

Blended Learning in Russian Higher Education: A Comparative Analysis of Three Cases

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ABSTRACT

Blended learning has become a popular technology which combines traditional methods and tools with e-learning strategies. This paper compares and contrasts three cases of blended learning implementation at Russian higher education institutions. The cases were selected to represent three different curriculum specialisations in higher education: in emergency control technologies, in marine technologies and commerce, and in social studies and humanities. The authors use the official data and methodological documents and describe the latest practices applied in the educational process in the context of digitalisation of education. The paper finds some difference in blended learning implementation at these institutions and provides some explanation.

Keywords: *Blended learning, digitalisation, higher education policies, education policies in Russia, attitudes of learners and instructors*

1. INTRODUCTION

World-wide digitalisation of higher education is one of the consequences of the drastically changing reality of the XXI century. Digitalisation has been permeating every element of university's life: academic staff; students; student and staff communication; educational practices and learning strategies; the content of university subjects and physical teaching tools; the system of assessment and many other aspects. Digitalisation has also been manifesting itself in many forms and modes: digitally and web enhanced educational practices, blended learning, online education, MOOCs, online courses, and many others [1].

In Russia, it is blended learning that seems to have become the most frequently applied form of digitalisation for a number of reasons [2]. Firstly, it offers unlimited possibilities to significantly improve the educational process; secondly, it is cost and time effective in the long run despite a great deal of initial investment. Hence, many universities in Russia have taken advantage of a blended learning approach. It is worth mentioning that these universities apply the approach to teach different academic disciplines: STEM and HASS ones, major and minor ones, on part-time and full-time programmes. Blended learning appears to have become a really all-subject all-programme approach.

In spite of the universal application of blended learning in various institutions irrespective of what they teach, we hypothesise that there are some differences in blended learning practices determined by at least a university's specialisation in science or humanities. Thus, the current study aims to critically assess current blended learning

practices at the tertiary level of Russian education. It particularly focusses on the practices employed at three different universities representing three different subject-related curriculum strands, or university specialisations in Russian higher education institutions: Higher School of Economics as a representative of the humanities strand, Saint Petersburg University of the State Fire Service of the EMERCOM of Russia as a representative of the technical strand and Admiral Makarov State University of Maritime and Inland Shipping as a representative of the marine science strand.

The research questions driving this study are as follows: a) what the system of blended learning is like at each of the universities, b) what are advantages and disadvantages of blended learning as perceived academic staff of different ages and programmes c) what are advantages and disadvantages as perceived by students of different ages and programmes.

The remaining part of the paper proceeds as follows: first, the definition of blended learning is discussed; then, the three models of blended learning at the three universities are described; finally, attitudes of academic staff and students are discussed.

2. BACKGROUND

Blended learning has been in use for well over the last two decades, and a good deal of definitions of the term have been developed [3]. In layman's terms blended learning is all about using computer-mediated activities in face-to-face education. In more sophisticated terms, blended learning is an approach in which "classroom seat time is

replaced with online instruction” [4] , “students choose when to access course materials, what types of learning materials to use ... and how quickly to work through the materials with the support of sophisticated instructional software and one-on-one on-site help” [5] and teachers use a combination of different pedagogical approaches [6].

In Russia, blended learning has been actively implemented in the past decade as it enables higher education institutions to meet the requirements introduced by the 2012 Federal Law "On Education in the Russian Federation" [7]. Blended learning provides opportunities for a) humanization, or expanding the boundaries of the availability of knowledge within the framework of lifelong learning, b) inclusiveness, or the involvement of all categories of students, regardless of geographic location, social status, individual characteristics, in the educational space; c) competitiveness , or compliance with the level of modern requirements of the world labour market, ensuring professional growth and a "social lift"; d) socialization, or integration into the modern socio-cultural space through the acquisition of the necessary competencies; e) individualization, or orientation towards the personality of a student, manifested in the construction of an individual educational trajectory taking into account the interests, needs, inclinations of the subject of training and education. Over the past ten years, the development of blended learning in Russia has been in tandem with the formation of the domestic segment of the Internet. As the researchers note, the rate of development of e-learning in Russia is 2.3 times higher than the global indicators [6]. Despite the fact that Russia is not among the leading countries in the dissemination of e-learning, Russian universities are actively creating and using innovative educational tools: the National Platform for Open Education, Online-MIPT, and the HSE Internet School. About 30% of Russian students study remotely. Rapid growth in the number of educational platforms and educational projects can be another manifestation of the new concept of economic development, "knowledge economy". The transition of the economy to a new qualitative state is manifested in the increased role of human capital, creativity, innovation. This process requires the development of an information infrastructure that combines the technological, pedagogical and institutional aspects of the educational process and turns it into an effective mechanism of socio-economic and cultural progress.

