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STUDENT LEARNING SATISFACTION DURING THE COVID-19 PANDEMIC: EXPERIENCE OF RUSSIAN UNIVERSITIES

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Abstract

The COVID-19 pandemic has dramatically changed the situation in education. In order to ensure the safety of students' health during the outbreak of the epidemic on the territory of the Russian Federation, all higher education institutions have switched to distance learning. The consequences of this large-scale experiment are yet to be evaluated. The aim of this study consisted of examining satisfaction with distance learning during the COVID-19 pandemic. An online survey was conducted in June 2020. The interviewees included 268 students. Distance learning currently serves as a backup option or an additional element to the traditional form of education. The experience received by students during the pandemic did not generate much interest in distance learning; on the contrary, it was associated with many difficulties. The study revealed the most reactive position of the majority of students. The results of the research demonstrated that satisfaction with distance learning depended on sex and the year of study. The experience gained during the COVID-19 pandemic highlights that universities should increasingly develop and implement elements of distance learning in order to enhance the willingness of all participants to switch to this form in case of an emergency.

Keywords: COVID-19, distance learning, e-learning, interest in distance learning, satisfaction

1. Introduction

The modern era is characterized by the intensive development and implementation of information and communication technologies based on the Internet. IT innovations increasingly penetrate various spheres of human life, including education. Learning is no longer confined to the classroom (Al-Fraihat et al., 2020; Lee et al., 2019); it can be done remotely and is called E-learning. Due to the continuing development of technologies, there is currently no single agreed definition for E-learning. Some researchers interpret it as an information system that integrates digital educational materials transmitted via Internet technologies. Others base their approach on the concept of technology integration in the educational process (Al-Fraihat et al., 2020).

Currently, the usefulness of information and communication technologies in learning is not up for discussion, in contrast to distance learning (Herrador-Alcaide et al., 2019). The obvious advantages of this form of education are: flexible schedule, relatively low costs, and the shaping of additional competencies in the use of information and communication technologies. Teachers should take into consideration the typical obstacles to the introduction of distance learning which are: bias, negative experience, technical illiteracy and low level of technical equipment, gender specificity of Internet consumption, the gap between the theory and practice of E-learning (Dovbenko et al., 2020). Researchers reckon that many educational institutions, especially in the third world, are not ready to solve the problems associated with offering high-quality distance courses (Abuhassna et al., 2020).

E-learning is a form of education that is most commonly used in higher education institutions in developed countries (Alamri et al., 2019) and is originally a supplement to the classical form of education in habitual conditions (Dwidienawati et al., 2020; Zhou et al., 2020a). Teachers typically use Internet-based Learning Management Systems (LMSs) and Social Learning Networks (SLN) to improve students' skills and the quality of education in general (Almoeather, 2020). The results of the preliminary research in developing countries have demonstrated that distance learning can meet the needs and expectations of students, including those educational institutions where such technologies have never been used before (Sulisworo et al., 2019).

The COVID-19 outbreak has significantly disrupted almost all aspects of human life (Lytridis et al., 2020). A number of governments around the world have taken unprecedented measures to reduce the spread of the virus, including the imposing of social distancing. From this perspective, distance learning was considered as the best option to ensure the safety of students in this situation. In Russia, the coronavirus pandemic led to urgent mobilization of existing Internet technologies in education: communication infrastructure, digital learning resources, convenient learning tools, effective teaching methods, educational organizations, support services for teachers, parents and students, and systems of interaction between the government and schools. In the shortest period of time, all the schools and higher education institutions were switched to remote learning. Life itself provoked a large-scale experiment, the short- and long-term consequences of which are yet to be evaluated by researches.

