ESP blended learning based on the use of smart coursebook

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Abstract
ESP teaching in the blended learning environment has become quite widespread in language classes worldwide. The purpose of this present study is to outline an effectiveness of ESP blended learning based on the use of the smart coursebook. A total of 48 EFL undergraduate students of a non-linguistic university participated in the study. The experimental group studied the target course through blended learning strategies, and their performance was evaluated through comparing the results got from a pretest and post-test, respectively, to check the effectiveness of ESP blended learning based on the use of the smart coursebook. Questionnaires were also conducted to identify students' evaluation of the ESP blended learning. It was observed that the participants of the study perceived BL to be useful and helpful for the improvement of their English proficiency. The findings show that the participants in the experimental group received higher scores for their post-test at the end of the study.
Key words: blended learning, ESP teaching, smart coursebook, technology-related skills, autonomous learning

Introduction

The era of global computerization requires qualitatively new characteristics from the participants of the world's scientific and educational environment. Today, to be an effective, competitive international specialist, an economist or scientist must possess a wide range of competencies. The most important ones are lifelong learning and proficiency in a foreign language (mainly English because of its lingua franca status in scientific and economic discourse) at a level not lower than Upper-Intermediate according to Common European Framework of Reference for Languages. There is a high demand for a specialist who is able to solve professional problems together with foreign partners, taking into account the peculiarities of intercultural communication and capable of interacting with colleagues in any multicultural space, moving to the heights of professionalism through communication. Moreover, future specialist should have the ability to perceive and make statements in accordance with the communicative context, be fluent in a foreign language as a means of professional communication, have the ability/readiness to understand and perform speech acts appropriate to the specific situation of communication.

This situation leads to the implementation of new requirements for the future specialist's professional training of in the financial and economic sphere. Therefore, the discipline «English for specific purposes» is more often included in the curricula of economic and financial universities.

In our opinion, the main task of the authors of the curriculum for ESP teaching is the compliance with the requirements of smart education, which implies the development of students' self-study skills and the extensive use of the Internet resources that provide the opportunity to acquire professional competencies based on systematic study of disciplines, taking into account their multidimensionality and on-line database. The problems the educators face such as a limited number of hours allocated for classroom work, different language proficiency level of the groups, lack of teaching materials relevant for teaching students majoring in Economics, should be

solved by designing modern methods and integrating up-to-date educational programs for ESP learning including smart technologies and blended learning.

The rapid emergence of technological innovations in communication and education leads to the development of a teaching mode that combines the advantages of both face-to-face teaching and fully online e-learning, which is considered to be a promising alternative to resolve the above mentioned problems.

In this regard, ESP blended learning based on the use of smart technologies is becoming a topical issue, which is one of the main objectives of ESP teaching, as the high level of future specialists' professional communicative competence affects the country's competitiveness and promotes positive changes in the society. Teaching practice in the financial and economic institutions shows that students' interest in learning a language is explained not only by the need for successful communication, but also by understanding that language is an effective means for achieving professionally significant tasks. The choice of optimal methods and approaches for ESP learning and teaching is an urgent issue to be solved. At the present stage, it is necessary to recognize that ESP has a great potential, which should be used by educators in the educational process.

Review of Literature
2.1. Blended Learning in ESP Teaching

Blended learning is getting quite prevalent in the higher education sector as it incorporates the benefits of classroom learning and new technologies. There are various definitions for this term. According to the scientists, blended learning is a synergic learning structure that supplements traditional face-to-face teaching and learning environment with different kinds of technology-based instruction with the purpose of intensifying and facilitating the practical training process (Alvarez, Gonzalez, 2007; Tarnapolsky, 2012; Marsh, 2012; Sun, Qiu, 2017).

It «tends to recognize the value of both technology and face-to-face teaching» (Gildin, Sorlovich, 2013). This idea is supported by K. Meliawati, P.K. Nitiasih, I.G. Budasi (2014), who argue that «blended learning is a flexible approach to course design that supports the blending of different times and places for learning, offering some of the conveniences of fully online courses without the complete loss of face-to-face contact».

The glossary of the education reform (2013) defines blended learning as hybrid learning and mixed-mode learning. The use of blended-learning may vary widely in design and execution from school to school.

