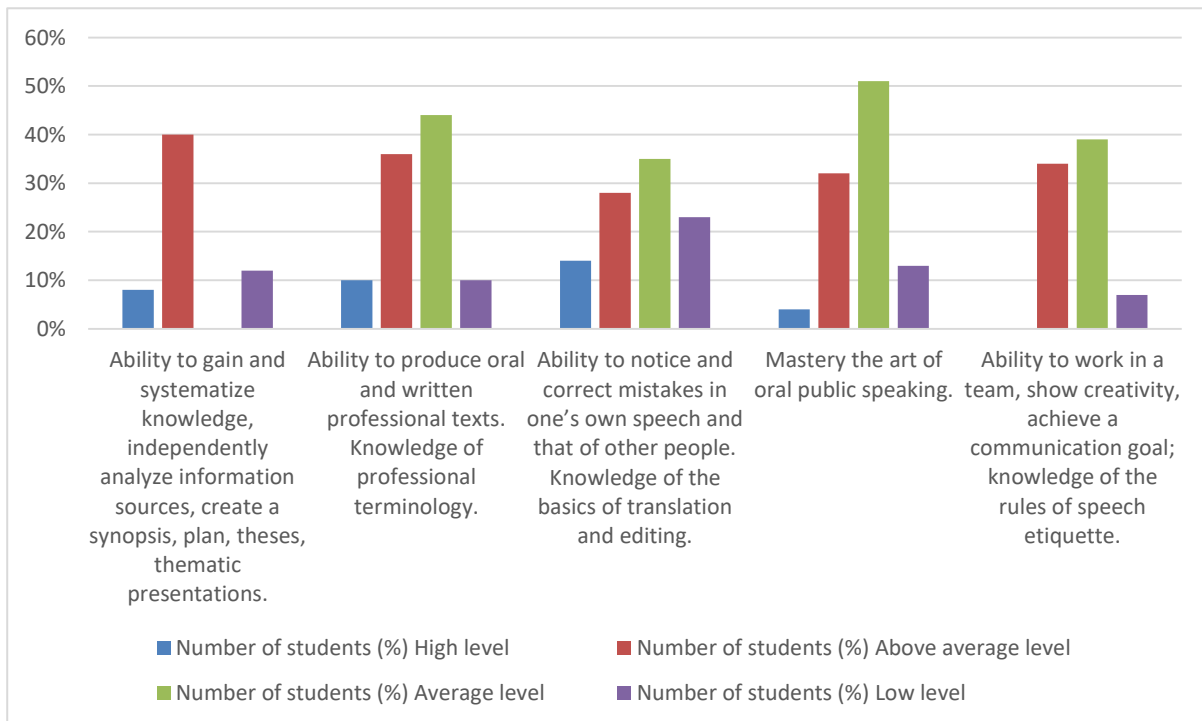

Figure 2. Indicators of the formation level of students' competencies in Business Ukrainian (control experiment)

A comparison of the data from the analytical-ascertaining experiment (Table 1, Figure 1) and the data obtained in the control experiment (Table 3, Figure 2) revealed the following changes in the students' competencies:

1) Indicators of the ability to gain and systematize knowledge, independently analyze information sources, create a synopsis, plan, theses, and thematic presentations increased at all proficiency levels (high, above average, average, low) by 9%, 8%, 9%, and 8%, respectively.

2) Indicators of students' ability to produce oral and written professional texts and to use professional terminology showed a slight growth at high and low levels – by 4% and 5% and increased considerably at above average and average levels – by 10% and 9%, respectively. Although a significant number of students improved their proficiency level from average to above average, mastering terminology remains a problem for them.

3) Indicators of students' translation and editorial skill formation as well as their "feel for the language" showed positive dynamics in groups

with above-average and low proficiency levels (12% and 10%, respectively). It is also noteworthy that a lot of students ascended to a higher level of proficiency in these competencies, which was facilitated by their performance in a station rotation classroom.

4) The implementation of blended learning contributed to the improvement of public speaking skills of students with all levels of language proficiency – high, above average, average, and low by 8, 13, 9, and 10%, respectively.

5) Indicators of students' ability to work in a team increased unevenly: by 8% (high level), 6% (above average level), 9% (average level), and 5% (low level). In our opinion, this reveals one of the challenges of blended learning: for technical reasons, it is not always possible to ensure effective communication for remote teams, which later affects their performance in the classroom.

The results of the questionnaire on learning and teaching Business English and Business Ukrainian conducted within the control experiment were as follows:

A. Assess your proficiency level in the following language activities on a 10-point scale:

1. Conducting a discussion, justifying one's opinion – average score of 8;

2. Making electronic presentations – average score of 10;

3. Organizing computer files with lectures and other learning materials – average score of 8;

4. Public speaking offline or online – average score of 7;

5. Essay writing – average score of 8;

6. Translation and text editing – average score of 4;

7. Doing written and oral exercises – average score of 8;

8. Work with terminological dictionaries and other reference sources – average score of 7.

B. What mode of studying do you prefer? Explain your choice:

1) live (offline) – 4 people;

2) remote (online) – 10 people;

3) blended learning – 28 people.