2. Problem Statement

In the research devoted to the potential of distance learning, much attention is paid to the analysis of students' satisfaction. The importance of their opinion is based on a number of reasons: 1) satisfaction is considered to be the most important factor of the intention to continue learning using digital technologies (Al-Fraihat et al., 2020; Zhang et al., 2020); 2) user satisfaction is a fundamental indicator (measurement) of the effectiveness of using and accepting distance (Theresiawati et al., 2020); 3) satisfaction is a key factor that determines the consistency and effectiveness of E-learning (Kuzmanović et al., 2019; Rachmawati et al., 2019). Satisfaction is defined as user acceptance of distance learning and the comfort level involved in their use, or satisfaction is defined as the pleasure or satisfaction someone feels when a person gets what he needs through the use of the system (Liaw & Huang, 2013). Researchers take into consideration global satisfaction or differentiated satisfaction (i.e. satisfaction with individual aspects of distance learning). An example of the latter can present a model of E-learning satisfaction with BELS. This model includes the following factors: computer self-efficacy, performance expectations, system functionality, content function, interaction, and learning climate (Wu et al., 2010).

The core of this research is based on the idea that satisfaction with the educational process consists of three components: cognitive, emotional and behavioral. The cognitive component consists of evaluating the positive and negative aspects of distance education. The emotional component consists of a positive or negative attitude to the distance learning experience and its individual elements. The behavioral component is expressed in a willingness to continue learning remotely or in a possible recommendation of the similar training to other people.

3. Research Questions

Researchers from different countries have consistently studied the degree of students' satisfaction with distance learning. However, until recently, these studies have been conducted primarily in mixed learning conditions (Al Awamleh, 2020; Herrador-Alcaide et al., 2019; Zhou et al., 2020b) or continuing education in the workplace (Gopinathan et al., 2019; Rodríguez-Santero et al., 2020). A large number of studies were devoted to analyzing the effectiveness of individual E-learning tools (Bian et al., 2019; Choe et al., 2019; Codilan, 2019; Dovbenko et al., 2020; Padmo & Sri Ardiasih, 2019). Previous researches have highlighted that students have a positive attitude towards E-learning (Alamri et al., 2019; Smolyaninova & Bezyzvestnykh, 2019). Nonetheless, some studies have shown that satisfaction with distance learning or its individual tools depends on gender (Ortega-Sanchez & Gomez-Trigueros, 2020), university (Andoh et al., 2020; Ortega-Sanchez & Gomez-Trigueros, 2020), and a year or course of study (Andoh et al., 2020). Other studies, on the contrary, have revealed that satisfaction with distance learning does not depend on age, gender, or curriculum (Andoh et al., 2020). In addition, most of the previous research were conducted among students who chose E-learning voluntarily. This study presents the views of students who were forced to join E-learning due to the COVID-19 pandemic.

4.   Purpose of the Study

The objective of this research was to study global and differentiated satisfaction with distance learning during the COVID-19 pandemic.

5.   Research Methods

5.1. Participants

388 people took part in the survey. In the course of data analysis, the questionnaires of people who only partially responded the questions were excluded. As a result, 268 questionnaires were taken for further analysis (135 females and 133 males). The age of the participants ranged from 17 to 21 years. These were students of 1-4 courses (years) of study. The distribution of participants by gender and year of study is shown in table 01. The form of study is full-time. Among the respondents 82% are not married and 95% have no children.

Table 1.   Gender and training year for study participants

Training year		Gender		Total
		Male	Female	
1	Quantity	34	36	70
	%	25.56%	26.67%	26.12%
2	Quantity	30	35	65
	%	22.56%	25.93%	24.25%
3	Quantity	30	32	62
	%	22.56%	23.70%	23.13%
4	Quantity	39	32	71
	%	29.32%	23.70%	26.49%
Total	Quantity	133	135	268
	%	100.0%	100.00%	100.00%

5.2. Procedure

The data for analysis was collected online using Google Forms in June 2020. In order to attract maximum students' attention, the information was sent with the help of the students joint councils of two humanitarian Universities of Chelyabinsk. Students could share a link to the survey with their friends through social networks. Participation in the survey was voluntary.

