Data exchange in the 21st century becomes a crucial engine for all the processes, ideas, trends and breakthroughs in any professional sphere. This fact has two main implications: education as an institution needs revisiting; higher education must change in the most effective way to ensure professional success of the graduates. English as a professional and academic lingua franca should constitute an academic environment even in non-English speaking countries. The paper deals with the issues of blended learning and development of its online component. The objective of the research is to prove the positive influence of blended learning technology on educational outcomes in English as a foreign language (EFL) classes for university students of various CEFR (the Common European Framework of Reference) levels in the digital era. The methods used include the literature analysis and the experiment with twenty groups of students having traditional and blended learning classes. The results of the experiment were assessed via 1) IELTS-type test, 2) Moodle statistics, 3) students’ in-class participation, 4) instructors’ feedback, and 5) students’ feedback. The results show that blended learning has improved students’ reading skills, enlarged their vocabulary, enhanced their grammar ability compared with the traditional classes without online management system support, but the most critical issue is that blended learning has optimized classroom practice, reduced teacher’s preparation time, and stimulated students’ efforts.

**Keywords:** blended learning technology, online course design, course implementation, English as a foreign language (EFL), university students.
Blended learning is not just about finding the right mix of technologies or simply increasing student access to content in a new medium. It is inherently about rethinking and redesigning the teaching and learning relationship [11]. Some researchers and educators contend the benefits of blended learning are not the result of technology but rather the instructors’ reflection and redesign of pedagogical practices in light of new instructional and media choices [3]. While no two blended courses are identical, several design principles can be implemented to foster student success. First of all, the online portal and activities should be gradually introduced to students while in the classroom, so they become comfortable using the technology to achieve learning targets [9]. The online course management system must be user-friendly, facilitate discussion to build a community of learners, and have a good mechanism for communicating expectations and providing feedback [4]. Blended courses have been defined to include both face-to-face and online instruction where 30–70% of the content is delivered online [1]. Blended learning goes beyond classroom technology integration because students are expected to learn through online content delivery while having some element of control over their own learning time, place, path, and/or pace [20]. The goal of blended courses is to combine the best features of in-class learning with the best features of online learning to deliver a valuable educational experience to students. However, the combination of learning modalities goes beyond layering or repetition because true blended learning requires a meaningful integration of the face-to-face and online learning experiences [11, 12].

Therefore, this paper proposes an optimal win-win combination of the traditional and innovative teaching methods imbedded in the online management system. Beside the overall positive intrinsic value of blended learning in today’s digital world, there is an outer incentive thanks to government and university support of innovations in education. Currently, the South Ural State University endeavors to become a world-class research university with strong entrepreneurial culture and specialization in Supercomputing, Engineering, Natural, and Life Sciences. However, placement tests demonstrated initially low level of English language competence CEFR (A1–A2) among the majority of first year students. The level shown is apparently insufficient for academic interaction. So, to overcome the gap, it was decided to strengthen teaching/learning process by a universal use of blended learning technology as one of most efficient in creating language immersion environment. The task was a challenging one: to change both the content and the very principle of teaching English according to the goal of improving students’ language level to above B1+, so they could successfully participate in international research and academic activities. Ambitious plans were also set within the SUSU Road Map as part of the university’s transformation to achieve leading positions in education and science. It became essential to create a multi-level model of continuous language training for students of non-linguistic specialties with a focus on international standards.

**Materials and Methods**

To create the set of online activities, the authors used the university MOODLE-based multimedia distance learning platform, called E-SUSU 2.0 (https://www.edu.susu.ru/) which allows the user to generate and embed various kinds of educational resources (some of them provide the element of gamification). The authors selected the following resources: 1) for activities: quiz (Drag and drop into text; Drag and drop onto image; Embedded answers (Cloeze); Matching; Multiple choice; Select missing words; True/False questions), assignment; 2) for information and structure: topic, label, URL 3) for communication: forums and notice board. The course starts with the communication section represented with forums and a notice board. All the activities (60 in total) are combined in 12 units according to the syllabus and an exam preparation unit. Each of the 12 units consists of 5 sections: Unit Intro (unit title, lead-in collage, unit objectives), Reference, Grammar & Vocabulary, Reading & Writing, and an additional reference section More to Explore. The exam preparation unit also has an introductory section (unit title, lead-in collage, and unit objectives). Besides, it contains listening, reading IELTS-type tests, 2 writing IELTS-type tasks, and a URL to the video of IELTS speaking test.