In the short run, blended learning as a purposeful organization of the educational process provides various degrees of combination of traditional and e-learning forms (30% - 79%) and enables educators to solve a number of didactic tasks: a) ensuring the procedural aspect of the educational process using Wiki technology; b) broadcasting the content of the training course or its individual sections in the form of video lectures, webinars (TED talks); c) organizing feedback when using online tests and simulators; d) managing independent work of students with the use of electronic memorization tools, mental, cognitive maps (Quizlet, www.visualthesaurus.com, www.mindmeister.com, www.piktochart.com, [worddle](http://worddle.com)); e) developing the creative

potential of students in the framework of project activities using blog services (www.Livejournal.com, www.blogger.com, www.blogspot.com) [8].

In the long run, blended learning addresses many socio-economic problems: the general educational level, access to higher education levels for residents of remote regions, the need for additional competencies and improved qualifications. Blended learning acts as a launch pad for creative and motivated students who can master the required competencies through social interaction, organise their learning process by themselves and critically evaluate the degree of their success. Hence, blended learning is actively implemented in higher education institutions as it is extremely powerful in terms of boosting the success of learning and teaching activities as well as communication between students and academic staff.

3. METHODS

One of objectives of this paper is to explore the implementation of blended learning in three different universities with different specialisations. To realise this objective, we use a case study methodology. These cases have been selected because not only the authors of the paper are affiliated with these universities, but the universities also make a good sampling of blended learning in different curriculum strands of higher education in Russia. Higher School of Economics Saint Petersburg specialises in social studies and humanities. Saint Petersburg University of the State Fire Safety Service of EMERCOM of Russia specialises in technology, engineering, science, fire safety and emergency control. Saint Petersburg Admiral Makarov State University of Maritime and Inland Shipping specialises in the marine science and technology industry and marine commerce.

The primary method of data collection to explore the peculiarities of blended learning units was semi-structured interviews with the universities’ administrators and academic staff accompanied by the analysis of institutional documentation [2, 9, 10]. To describe the peculiarities of blended learning units at the three universities, we adopted a framework for the analysis of blended learning implementation in terms of institutional strategy, structure and support and stages of implementation developed by Graham [4].

Another research method to explore attitudes of students and academic staff was a direct questionnaire method and a survey carried out among 127 students at each university and 16 members of academic staff from each of the universities.

4. RESULTS

In terms of the structure of blended learning, the analysis of institutional documentation revealed that each university has a well-developed learning management

system and online access to critical university services: library catalogues, timetables, phone and e-mail directories, payments, elective course and others. Also, each university has the Distance Learning Division. HSE has a catalogue of course with the indication which of them are taught in class, online or in a blended mode. At HSE any course can be taught in a blended mode. At Saint-Petersburg University of the State Fire Safety Service a great deal of courses can be taught in this mode but not all of them. They are Fundamentals of integrated security and safety in the Arctic; Radio communications; Apparatus and vehicles in the Arctic; Tactical and special training; First aid; Psychological training; Airborne training. At Admiral Makarov State University of Maritime and Inland Shipping most disciplines but not all can be taught in a blended mode.

All three of them offer training courses for both students and academic staff to support them in blended and online learning. There are also special units which provide technical support at each of the universities. All three universities have a solid technology infrastructure for blended learning units with HSE being the only one with their own video studio and digital unit to assist any member of the academic staff in producing a digital component for their blended course.