According to H. Dzakiria, C.S. Mustafa and H.A. Bakar (2006) blended learning is a mixture of e-learning and traditional types of learning. It is an integrated combination of traditional learning with web-based online approaches, the combination of media and tools deployed in an e-learning environment and the combination of a number of pedagogical approaches. Recent studies are devoted to students' perception of blended learning and its effectiveness (Gyamfi, Gyaase, 2015). The findings have shown students' positive perceptions on the blended learning environment, increased learning effectiveness, satisfaction, and efficiency (Varthis, 2016; Shaw, 2010; Shantakumari, Sajith, 2014).

E.D. Lesiak-Bielawska (2012), I. Lungu (2013), O. Tarnopolsky (2012), D. Tafazoli, S. Chirimbu (2014) reported on blended learning advantages in ESP teaching. They are as follows:

- the possibility of customized instruction based on the student's needs, which can only come into effect after conducting detailed needs analysis and defining the learners' characteristic features
- convenient teaching formula, especially in the context of widely understood learner's autonomy, self-pacing without space and time restrictions
- access to learning materials

- a chance to get acquainted with authentic ESP and get an insight into its use in real communication
- saving classroom time and intensifying learning acquiring more knowledge faster and easier.

The scientists consider blended learning to be extremely useful for the purpose of teaching ESP.

M. Tanveer (2011) claims that both teachers and learners believe that e-learning develops students' responsibility, independence and confidence.

However, B. Akkoyunlu, M.Y. Soylu (2008) have revealed major obstacles which are slow Internet connectivity, limited teacher-student interactions, lack of interaction amongst peers, insufficient sense of bonding between the teacher and the student and the growing risk of academic dishonesty.

2.2. Incorporating Smart Textbook into the ESP Courses

The scientists also consider the issue of incorporating smart technologies into the ESP courses. The experimental teaching confirms that the use of the smart technologies particularly smart coursebook within the framework of the ESP blended learning course enhances the quality of the learning outcomes (Bakulev et al., 2016).

M. Bondarev and A. Bakulev (2017) defined «Smart textbook» as a set of training modules created with the participation of students based on the use of updated internal and external sources, containing systematic educational material relevant to the sphere of professional foreign language communication. Thus, a smart English textbook for specific purposes is a combination of two parts. The first one is written in accordance with the steering document, it cannot be changed. The second one can be modified by both the teacher and students in accordance with professional and personal preferences within the basic educational path. Such smart textbook can be based on an online platform that has linguodidactic technologies for the implementation of its main components: factual material; a flexible set of exercises.

To possess positive beliefs to the use of technology in the classes, students and teachers should be technologically literate people and be aware of the use of digital materials (Liton, 2015).

Thus, despite the fact that the issue of ESP blended learning is widely discussed, the studies on ESP blended learning based on the use of the smart coursebook are rather limited.

Materials and Methods
3.1 Research methods

The following methods have been used in our research: theoretical (analysis of philosophical, psychological, pedagogical, scientific and methodological literature on the topic of research, modeling, generalization, using inductive reasoning, hypotheses or preliminary generalizations, system analysis and synthesis, comparison, analogy, classification); empirical (observation, questionnaires were designed to test Students' perception of the smart coursebook "The Business 2.0" and Students' perception of BLE). To prove the significance of the results we conducted a t-test, using an online calculator. Cronbach's alpha reliability coefficient was used to identify the reliability of the questionnaire items.

3.2 Research Stages

The research was conducted in three stages from 2014 to 2018. The first, analytical stage (2014-2015) was devoted to justifying the relevance of the research problem, the level of its development; defining the purpose, the tasks and the hypothesis of the research; studying and analyzing scientific literature. At the second, experimental stage (2015-2017) the essence of the concepts «blended learning», «smart course

book», «ESP course» was clarified; formative pedagogical experiment aimed at justifying the effectiveness of the blended learning based on the use of smart coursebook was conducted. At the third, generalization stage (2017-2018), conclusions of the study were made, analysis, systematization and generalizations of the results were presented.

Results and Discussion

The study was conducted at Financial university under the Government of the Russian Federation in Moscow. In addition to classrooms for face-to-face teaching, networked computer-assissted classrooms and other language learning software were used for online learning.

The subjects were 48 Russian speaking first-year full-time undergraduate students majoring in Economics from two groups, with 23 students in Group A (the control group) and 25 students in Group B (the experimental group). Both groups have the Upper-intermediate level of the English proficiency. The experimental group were exposed to blended learning mode of instruction, while the students in the control group received the learning content through the traditional teaching approach or face-to-face classroom teaching. It should be noted that these participants are all technologically savvy and can take pride in basic technology-related skills needed for following the instructions of the blended learning course.