The students (400 students in 20 academic groups) used their university membership in the E-SUSU 2.0 to enter the online course and complete their home assignments after each face-to-face university class. They had an unlimited number of attempts to complete the activities,
automated self-check, and limited time per activity. So, while students can connect to the course at any time, the instructors monitor both the process and the result through accessing their work and commenting on it. Moreover, all the data including the scores, time spent, date, and the number of attempts is reflected in the personal and group record and activity statistics thus allowing the instructors assess the students’ progress.

Therefore, working with such a platform while teaching general English represents an innovative blended approach for efficient management of learning. Further, there are the examples and descriptions of how the listed sections are organized.

**Communication Section**

If notice board contributes solely to the discipline, deadlines, and events connected to the course, forums become an important communication medium. They have the function of forums themselves (when there is one topic for all the students to discuss) and the function of a personal blog for one student to start and develop reflecting on the topics in his or her individual and autonomous way:

- a blog gives the opportunity to write students’ own thoughts on each topic studied, acts as a personal diary providing a tool for writing continuously in the contexts that interest the students in particular;
- a forum contributes to discussion, interaction, and exchanging views in a foreign language;
- both a blog and a forum contribute to contextualizing language, thinking critically about the topics, activating and consolidating grammar and vocabulary, practice writing skills.

**Unit Intro and reference sections**

The Unit Intro section is given in the beginning of each unit via Moodle topic element. The authors used not only the topic itself but presented a detailed description of the unit objectives and included a visual aid (motivational pictures corresponding to the unit subtopics and texts). The reference section of each unit consists of two parts: vocabulary and functions reference and grammatical reference. The first part is presented via the link to a .pdf file with the list of the corresponding vocabulary. The second part is given through the quiz tool structured as a picture with concept checking questions and a range of short answers to select from as shown in Fig. 1.

![Fig. 1. Example of Grammar Reference quiz](image-url)
Grammar and vocabulary section

Grammar and Vocabulary are presented as one section due to the authors’ adherence to the communicative approach that aims to combine the skills in order to correspond to the situations of real life. Within the communicative approach, grammar is the most controversial aspect to teach for certain reasons of balance between the form, function, and required practice. On the one hand, when teaching grammar, one should not go deep into the explanation. The best way is to give grammatical rules via the context for the students to figure them out by themselves, deductively, thus making their own associations and guided discovery. On the other hand, it is not a good idea to omit grammar considering it less important than other aspects and skills, as the more accurate the student is, the better he / she is understood and perceived in a foreign language culture. Besides, grammar requires not only understanding, but also regular practice, and here blended learning approach is indispensable as it gives the opportunity to organize a lot of automatically checked training tasks presented in various forms that minimize boredom.

To address the objective of making an online part dedicated to grammar, the authors developed certain principles. There is clear and precise teacher-free explanation providing the means for consolidating structures, adding corpus-based contexts, amplifying the amount of structures per unit. Further, there are the tasks that are available in the current online course that correspond to the given principles:

1. Sentence-based fill in the gaps (closed/open) task presents a shorter context for consolidating the rule. Two possible types of the task make it flexible to organize both controlled and freer practice.

2. Match the sentence halves task makes the most of the sentence-long context to show the implied grammatical meaning.

3. Text-based fill in the gaps (closed/open) task presents a broader context for consolidating the rule in various text forms and topics (Fig. 2). Two possible types of the task make it as well flexible to organize controlled and freer practice.