5.3. Measures

The questionnaire consisted of 3 blocks of questions. The first set of questions was aimed at identifying the level of satisfaction with distance learning. It contained 11 statements (questions), each of them could be evaluated by a 5-point Likert scale. The questions in this section reflected the emotional and behavioral components of satisfaction with distance learning. These questions included issues related to the attitude to distance learning in general, to the situation of its use during the pandemic, to the way of teaching and presenting lectures and seminars in a remote format. The first block also included statements related to

the possibility of continuing education in a distance format after the end of quarantine measures. The second set of questions in the questionnaire was aimed at determining the cognitive component of satisfaction with distance learning. It contained 8 questions, according to which students were asked to choose one or more of the suggested answers. Students could also share their own ideas of the answer. Questions of the second block related to students' opinions on the advantages and disadvantages of distance learning, comparing the effectiveness and efficiency of different forms of education, and the preferred forms of lectures and seminars. The third block contained questions about the demographic survey data of respondents (gender, age, place of study, course (year), faculty).

5.4. Data analysis

The research used frequency analysis to evaluate the satisfaction with distance learning in general and its specific aspects. The data under analysis took into consideration the year of study and the gender of the respondents. For mathematical processing of the research results, authors used the Cramer's V test. This measure of connection is based on Chi-square statistics method, a well-accepted criterion. Calculations were made in the program SPSS Statistical 23.0.

6. Findings

The results of the study demonstrated that the students who took part in the study were completely positive about the idea of switching to distance learning during the pandemic (40%) or rather positive (26.5%). 10% of students accepted this idea completely negatively, while 12.7% of students regarded it rather negatively (Table 02).

Table 2. Satisfaction with distance education during the COVID-19 pandemic considering the gender of respondents

Points of survey	Gender	Response option on the Likert scale (%)					Cramer's V	P
		1	2	3	4	5		
Attitude to switching to DL during coronavirus	Male	11.9%	13.4%	7.5%	22.4%	44.8%	0.153	0.18
	Female	8.1%	12.6%	13.3%	30.4%	35.6%		
	Total	10.0%	13.0%	10.4%	26.4%	40.1%		
Attitude to the combination of distance and traditional forms of education	Male	13.4%	26.9%	14.9%	16.4%	28.4%	0.025	0.047
	Female	12.6%	15.6%	23.7%	25.2%	22.2%		
	Total	13.0%	21.2%	19.3%	20.8%	25.3%		
Attitude to possibility of continuing the distance learning	Male	38.5%	15.4%	23.1%	0.0%	23.1%	0.463	0.003
	Female	20.0%	38.0%	8.0%	24.0%	10.0%		
	Total	26.3%	30.3%	13.2%	15.8%	14.5%		
Recommendation of distance learning	Male	20.9%	13.4%	16.4%	11.9%	37.3%	0.25	0.002
	Female	11.1%	7.4%	31.1%	20.7%	29.6%		
	Total	16.0%	10.4%	23.8%	16.4%	33.5%		
Satisfaction with DL	Male	11.9%	14.9%	31.3%	26.9%	14.9%	0.097	0.638
	Female	12.6%	21.5%	30.4%	24.4%	11.1%		
	Total	12.3%	18.2%	30.9%	25.7%	13.0%		

Note: DL = Distance Learning. P = Approximate significant.

However, 60.6% of respondents believed that distance learning is a necessary measure to prevent the spread of the pandemic. 37.7% were sure that they were fully accustomed to a new format and could continue their education in the distance format (Table 03). At the same time, students' attitudes towards the idea of combining distance and classical forms of education were different: 25.4% were completely positive, 20.9% were rather positive, 13% were completely negative, and 20.9% were rather negative (Table 03).