Both experimental and control groups were supposed to accomplish the learning objectives of the ESP learning course, and at the end of the second term, they would sit in the final English test, which would be used as the post-test for evaluating the effectiveness of the ESP blended learning based on the use of the smart coursebook. The course lasts for two terms, each of which runs about 18 weeks and contains about 72 academic hours of classroom teaching for the control group, and 72 hours of classroom teaching and online tutoring for the experimental group.

Both groups had done a placement test before the experiment began. The average scores of the experimental group and the control group were 65.72 and 66.61 respectively. Table 1 shows that the English levels of the two groups had no statistically significant difference (p= 0.777> 0.05).

Table 1: T-test results for the groups' equivalence (pretest)

Group	N	Mean	Standard deviation	t-value	Two-tailed hypothesis
Experimental	25	65.72	4.64	0.28547	0.776569
Control	23	66.61	5.05		

The t-value is 0.28547. The p-value is 0.776569. The result is not significant at p < .05.

In addition to the following required materials of the textbook used in class, the students in the experimental group used the university multimedia library as part of their course material and for self-study. The control group followed only the required textbook materials used in the face-to-face environment.

The students in the experimental group continued to receive instructions through both face-to-face classroom teaching and e-learning providing online support materials. The assignments given to the students were aimed at guiding students to carry on their autonomous learning and practice and revise the skills and points covered in the face-to-face classes. The e-resources of the smart coursebook "The Business 2.0" and other resources covered in the Internet and multimedia library were considered as supplements to the course materials used in class. Apart from the assigned resources, students were also free to work on any other resources available in the university

multimedia library or on the internet whenever they wanted. In short, they could use the university multimedia library and the internet for self-study as well.

At the end of the second term, the students in the experimental group were provided with questionnaires with regard to their perceptions of the blended learning environment (BLE). A 5-point Likert-type scale was used in the questionnaire. We used Cronbach's alpha reliability coefficient to identify the reliability of the questionnaire items.

In the end, the qualitative method was performed to generate additional comments on students' evaluation of the use of the smart coursebook in the ESP blended learning environment.

4.1 What are the students' perceptions of and attitudes towards the blended learning model?

To prove the effectiveness of the blended learning, it is important to make sure that students have positive attitude towards it, as satisfied students have a tendency to be motivated and are more likely to accomplish their cognitive goals. Students' positions on the blended learning were outlined through questionnaires. The students had to answer the questions using a scale from 5 (strongly agree) to 1 (strongly disagree) for statistical analysis, and all the negatively keyed items were reverse scored when processed.

Table 2: Students' perception of BLE

No.	Questions	N	Mean	Standard deviation
1.	I like the new blended learning environment which combines the e-learning and the classical learning	25	4.08	0.68819
2.	Blended learning is more suitable, convenient and flexible learning environment for my learning style than the traditional face-to-face classroom	25	2.96	0.82365
3.	The increased autonomy provided by BL promotes a high level of my motivation to learn	25	3.20	0.63246
4.	I enjoy collaborative learning in the blended learning environment, i.e. with my groupmates and teachers who take part in discussion both in class and online	25	3.52	1.09982
5.	Unlike traditional face-to-face classrooms blended learning requires more time and effort	25	2.16	1.00717
6.	I prefer traditional learning to blended learning	25	3.04	0.66212
7.	I feel the teacher-student relationship is more harmonious in the blended learning environment	25	4.44	0.69742
8.	Blended courses enhance my interaction and engagement by providing various and interesting content in a variety of different formats	25	4.48	0.69971

9.	I think that I have taken advantage of much of the online course while retaining the benefits of the face-to-face classroom experience	25	3.92	0.79599
10.	I managed to achieve the learning goals I had set at the beginning of the course	25	3.84	0.83330
	Total:	25	3.56	0.79398

As shown in Table 2, the mean score of all items regarding students' perception of the blended learning environment reaches 3.56, indicating that they have a rather positive attitude towards this mode of learning. They like its suitability, convenience and flexibility which match their learning style (mean = 2.96), and its various and interesting content in a variety of different formats (mean = 4.48), which increased their motivation to learn English (mean = 3.20). In students' opinion, blended learning requires more time and effort from them (mean = 2.16), but on the other hand, it brought advatage to them and helped them achieve their learning goals they had set at the beginning of the course (mean = 3.84). They also emphasized collaborative learning in the blended learning environment where the teacher can participate in their discussion both in class and online (mean = 3.52), so they can receive help and advice easily whenever they need it. Last but not least they stressed that the teacher-student relationship is more harmonious in the blended learning environment (mean = 4.44).