The vocabulary aspect in the online course is contextual and illustrative. The main idea behind the vocabulary assignments is helping students remember the words and their use via various types of text, definitions, and pictures. So, the main principles of the online vocabulary tasks are to give broader text-based contexts, provide the means for consolidating the language units, and illustrate and train in the shades of meaning.

To address these principles, the authors developed the following types of tasks that are available in the current online course:

1) drag and drop the vocabulary units to the text;

Fig. 2. Example of text-based fill in the gaps
2) match the word with its definition;
3) drag and drop the word on the picture (Fig. 3);
4) fill in the gaps;
5) check mark the correct sentences.

Reading and writing section

While learning a foreign language, an ability to read efficiently and to write precisely in the target language are required skills which are crucial because through reading and writing a learner can improve his or her linguistic abilities, learn the structure of the language, and demonstrate professional competence. However, reading is a complex cognitive process [18], while writing demands thorough understanding of language functions. Besides, for online language learners, reading and writing are not only cognitive, but social activities as well due to the nature of online education when the learners study autonomously and interact constantly with peers and facilitators using features available in online management system. Overall, both reading and writing are seen as those reflecting awareness and active processing of information graphically encoded in the particular language system and represent a complex analytical and synthetic activity that develops from the perception and understanding of the text. They are the main language modalities through which the active and passive vocabulary is enriched and grammatical skills are formed. Thus, it is essential to combine computer-mediated learning strategies for reading and writing on a par with traditional ones to allow students to improve their skills during extracurricular time making their entire reading and writing experience more complex.

To address this objective, the authors developed the following types of reading tasks that are available in the current online course:

1. Matching the paragraphs to the headings is represented in the form of the academic text containing the main idea of the unit and its active vocabulary. In this type of task, the ability to identify the main idea of a text or its passage is tested. Such assignments are typical for different international CEFR exams.

Fig. 3. Example of drag and drop the word on the picture and fill in the gaps
2. True, False, or Not Given task is probably the most difficult assignment in the reading part. Such tasks require a learner to determine whether information in a text is true or not. The ability to view the text for the extraction of detailed information and the ability to understand the paraphrase which is implied are tested (Fig. 4).

3. The last part of the reading section is presenting the information of the text in a different form (a table, diagram, summary, etc.). It can be performed through such exercises as completing sentences with the words and phrases from the assignments (or the text) above.

4. Multiple choice questions are designed to test reading for detail skills.

Writing is presented in one writing task per unit, according to the unit writing focus and a writing activity (Fig. 5). The units are dedicated
to the following structures: a script for a debate, a paragraph in an essay, a narrative article, an email inquiry about volunteering, a one-paragraph article, an introduction to an essay, a report, using information in graphs and charts, a survey article, a concluding paragraph in an essay, and an essay.

More to explore section

More to Explore section consists of additional links to the topical videos and useful resources. It not only embraces all the previous sections (giving extra material on grammar, vocabulary, reading, writing and speaking), but also expands language environment. This section connects classroom communication to online homework, as usually the instructor shows some of the videos in the class in order to provide a good lead-in and to facilitate productive skills. Besides, a common home task is to watch the videos at home to get ready for a class discussion, to write something, or to complete a project.

Results and discussion

The research (September 2018 – December 2019) involved 400 students in 20 academic groups of the Higher School of Electronic Engineering and Computer Science (HScEECS), Higher School of Economics and Management (HSEM), Institute of Engineering and Technology (IET) at South Ural State University. After placement testing (Table 1), the students were split into the groups according to their level of language proficiency, determined by CEFR, which creates the most comfortable conditions for successful development of language skills. At the end of each semester, instructors tested students using international materials to determine the dynamics of their level of English.

As Table 1 clearly illustrates, there was the majority of A1–A2 student groups that needed constant language practice both in drilling and in less structured speech production. For greater efficiency, blended learning technology was inseparable of the academic process as it has a potential in increasing the quantity and the quality of exposure to authentic English. Here a student has both 5 hours of classroom lessons and the same amount of time in a virtual environment using digital training and various instruments of online communication. Given that students spend a significant amount of their time on individual training online, classes focus on live communication.

