

Forced distance learning in Covid-19: peculiarities of the position of lecturers, students of IT and humanitarian specialties

Diana Zagulova¹, Natalya Prokofjeva², Sabina Kataļņikova², Anastasija Špakova², Viktorija Ziborova², Alexander Averin³

¹Department of Hotel and Catering Services, Tourism and Leisure Organisation, Riga Baltic International Academy, Latvia, ²Software Engineering Department, Riga Technical University, Latvia, ³Department of Business Administration, Financial University under the Government of the Russian Federation, Russia.

Abstract

This research examines the attitude of faculty lecturers, Information Technology students (IT) and humanitarian students (HS) towards the aspects of forced distance learning (DL) due to Covid-19. About 70% of the surveyed IT students and 50% of HS believe that DL can fully replace face-to-face classes and completely switch to DL, about 70% of lecturers have the opposite opinion. At the same time, IT had a 4.5 times higher chance of a positive attitude towards the transition to DL than HS. The majority of all respondents consider that their own notes are important and that classroom learning is better than online. At the same time, among IT that are ready to switch to DL, 69.03% believe that the perception of educational material is better in the classroom. Fewer IT students (30.1%) than HS (68.2%) and lecturers (100%) consider that printed textbooks are important. About 70-90% of students consider that the following DL disadvantages are important: communication difficulties, social isolation, the need of self-discipline and self-motivation and fears that the employer will not appreciate the knowledge gained from DL. For the majority of IT, lack of student events is significant, and for the majority of HS, lack of competition between students is important.

Keywords: *Attitude towards online education; distance learning; electronic questionnaire.*

1. Introduction

The World Health Organization (WHO) announced the global COVID-19 pandemic on March 11, 2020 (Cucinotta & Vanelli, 2020). Due to the need for social distancing (Nanotkar, Dhanvij, & Joshi, 2020), most educational institutions have completely or partially stopped teaching in classrooms (UNESCO, 2021), switching to distance learning (DL) (Kaur, 2020). Despite the fact that distance learning has long been used by many universities and has significant positive aspects (Oliveira, Penedo, & Pereira, 2018; Kattoua, Al-Lozi, & Alrowwad, 2016; Choudhury, & Pattnaik, 2020), many educational institutions faced various problems due to the complete rejection of classroom studies (Adnan & Anwar, 2020). Many experts say that the forced transition to DL will not end quickly (Potvin, 2021) and may be repeated in the future. In addition, new experience in the educational process, the introduction of digital technologies and the improvement of teaching methods that appear at the present time can be successfully used in the future. Consequently, the issues of adapting all aspects of the educational process to the situation of learning in isolation for full-time students are relevant and require solutions.

To search for answers to such questions, first of all, it is necessary to find out which aspects of DL arouse rejection among full-time students, and which, on the contrary, are perceived positively. It is necessary to identify the most problematic points, to understand how to provide the educational environment required by full-time students. Eight types of e-learning success factors in higher education are identified: technological, institutional, pedagogical, management, ethical, assessment, resource and social interaction (Basak, Wotto, & Bélanger, 2016). Also, when adapting the educational process to a situation of isolation, the type of specialization of students may matter. It is likely that computer science students may be better at distance learning than humanitarian speciality students (Phillips, 2020). In this study, the questions relevant to universities were considered, the answers to which will help to adapt the learning environment and students to a new era in the system of higher education.

2. Method

2.1. Participants

During the research were interviewed 199 full-time first-year students of Riga Technical University (Latvia) Faculty of Computer Science and Information Technology (33.7% females, 66.3% males), as well as full-time students of the humanities in tourism, advertising and social sciences (HS): 34 students of Baltic International Academy (Latvia) and 49 students of Financial University under the Government of the Russian Federation (Russia) (57.8% females, 42.2% males). In addition, 40 lecturers from these universities were interviewed (70.2% females, 29.8% males). The survey took place in December 2020, after

the end of classes. The average age of students was 20.18 (SD = 1.48 years), lecturers – 42.78 (SD = 8.53 years)