C. What do you think the role of a teacher in class should be?

1) organizing and coordinating students' independent work offline or online – 27 people;

2) consulting on theoretical issues to be studied independently – 16 people;

3) imparting knowledge (offline or in the classroom) – 15 people;

4) being a living example of a scientist, a public speaker – 35 people;

5) assessing learning achievement – 39 people.

We would like to add that an oral assessment of the students within the control experiment showed that they had mastered several specific skills and abilities, which contributed to their preparation for the semester exam in Business Ukrainian. Especially highly rated by the students was their proficiency in the following learning activities: discussion of theoretical issues during online colloquiums (average score of 7 on a 10-point scale); taking lecture notes (average score of 8); self-correction of dictations written in the classroom (average score of 6); creating a portfolio with sample documents (average score of 9); doing online module tests and self-correction (average score of 10).

3.3.2 Outcomes of Blended Learning Implementation in Teaching Business English (Control Experiment)

The results of the control experiment regarding the effects of blended learning on students' proficiency in Business English are shown in Table 4 and Figures 3 and 4.

Table 4. Criteria, levels, and indicators of the formation of students' knowledge, skills, and abilities in Business English (42 people) – control experiment

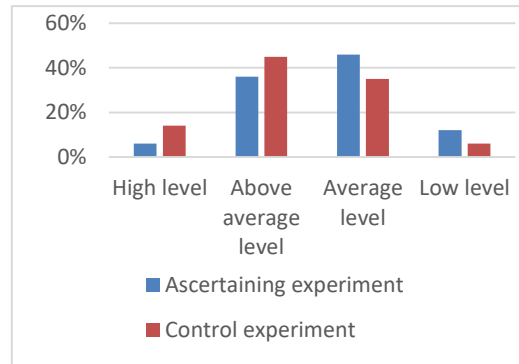| Criteria	Number of students (%)			
	Proficiency Levels			
	High	Above average	Average	Low
Listening skills	14%	45%	35%	6%
Reading skills	12%	38%	48%	2%
Speaking skills	5%	34%	53%	8%
Writing skills	7%	35%	48%	10%
Ability to work in a team, show creativity, and achieve a communication goal. Mastery of speech etiquette.	20%	34%	37%	9%

Figure 3. Indicators of the formation level of students' listening skills in English (ascertaining and control experiments)
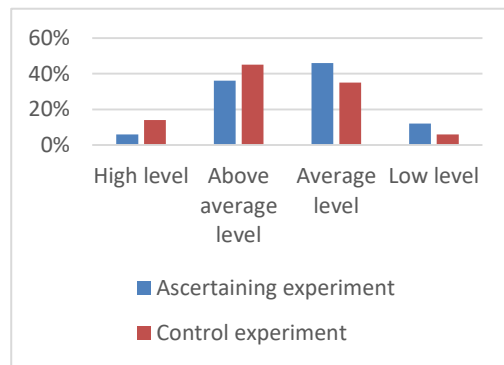

Figure 4. Indicators of the formation level of students' speaking skills in English (ascertaining and control experiments)

From these results, it is clear that the flipped classroom model of blended learning has proven to be effective for the formation of listening, reading, speaking, and writing skills in English.

1) The indicators of the level of listening skills increased the most (Figure 3). This can be explained by the fact that in the context of blended learning, the students had the opportunity to listen to audio and video recordings as many times as they needed to understand the text.

2) The indicators of the formation of reading skills in English increased by 4% in the group of students with high and above-average language proficiency levels and by 8% in the group with a low level of language proficiency. The indicators of the formation of writing skills had an increase of 2-3% for high, above average and average levels and 6% for a low level.

3) The indicators of the formation of speaking skills were the lowest in the control experiment (Figure 4). The increase was 1-2% for students with high, above average, and average proficiency levels and 6% for students with a low level of language proficiency. This can be explained not so much by the low level of theoretical knowledge but by psychological factors – the fear of speaking in a foreign language, making mistakes, or being misunderstood. However, the indicators of students' ability to work in a team, show creativity, achieve a communication goal, and master the rules of speech etiquette have increased by an average of 7%.

4. Conclusion

It is reasonable to conclude that in general, this experimental study confirmed our hypothesis regarding the effectiveness of using the rotation model of blended learning in teaching Business Ukrainian and Business English at the university. It enables students to systematize their knowledge of both languages and to develop the skills and abilities necessary for successful professional communication in these languages. Furthermore, the implementation of an interdisciplinary approach helps students form cognitive connections between different philological disciplines. Future research should certainly test the potential effects of the other models of blended learning, namely the flex model, the self-blend model, and the enriched virtual model on students' language proficiency. Future studies should also investigate interdisciplinary connections between language teaching and other subjects studied at institutions of higher education.

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