Besides testing the level of language competence, the authors also made a survey to find out students’ motives of learning English. Among the most common motives, the students mentioned opportunities for daily and professional communication, job promotion, and moving abroad. The correlation of language level and motivation was clear and culturally dependent, as those who had A1–A2 wrote about loss of motivation and were reluctant to specify any reasons to learn (see Table 2). It was an anticipated result because in Russia students learn English during 7–10 years at school prior to entering the university. If this period is not successful and students do not reach B1, they feel discouraged, and for university instructors it is the issue to overcome.

In regard to the experimental evidence of effectiveness of online management system development technology for general English course outcomes, it is essential to consider the comparison of the results of two groups of students having traditional and blended learning classes respecti-

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In this research, the authors analyzed the data on 211 students having blended learning classes (ten academic groups of 20–22 students) and 189 students having traditional classes (ten academic groups of 18 and 20 students). The results of the experiment were assessed via 1) IELTS-type test, 2) Moodle statistics, 3) students’ in-class participation, 4) overall instructors’ feedback and 5) the survey showing students’ feedback.

IELTS-type test showed higher scores in reading and listening in blended classes (band 6.0 in blended learning groups compared to 5.5 in traditional learning groups on average). Speaking and writing tests showed the same 5.5 band level in both groups which may be explained by the essence of online management system forming mainly receptive skills by automated training.

As far as the statistics are concerned, the authors utilized the following indicators to assess motivation in the blended learning groups: 1) the number of students who completed all the activities; 2) 185 students (87.7%) completed all the activities, while 26 students (12.3%) left out some of the activities (nobody ignored online testing completely); 3) overall scores of an individual student per unit (the overall scores varied from 30 to 100 points. 89 students (42.2%) achieved the overall scores from 95 to 100; the rest did not try their best to achieve the highest points); 4) the average number of attempts per one activity (the average number of attempts per one activity was about 3 times, and this indicator was constant in different activities and various students; a few students were persistent in attempting the tasks more than 5 times); 5) the number of students who took first three places in the activity rankings (this indicator equaled 131 students (62.1%), and it can be considered one of the most significant as it showed that half of the students were highly motivated to complete the given online testing tasks); 6) meeting deadlines (every time the students got their home assignment, about 20% completed the task at once, and about 75% met the given deadline. About 5% of students did the activities later). Overall, the statistics showed that online management system motivated the students. There are several possible explanations for this result. First, it happened due to the ranking system that involved the students into the competitive process, and half of them succeeded to stay in the top places of various activities. Secondly, the testing had a regular character, and most of the indicators represent steady numbers reflecting the fact that the students successfully managed to deal with this routine.

Students’ in-class participation in the blended learning groups was more active as the classes became more communicative. The instructors did not spend much time on vocabulary explanation as the students worked with it at home with the help of online management system. The in-class vocabulary checkpoints showed that 70–90% of the blended class students understood and could use the words and word combinations from certain units while the same measurements were 10% lower in the traditional classes.

Overall instructors’ feedback (20 instructors took part in the survey) was positive for they noticed students’ increased motivation and better mastery of grammar, vocabulary, and written and oral speech in blended learning classes. Instructors also reported increased communication and discussion for both student-student and student-teacher interactions with the blended course. Due to the increased communication, instructors also observed higher levels of feedback, reflection, and accountability for students. With those observations, instructors were able to raise their expectations for students in the blended courses. Instructors’ decisions to use online or classroom components were also driven by the perceived advantages and disadvantages of both modes. All instructors agreed that both classroom and online teaching offered benefits to learning. As a repository, the online environment did not suffer from the time and space limitations of a classroom. It was also regarded as an excellent mechanism for rapidly contacting all students. Besides, instructors mentioned the fact that they had spent less time preparing for classes and had more opportunities for creative teaching. It was an anticipated result as most of the drilling exercises were automated using online tools, and the structure was clearly set while more topical links and resources were added. Therefore, on the one hand, it helped the instructors not to bother about the core of the course and, on the other hand, to fully focus on students’ rapport, classroom management, teaching style, creating safe speaking environment, and bringing the most of communicative practice to the classroom.