In terms of institutional strategies, the three universities make efficient use of their classroom space by introducing blended learning components; however, none of them has any requirements as to how much seat time on each discipline should be reduced. Blended courses and online course are indicated as such on HSE's curriculum. Students at HSE have a wider choice and more flexibility in terms of blended learning components than at the other two universities as they can make their own individual curriculum with 100% online courses or blended course if there is such a need. Students at the other two universities have a limited number of online or blended courses they

can choose. The academic staff at all three universities are encouraged to adopt blended learning; however, at HSE there are institutional incentives and a system of grants for any member of the academic staff to develop a blended course. There are also various blended learning initiatives at work at HSE. The three universities are actively working on developing and disseminating a document that would articulate policies and standards for blended learning. The degree of control from academic administration over whether or not a course is blended, online or face-to-face varies at these universities

In terms of support provided, apart from Technical Support Units actively assisting the academic staff at the three universities in going blended, the three of them organise workshops, intensive training programmes, individual consultations to members of academic staff in need of pedagogical and didactical support for blended courses. Each university collects and analyses evaluative data from their students and academic staff and regularly disseminates them to their academic departments for them to take more strategic decisions in terms of going blended.

To answer the second research questions about attitudes of academic staff, we gathered quantitative data by means of a survey carried out at each of the universities. The answers are given below in the table. We surveyed 16 members of the academic staff from each university from different age groups. The survey was carried out in September of the 2020-21 academic year when the universities moved to a blended learning format as much as possible in the aftermath of COVID-19. In the table there are aggregated answers received from the academic staff of all three universities irrespective of their affiliation. We deemed it irrelevant to provide a breakdown of answers according to the affiliation of the respondents as there were no relevant differences in their answers.

Table 1 Teachers' opinions

Advantage	Teachers' comments	31-50 years old (11 – 69%)	51-78 years old (5 -31%)	Total number of teachers (16 -100%)
Organizational benefits				
Better working/teaching conditions	Spend less time for preparing for the lessons and going to the university The teacher isn't required to be present all the time.	9 82%	2 40%	11 69%
Improved Time efficiency	You can better plan the time for different tasks, the system controls the time automatically	3 27%	1 20%	4 25%
Easier to provide technical support for the learning process	No problems with organizing listening tasks, watching video, making presentations, organizing group, pair work	10 91%	3 60%	13 81%

Continuation of table 1

Easier to work with large groups of different levels students	Helps to reach a larger audience in a limited period. Traditional classroom settings require limited number of people at the same time.	10 91%	3 60%	13 81%
Easier to prepare for the lessons	Possible to prepare the assignments independently, you can easily combine the online materials and assignments.	6 55%	2 40%	8 50%
Faster and more effective to control, assess the work and analyze the progress, better student data	The LMS controls the time spent for every task, assess the test results, keeps the record on every student/task	9 82%	1 20%	10 62.5%
Easier to give feedback	Teachers can give the feedback at any time, any place in LMS and combine the online chats with face-to-face communication	7 64%	1 20%	8 50%
More available teaching materials	Great variety and availability of online materials in all skills for any level. Access to global resources and materials that meet the students' level of knowledge and interest.	7 64%	4 80%	11 69%
Methodological benefits				
Flexibility in choosing the materials for different levels students	Great variety and availability of online materials in all skills for any level. Teachers can combine and individualize the tasks for different levels.	10 91%	2 40%	12 75%
Variety of activities	A lot of interesting and motivating activities. Can vary the tasks in class and at home, individual tasks for each group or level.	9 82%	3 60%	12 75%
Opportunities to use individual trajectories (Individualized development plans)	Teachers can combine the tasks and methods for students, paying attention to individual progress	10 91%	3 60%	13 81%
supports face-to-face teaching	Combination of tasks and assignments provides the teacher the opportunity to give home tasks in LMS and give the feedback face-to-face	11 100%	4 80%	15 94%
Disadvantage	Teachers' comments	31-50 years old (11 – 69%)	51-78 years old (5 - 31%)	Total number of teachers (16 -100%)
Hard to complete the schedule	It is not easy to complete the schedule combining online lessons with face-to-face meetings.	4 36%	5 100%	9 56%
Technical problems	Access and connection problems are quite often.	10 91%	4 80%	14 87 %
Information overwhelming	Teachers spend too much time at the computer, process a lot of information, always in touch with the students	11 100%	3 60%	14 87.5%