2.2. Instruments

An electronic questionnaire was developed with 22 questions, not including gender, age, faculty and university. To study the attitude of full-time students towards distance learning, they were asked 2 questions:

1. Please answer, would you agree to completely switch to distance learning, if at the same time there was an opportunity for both face-to-face and distance consultations? (Answers: Yes; Rather yes than no; Difficult to answer; Rather no than yes; No)
2. Do you agree that distance learning, in most cases, can fully replace learning in the audience? (answers: Strongly agree; Agree; Partly agree; Disagree; Strongly disagree)

It was also investigated the attitude of students to online and classroom studies, as well as the importance of their own notes, printed and electronic study materials. To assess the deficiencies of distance learning, a semantic differential from 0 to 3 was used, where 0 – does not matter; 3 – very important, wherein such factors were assessed: Communication difficulties with lecturers, Communication difficulties with fellow students, Lack of student events, Social isolation, Lack of competition between students, The need of self-discipline and self-motivation, Fears that the employer will not appreciate the knowledge gained from distance learning.

2.3. Statistical data analysis

Frequency data are presented as relative (%) and absolute numbers (n) of respondents. Fisher's exact test (FET) was used to evaluate 2x2 contingency tables. The critical level of significance when testing statistical hypotheses was taken equal to 0.05. Odds ratio (OR) was considered significant if there was no value equal to 1 between the confidence intervals (CI) and OR. Bonferroni correction was used in multiple comparisons.

3. Results

The current life situation for lecturers and students made it possible to assess the attitude towards the possibility of completely replacing full-time studies with a distance form for full-time students (Table 1). The research revealed dependence of the possibility of such a transition from the type of specialization of students: there were more IT students (73.8%) among those who had a positive attitude to this possibility (73.8%) than among the humanitarian students (51.4%) ($p = 0.0000$). At the same time, the chance to meet a positive attitude towards the transition to DL among IT students was 3.3 (95% CI 1.90-5.88) times

higher than for HS, and 8.2 (95% CI 3.87-17.48) times higher than for humanitarian specialty lecturers. The attitude to the full transition to distance learning among the surveyed groups was similar to the answer to the previous question: the chance to meet a positive attitude towards the transition to DL among IT students was 2.1 (95% CI 1.15-3.76) times higher than that of HS, and 9.5 (95% CI 4.08-22.0) times higher than that of lecturers of humanitarian specialties. However, the opinions of HS and L differ ($p = 0.0007$), in this case the chance of a positive attitude towards the transition to DL for IT was 4.5 (95% CI 1.81-11.42) times higher than for HS.

Similarly, the opinions of the respondents on the attitude to classroom studies differed in comparison with the online form. However, in this case, the majority of all respondents consider classroom studies to be more effective than online. Among IT students who believe that distance learning can completely replace face-to-face classes, 69.03% believe that the perception of educational material in the classroom is better. The DL experience gained by full-time students allows us to answer the question about the need for study materials in paper and electronic form. All lecturers believe that print editions are important to the learning process. This opinion differs from the students opinion. At the same time, the majority of IT students (69.9%) do not consider printed textbooks important, the chance of meeting such an opinion among them is 5.0 times higher than among HS.

For distance learning, each university already has developed technologies, which, as a rule, significantly differ from full-time studies. One of the important features of full-time learning is that students use their own notes and lecturers, as a rule, take this into account when preparing lectures and interacting with students during classes. How important is it for full-time students to have their own notes in distance learning? Is it needed to pay attention to notes when conducting distance classes? The results force us to answer these questions positively: the majority of all groups of respondents consider their own notes to be important and their opinions on this issue do not differ.

Table 1. Attitude of full-time IT and HS students and lecturers (L) to distance learning and teaching materials. p-Values were calculated with Fisher's exact test.