To get a full picture of students’ motivation and collect their feedback, an online survey was conducted at the end of the course. The survey was anonymous and contained 10 questions about students’ work and progress. There were
340 responses (85% of the students). The first questions were about the satisfaction from the course in general. All the groups of students were 100% satisfied. As for the blended learning course, the answers revealed that the students were more satisfied with their online homework than with their offline homework, while for the traditional learning course the class activities turned to be more satisfying than the offline homework. 80% of the students from the blended learning groups indicated that they started doing the activities right after they got the assignment, while 20% admitted they completed the assignments after the instructor’s second reminder. Half of the students think that such activities do not take much of their time and another half considers that they are time consuming.

The research conducted by the authors proved to be effective as blended learning classes not only improved students’ reading skills, enlarged their vocabulary, and enhanced their grammar skills compared with the traditional education without online management system support, but also optimized classroom practice, reduced teacher preparation time, and stimulated students’ motivation and effort.

**Conclusion**

The evaluation of the results obtained against the results of the traditional non-blended (class) approach proves that applying online management system is productive. Thus, it gives the students of non-linguistics majors an opportunity not only to improve their fluency but also increase motivation to practice language skills via convenient online environment. Besides, automated activities decrease teacher’s overload while working as an electronic instructor that gives an instant feedback. The use of technology in the classroom continues to grow and holds limitless possibilities for improving student learning. Blended learning has the potential to expand avenues for learning by combining the best practices of in-class instruction with the most useful online resources. More research is needed to understand how to best design and implement this new foundation for learning.

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Непрерывное образование в течение жизни...


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ИННОВАЦИОННЫЕ ТЕХНОЛОГИИ СМЕШАННОГО ОБУЧЕНИЯ: РАЗРАБОТКА КУРСА ПО ОБЩЕМУ АНГЛИЙСКОМУ И ЕГО ВНЕДРЕНИЕ В ОБРАЗОВАТЕЛЬНЫЙ ПРОЦЕСС СТУДЕНТОВ ВУЗА

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Обмен данными в XXI веке становится важнейшим двигателем всех процессов, идей, тенденций и прорывов в любой профессиональной сфере. Этот факт имеет два основных следствия: на карте поставлено образование, и высшее образование должно измениться наиболее эффективным образом, чтобы обеспечить профессиональный успех выпускников; английский язык как профессиональный и научный универсал и должен составлять академическую среду даже в неанглоязычных странах. В настоящей статье рассматриваются вопросы смешанного обучения английскому языку и развития его онлайн-компонента. Цель исследования — доказать положительное влияние технологии смешанного обучения на результаты обучения английскому языку как иностранному языку (EFL) для студентов различных уровней CEFR (общеевропейской системы отсчета) в цифровую эпоху. Используемые методы включают в себя анализ представленной литературы и эксперимент с двадцатью группами студентов, имеющих традиционные и смешанные классы обучения. Результаты эксперимента оценивались с помощью 1) теста типа IELTS, 2) статистики Moodle, 3) участия студентов в занятиях, 4) общей обратной связи с преподавателями и 5) опроса, показывающего обратную связь студентов.
Проведенное авторами исследование показало, что смешанное обучение не только улучшило навыки чтения учащихся, расширило их словарный запас и повысило их грамматические способности по сравнению с традиционными занятиями без онлайн поддержки, но и оптимизировало аудиторную практику, сократило время подготовки преподавателей и стимулировало усилия учащихся.

Ключевые слова: технология смешанного обучения, проектирование онлайн-курса, внедрение онлайн-курса, английский язык как иностранный (EFL), студенты вузов.

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