Continuation of table 1

Hard to switch from face-to-face to online lessons	Methodologically and psychologically hard to switch from face-to-face to online lessons	10 91%	4 80%	14 87.5%
Time consuming	Takes much time to prepare the assignments, not easy to find the necessary tasks and assignments.	9 82%	4 80%	13 81%
Low students' motivation	Diminish the students' motivation, does not suite to every person, task	8 73%	4 80%	12 75%
Not easy to organize oral communication and check speaking skills	Difficulties with organizing speaking tasks	9 82%	4 80%	13 81%
Hard to give feedback	Teachers who are not good at working with PC – takes time to give the feedback in LMS and to organize online chats	8 72%	3 60%	11 69%
Plagiarism and credibility problem	Students very often cheat and plagiarize. The online results do not refer to the real level of students' knowledge and competences.	10 91%	5 100%	15 94%

To answer the third question about the attitude of students we carried out a survey of 127 respondents from different departments of each university. The respondents came from a variety of age groups with most of them aged between 18 and 27 years (61%) and some (14%) between 28 and 37. 98 (77%) students and cadets study full-time, 29 (23%) are part-time students. In the table there are aggregated answers received from the students of all three

universities irrespective of their affiliation. We deemed it irrelevant to provide a breakdown of answers according to the affiliation of the respondents as there were no relevant differences in their answers. The survey was carried out in September of the 2020-21 academic year when the universities moved to a blended learning format as much as possible in the aftermath of COVID-19.

Table 2 Students' opinions

Advantage	Students' comments	Full-time students	Part-time students	Total number of students
		98	29	127
More comfortable	Students are happy to stay at home. More time to complete the tasks.	61 62%	20 20%	81 64%
Easier to do the tests and pass the exams	Some students admit that they are able to use some materials while testing.	70 71%	24 83%	94 74%
Easier to get the feedback from the teacher when the task is given via LMS	Regular, well-planned schedule and clear plan in accordance with the curriculum give the opportunity to understand what you have to do pass and when if the LMS is used. The teacher evaluates the tasks using the clear criteria.	48 49%	19 65,5%	67 53%

Continuation of table 2

More opportunities to complete the course in advance	There is the chance to pass the tests faster or earlier for some reasons if the tests are given in LMS.	80 82%	24 83%	104 81%
More opportunities to pass the tests and exams if you miss the dates important for those who have individual plans	Teachers are ready to give students the chance to pass the test or the exam online if they missed them.	84 86%	28 96,55	112 88%
More interesting and motivating because of the technologies and materials used	Teachers give a great variety of different tasks and assignments	69 70%	20 69%	89 70%
Easier to find the books and materials given by the teachers	All the necessary books and materials are downloaded by the teachers into the course/	87 89%	24 83%	111 87%
Disadvantage				
Problems with the access / log in problems	Students sometimes have technical problems bad connection, lack of technical devises. Have to text to technical support.	74 75,5%	21 72%	95 75%
More time for completing the tasks	Students have to text fast, especially while doing written tasks li a limited time.	86 88%	23 79%	109 86%
Much more tasks to do	Teachers often give more assignments and longer texts to read and process in LMS.	87 88%	26 90%	113 89%
Time limits for doing the tasks/ complete the tests	Impossible to download the tests or testing assignments later. Have to do everything fast.	90 92%	21 72%	111 87%
Mistakes and misprints in LMS materials	Testing questions are not always clear sometimes there are the mistakes and misprints in LMS materials	12 12%	4 14%	16 12,5%
Lack of communication with teachers	Teachers are not ready communicate and chat online	30 31%	24 83%	54 42,5%

5. DISCUSSION

The first question in this study sought to determine the existence of any difference between how blended learning is implemented in three different higher education institutions with three different specialisations.

The cases presented in the paper show different models of blended learning adopted in Russian higher education institutions with a different specialisation. Hence, it is possible to compare and contrast how blended learning is adopted to teach engineering disciplines, social studies, humanities, marine technology and emergency control policies. It is possible to assess the degree of blended learning implementation in terms of the awareness stage,

the early implementation stage and the mature implementation stage.