Table 3. The perception of distance education after the pandemic experience

Way of perception	Course					Cramer's	
	1	2	3	4	total	V	p
Forced measure	58.8%	56.7%	63.5%	68.3%	60.4%	0.084	0.597
Got used to it and can study effectively	28.2%	46.7%	38.5%	24.4%	35.8%	0.185	0.026
New opportunities	21.2%	7.8%	17.3%	26.8%	16.8%	0.187	0.025

Note: P = Approximate significant

Only 16.8% of respondents believe that this experience opened up new opportunities for them in the future. Students of 2nd-3rd courses are more likely to say that they got accustomed and can effectively continue their education in the distance format than students of 1st and 4th courses (Table 03). Students of the 1st and 4th courses see new opportunities for themselves in distance learning more often than students of the 2nd and 3rd courses.

The desire to continue studying remotely was expressed by 30% respondents (14.5% would like to continue studying remotely in the future, and 15.8% would rather do so). 56.6% do not want to continue their education in the distance format (30.3% would rather not want to, 26.3% do not want to). Women have fewer doubts about this issue (8%) than men (23%). But 33.5% of students are ready to recommend switching to distance learning to their friends. 16% of respondents will not give such recommendation to their friends. 10.4% of students would rather not recommend this to their friends. There are more women among people who feel doubt on this issue (31.1 %) than among men (16.4 %).

38.7% of interviewees were satisfied with distance learning (25.7% are rather satisfied, 25.7% are completely satisfied). 12.3% of students were completely dissatisfied with their own distance learning experience and 18.2% were rather dissatisfied with it. 13% of students (5 points) and 24.9% of students (4 points) showed interest in this form of education. This form of education was not interesting at all to 15.6% of students, and 20.4% of students would rather not show any interest in it.

Students consider full-time classical education to be the most effective (79.2%) and the easiest (72.9%) form of education. The estimation of certain aspects of distance learning showed that 30.4% of students believe that the distance format for lectures cannot be an acceptable option, 33.3% believe that lectures can be held in a video format, and 27.5% believe that they can be fully replaced by reading materials (Table 04).

43.9% of respondents believe that it is better to hold seminars only in full-time format. 40.5% believe that seminars can be replaced by independent studies of students. 15.6% of students consider it acceptable to replace seminars with webinars. During the educational process, studying materials were always insufficient for 6.7% of the respondents, and rather insufficient for 18.2%. At the same time, 24.2% of the

surveyed students had enough studying materials. There were quite enough studying materials for 31.2% of students. The students' evaluation of the adequacy of studying materials decreases from the first to the last year of study (Table 04).

Table 4. Satisfaction with distance education during the COVID-19 pandemic, taking into account the year of study

Points of the survey	Year of study	Response option on the Likert scale (%)					Cramer's V	p
		1	2	3	4	5		
Studying materials during DL were enough and adequate	1	7,1%	7,1%	30,6%	27,1%	28,2%	0,166	0,036
	2	12,2%	10,0%	18,9%	34,4%	24,4%		
	3	0,0%	13,5%	26,9%	36,5%	23,1%		
	4	4,9%	26,8%	24,4%	26,8%	17,1%		
	Total	7,1%	12,3%	25,0%	31,3%	24,3%		
Students had to apply for help despite the studying materials	1	5,9%	17,6%	45,9%	20,0%	10,6%	0,201	0,001
	2	6,7%	21,1%	22,2%	31,1%	18,9%		
	3	9,6%	28,8%	23,1%	28,8%	9,6%		
	4	4,9%	0,0%	29,3%	48,8%	17,1%		
	Total	6,7%	18,3%	31,0%	29,9%	14,2%		

Note: DL = Distance Learning. P = Approximate significant.

During distance learning, 6.7% of students almost always and 18.2% of students quite often applied for help. In 50% of cases, 30.9% of respondents applied for help, 30.1% of students rarely applied for help, and 14.1% of respondents never did it. Students of the 2nd and 3rd year of study needed help more often than students from the 3rd and 4th year (Table 04).