Table 3: Students' perception of the smart coursebook "The Business 2.0"

No.	Questions	N	Mean	Standard deviation
1.	I like the topic-based, flexible business English built on four key areas: language skills, new technologies, business skills and interpersonal skills	25	4.16	0.73103
2.	I feel the eWorkbook designed for homework or for self-study consolidates learning in a more interactive way on different devices, and includes audio and video sections	25	3.76	0.51225
3.	I like interesting field-based audio and video sections included in the e-resourses of the coursebook	25	3.36	0.84285
4.	Motivating and entertaining videos show examples of good and bad communication and people skills, along with commentaries by communications experts so that I don't make the same mistakes in the future	25	3.96	0.82365
5.	The structured speaking tasks and case studies of the smart coursebook develop my interpersonal skills, focusing on	25	4.28	0.77563

my emotional intelligence			
Total:	25	3.9	0.73708

As can be seen from Table 3, the mean score of all items regarding students' perception of the smart coursebook "The Business 2.0" used in ESP blended learning environment reaches 3.9, demonstrating that most participants liked the topic-based, flexible business English built on four key areas: language skills, new technologies, business skills and interpersonal skills (mean = 4.16). In addition, most students agreed that the eWorkbook designed for homework or for self-study consolidates learning in a more interactive way on different devices (3.76), including interesting field-based audio and video sections (mean = 3.36). The majority of students were in favour of the idea that motivating and entertaining videos contained examples of good and bad communication and people skills, along with commentaries by communications experts so that they did not make the same mistakes in the future (mean=3.96). Moreover, most students reported that structured speaking tasks and case studies were aimed at developing their interpersonal skills, focusing on their emotional intelligence (mean = 4.28).

4.2 What is the effect of ESP blended learning based on the use of the smart coursebook on enhancing students' English proficiency level?

Table 4: T-test for the groups' post-test results

Group	N	Mean	Standard deviation	t-value	Two-tailed hypothesis
Experimental	25	74.80	3.92	-2.0541	0.045802
Control	23	69.23	3.45		

The t-value is -2.0541. The p-value is .045802. The result is significant at p < .05.

As follows from the figures shown in Table 4, in the post-test the average score of the experimental group is 74.80, while that of the control group is 69.23. The difference between groups is 5.57 (p = 0.045802< 0.05), indicating a significant difference between the two groups. It supports the claim that using ESP blended learning based on the use of the smart coursebook helps improve EFL students' English proficiency level.

Conclusion

The use of blended instruction is growing rapidly because instructors believe diverse delivery methods may significantly enhance learning outcomes as well as increase student's satisfaction from the learning experience (Lim, Morris, 2009). A combination of a face-to-face classroom activity with the online instruction, referred to as blended learning, has become the alternative that is popular with language educators. So far several studies have shown that blended learning is highly appreciated and positively rated by the students (Fandey, 2012; Popolzina, 2014). Accordingly, blended learning has become an increasingly common practice in language classes worldwide, with Russia being no exception. However, new learning approaches are only useful to the extent that they are adopted and integrated in ways that help to achieve educational objectives (Slotter, 2010). Considering the present situation of ESP classes in Russia, the present study aims at outlining the ESP blended learning environment, hoping to upgrade the effectiveness of foreign language teaching with the adoption of the smart course books. The results of the tests indicate a close correlation between students' academic performance and the treatment proving that ESP blended learning based on the use of smart coursebooks would have advantages over traditional teaching methods in ESP classes. The findings are

consistent with many existing studies suggesting that the blended learning is effective in enhancing EFL learners' performance (Gruba, Hinkleman, 2012; Ma, Zhang, 2011; Marsh, 2012). As can be seen from the results of the questionnaire, the students' perception of the blended learning environment was rather positive. Such a positive attitude is important since satisfied, motivated, and engaged students will learn a language with greater success in blended formats (Johnson, Marsh, 2014).

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