	IT, n (%)	HS, n (%)	L, n (%)	p(IT/HS)	p(IT/L)	p(HS/L)
Distance learning can most often completely replace face-to-face classes						
Yes	155 (73.8)	38 (51.4)	12 (30.0)	0.0000	0.0000	0.022*
No	44 (21.0)	36 (48.6)	28 (70.0)			
Consent to full DL transition with face-to-face consultations						
Yes	127 (70.9)	34 (54.0)	8 (20.5)	0.011	0.0000	0.0007
No	52 (29.1)	29 (46.0)	31 (79.5)			
Learning material is perceived better during lectures by the audience than in online form						
Yes	143 (71.9)	65 (87.8)	38 (95.0)	0.004	0.0006	0.2*
No	56 (28.1)	9 (12.2)	2 (5.0)			
The importance of using printed study materials						
Important	47 (30.1)	45 (68.2)	38 (100.0)	0.0000	0.0000	0.0000
Not Important	109 (69.9)	21 (31.8)	0 (0.0)			
The importance of electronic study materials						
Important	194 (99.0)	73 (100.0)	39 (100.0)	0.5	0.7	-
Not Important	2 (1.0)	0 (0.0)	0 (0.0)			
The importance of your own notes						
Important	123 (77.8)	52 (76.5)	31 (93.9)	0.5	0.022*	0.025*
Not Important	35 (22.2)	16 (23.5)	2 (6.1)			

The quality of learning mostly can be determined by the difficulties which students encounter. This is especially important in situations when students initially chose full-time education, but were deprived of such an opportunity. To create a more favorable environment, it is necessary to know the problematic points and their significance for students. Research results showed that DL deficiencies such as Difficulty communicating with lecturers, Difficulty communicating with group members, Social isolation, Need for self-discipline and self-motivation, and Fear that DL quality would be poorly assessed by an

employer, were equally significant for most IT and HS (Table 2). At the same time, there were differences between IT and HS:

- there are more students among IT (56.3%) than among HS (37.3) ($p = 0.003$) for whom the lack of competition between students does not matter. It should be noted that this parameter is significant for a smaller number of students in comparison with other DL disadvantages.
- there are more students among HS (43.4%) than among IT (27.1%) for whom Lack of student activity in DL does not matter.

Table 2. The attitude of IT and HS full-time students to the negative factors of distance learning. p-Values were calculated with Fisher's exact test.

Parameter	Importance	IT, n (%)	HS, n (%)	p
Communication difficulties with lecturers	No	20 (10,1)	12 (14,5)	0.2
	Yes	179 (90,0)	71 (85,5)	
Communication difficulties with fellow students	No	34 (17,1)	22 (26,5)	0.052
	Yes	165 (82,9)	61 (73,5)	
Lack of student events	No	54 (27,1)	36 (43,4)	0.006
	Yes	145 (72,9)	47 (56,6)	
Social isolation	No	28 (14,1)	17 (20,5)	0.1
	Yes	171 (85,9)	66 (79,5)	
Lack of competition between students	No	112 (56,3)	31 (37,3)	0.003
	Yes	87 (43,7)	52 (62,7)	
The need of self-discipline and self-motivation	No	31 (15,6)	11 (13,3)	0.4
	Yes	168 (84,4)	72 (86,7)	
Fears that the employer will not appreciate the knowledge gained from DL	No	49 (24,62)	19 (22,89)	0.4
	Yes	150 (75,38)	64 (77,11)	

4. Conclusion

The results of the study showed that the majority of IT and almost half of HS believe that DL can most often completely replace face-to-face classes and are ready to completely switch to this form of education, in contrast to lecturers. At the same time, almost all students and lecturers consider electronic learning resources to be important. The habits of using learning materials by full-time students, as a rule, differ from those who study remotely. For

comfortable learning of students, they must be provided with educational materials in the form they prefer. Is there a need for printed manuals and does the lecturer need to structure the lesson so that students can take their notes? The answers to these questions are important because not only the preparation of learning materials, but also the structure of the lessons depends on them. Studies have shown that most students consider their own notes to be important, while unlike IT, most HS students need printed materials, which coincides with the opinion of their lecturers. The attitude of IT students towards DL is not unusual, as many IT science students have chosen to work with podcasts rather than attend lectures (Phillips, 2020).