It appears that St. Petersburg University of the State Fire Service of the EMERCOM of Russia as and Admiral Makarov State University of Maritime and Inland Shipping are at the early implementation stages for such reasons as: a) there are a limited number of courses that are taught in a blended mode; b) there is no catalogue of courses with a teaching mode marked for each course (face-to-face, online, blended); c) there is no system of academic staff training at the institutional level only at the level of separate departments; d) there is still a lot of experimenting with most effective policies to find the best one to fully implement blended learning.

It also appears that Higher School of Economics Saint Petersburg has moved to the mature implementation stage as it a) can teach almost all courses in a blended mode; b)

there is a well-developed support system at the institutional level; c) blended learning has become a routine aspect both for students and academic staff.

There are several possible explanations for these findings. Firstly, the management and administration of each universities might have different strategic goals in terms of going blended. This explanation seems somewhat implausible as all three universities belong to the top echelon of higher education institutions in Russia and fully subscribe to the Federal Law on Education with its clear direction for digitalisation. Secondly, each of these universities specialises in training their students in different subjects, some of which are more applied such as fire extinction technology or ship navigation than others such as econometrics or history. Corollary to this, it seems impractical to transfer highly applied subjects to a blended learning mode as the teaching and learning process will rather lose its efficacy than gain it. Practical skills can only be developed during hands-on training in face-to-face situations.

The second objective of this research was to analyse the attitudes of academic staff. According to the data in Table 1, it is clear that an overwhelming majority of teachers (94%) from the three universities agree on the ability of blended learning to boost the efficiency of face-to-face education. A hefty 81% of the respondents mentioned that blended learning provided unlimited opportunities to tailor the educational process to the particular needs of their students. An increased flexibility of the educational process and a variety of activities were also mentioned by a good deal of respondents as the advantages of blended learning (75%).

It is worth mentioning that each of the advantages registered by the respondents receives a lower percentage in the age group of more mature members of the academic staff; for example, the aggregated 94% of the academic staff enjoy the ability of blended learning to increase the efficacy of the educational process with 100% of younger academic staff and 80% of more mature academic staff. A slightly reversed pattern is registered in the disadvantages group: almost each of the disadvantages registered by the respondents enjoys a higher percentage in the age group of more mature members of the academic staff. The most frequently mentioned disadvantage (94%) was plagiarism with 100% of mature academic staff against 91% of younger academic staff. The second most unpleasant disadvantages were information overload and some difficulty in switching between the face-to-face mode and the online mode in blended courses (87%).

A possible explanation for these results might be the fact the more mature members of the academic staff surveyed generally tend to use technology less and adopt to changes of any sort at a slower pace than the younger academic staff surveyed. On the whole the results confirmed our expectations that blended learning is perceived positively by an overwhelming majority of the academic staff the three universities as it greatly increases the success of the learning and teaching process.

The third objective of this research was to analyse the attitudes of students from the three universities. Roughly

the same percentage of students mentioned that blended learning was more interesting and motivating (88%) and more difficult at the same time (89%). Another frequently mentioned advantage was opportunities to have a lot of tests to check knowledge and opportunities to make up missed classes (87%). 81% of the students surveyed also enjoyed a wealth of learning material to choose from in blended learning courses. 86% of the respondents were not happy with an increased amount of time spent on preparation for classes.

6. CONCLUSION

This paper contrasted and compared blended learning implementation strategies at three different higher education institutions in Russia representing three different specialisations to test the hypothesis that blended learning practices are partially determined by a university's specialisation in science or humanities. The paper identified that the universities specialising in technical subjects with a more applied character (St. Petersburg University of the State Fire Service of the EMERCOM of Russia and Admiral Makarov State University of Maritime and Inland Shipping) demonstrate the early implementation stage while the university specialising in social studies and humanities (HSE) demonstrates the mature implementation stage. The attitudes of students and teachers across the three universities do not show much difference and, thus, are considered irrelevant in terms of their role in determining different blended learning implementation strategies. The only plausible explanation is that blended learning strategies cannot be implemented in the same degree to teach technical subjects, social studies, and humanities. Hence, our hypothesis that differences in blended learning practices at different universities could be determined by their specialisation was confirmed.

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