If we speak about the level of competencies acquired during distance learning, 10.4% of students considered them to be excellent, 36.8% - good, 24.9% - satisfactory and 17.5% - unsatisfactory. 8.6% of respondents found it difficult to answer this question. From the point of view of achieving personal goals in education, the distance form was positive for 12.3% (definitely useful) and 21.6% (rather useful). The distance form created an obstacle to achieving personal goals in education for 12.3% (definitely not useful) and 24.5% (rather not useful). At the same time, men were more likely to indicate that the distance form contributed to the achievement of their personal learning goals than women.

The degree of distance learning contribution to the achievement of students' personal goals differs among students of different years of study (p=0.036). About a third of students of the 1st and 2nd year believed that the distance form did not affect the achievement of their goals, while the same proportion of students of the 3rd and 4th year believed that distance learning hindered the achievement of their goals.

Analyzing the activity during the pandemic, 32.7% of the surveyed students believed that their activity in the context of the pandemic did not change, 19.3% of students claimed that it has definitely decreased, 22.3% stated that it has rather decreased. The activity of only 7.1% of the surveyed students clearly increased.

Concerning the positive aspects of distance learning, students most often noted: independence from their location (69.5%), individual work pace (65%) and saving money and time (48.3%). The least frequent responses were: discipline (7.1%), personal interest (9.3%) and pleasure from working at the computer (9.7%). The distance form was more interesting for men than for women (14.9% vs. 3.7%). Men are more

likely than women to point out that it saves time and money (55.2% vs. 41.5%) and allows one to get extra amount of materials (14.9% vs. 6.7%).

Among the negative aspects of distance learning, the most frequently mentioned were: lack of interpersonal communication (67.7%) and insufficient quality of materials (44.2%). Students of the 1st and 4th courses mentioned low level of IT literacy of teachers as disadvantage of distance learning more often than students of the 2nd and 3rd year.

Most often, students faced the following difficulties in the course of distance learning (Table 05): lack of time (61.7%), technical problems (51.7%), lack of assistance (41.6%).

Table 5. Difficulties encountered by students during the distance learning

Options	Gender		Total	Cramer's V	p
	Male	Female			
Technical problems	47,8%	55,6%	51,7%	0,078	0,201
Laziness	38,8%	23,0%	30,9%	0,171	0,005
Lack of time	52,2%	71,1%	61,7%	0,194	0,001
Complexity of the course content	29,9%	29,6%	29,7%	0,002	0,968
lack of assistance	32,8%	50,4%	41,6%	0,178	0,004

Note: P = Approximate significant.

Women were more likely than men to face technical problems (55.6% vs. 47.8%), lack of time (71% vs. 52.2%), and lack of assistance (50.4% vs. 32.8%). Men were more likely than women to highlight their own laziness as a problem (38.8% vs. 23%).

7. Conclusion

The results of the research allow us to conclude that, in the opinion of students, distance learning is currently a backup option or an additional element to the traditional form of education. Many students do not consider distance learning as a real alternative to existing forms of education. The experience that students received during the pandemic did not arouse their interest in distance learning, because it was associated with many problems and difficulties.

However, the experience has shown that universities have to develop and implement elements of distance learning in order to increase their own readiness to switch to this form of education in case of an emergency.

Teachers' experience in developing distance courses for the subjects they teach will help them improve their competence in this new field. The introduction of distance learning elements in current disciplines will encourage universities to develop their own digital environment. In addition, the use of high-quality elements of distance education will stimulate demand and interest from students for this type of education. This is confirmed by a high percentage of students who consider it possible to have lectures in a video format. This idea is also supported by students' satisfaction with multimedia learning (Choe et al., 2019) and learning using virtual reality technologies (Zhang et al., 2020).

Thus, the gradual introduction of distance learning elements in the higher education system can lead to its improvement and progress; moreover, it will allow us to use all the advantages of digital technologies in studying.

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