Learning online can make it harder for students to focus than classroom learning (Aristovnik, Keržič, Ravšelj, Tomažević, & Umek, 2020). Also with DL, it is not possible to ask the lecturer questions when they arise, as is possible during classroom sessions (Oliveira, Penedo, & Pereira, 2018). Apparently, this is why most of the students surveyed, even those who agreed to a full transition to DL, believe that classes in the classroom are more effective than online.

DL has both advantages and disadvantages according to many researchers (Oliveira, Penedo, & Pereira, 2018). Two main problems of DL are indicated: the need for self-discipline and its lack for many students (Oliveira, Penedo, & Pereira, 2018; Bao, 2020). Almost all full-time students noted the importance of the problem of the need for self-discipline and self-motivation. It is believed that many students in the COVID-19 cohort will worry about the prospective disadvantage compared to those who studied “normally” (Daniel, 2020). Our results are consistent with this, because the majority of students expressed concern that DL quality would be poorly rated by employers.

Social factors are important for students, such as communication (Markova, Glazkova, & Zaborova, 2017), support from lecturers (Lee, Srinivasan, Trail, Lewis, & Lopez, 2011), involvement (Coates, 2005), collaborative learning. (Zhu, 2012). According to the results obtained, social isolation and communication difficulties are assessed by most students as a negative factor. Consequently, the educational institution should consider the possibilities of ensuring these functions even in isolation, guided, for example, by recommendations (Bao, 2020).

The study revealed the necessary aspects that are important in addressing the issues of adapting the educational process during isolation. In addition, it showed some distinctive features of the attitude towards DL among IT and HS students.

References

- Adnan, M., & Anwar, K. (2020). Online learning amid the Covid-19 pandemic: Students perspectives. *Journal of Pedagogical Sociology and Psychology*, 1(2), 45-51. doi:10.33902/jpsp.2020261309
- Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustainability*, 12(20), 8438. doi: doi.org/10.3390/su12208438
- Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. *Human Behavior and Emerging Technologies*, 2(2), 113-115. doi: 10.1002/hbe2.191
- Basak, S., Wotto, M., & Bélanger, P. (2016). A Framework on the Critical Success Factors of E-Learning Implementation in Higher Education: A Review of the Literature. *International Journal of Educational and Pedagogical Sciences*, 10(7), 2409-2414. doi: doi.org/10.5281/zenodo.1125677
- Choudhury, S., & Pattnaik, S. (2020). Emerging themes in e-learning: A review from the stakeholders' perspective. *Computers & Education*, 144, 103657. doi: doi.org/10.1016/j.compedu.2019.103657
- Coates, H. (2005). The value of student engagement for higher education quality assurance. *Quality in higher education*, 11(1), 25-36. DOI: doi.org/10.1080/13538320500074915
- Cucinotta, D., & Vanelli, M. (2020). WHO declares COVID-19 a pandemic. *Acta Bio Medica: Atenei Parmensis*, 91(1), 157. DOI: 10.23750/abm.v91i1.9397
- Daniel, S. J. (2020). Education and the COVID-19 pandemic. *Prospects*, 49(1), 91-96. doi: doi.org/10.1007/s11125-020-09464-3
- Kattoua, T., Al-Lozi, M., & Alrowwad, A. (2016). A Review of Literature on E-Learning Systems in Higher Education. *International Journal of Business Management & Economic Research*, 7(5), 754-762. Retrieved from: <http://www.ijbmer.com/docs/volumes/vol7issue5/ijbmer2016070504.pdf>
- Kaur, G. (2020). Digital Life: Boon or bane in teaching sector on COVID-19. *CLIO an Annual/Interdisciplinary Journal of History*, 6(6), 416-427.
- Lee, S. J., Srinivasan, S., Trail, T., Lewis, D., & Lopez, S. (2011). Examining the relationship among student perception of support, course satisfaction, and learning outcomes in online learning. *The Internet and Higher Education*, 14(3), 158-163. doi: doi.org/10.1016/j.iheduc.2011.04.001
- Markova, T., Glazkova, I., & Zaborova, E. (2017). Quality issues of online distance learning. *Procedia-Social and Behavioral Sciences*, 237, 685-691. doi: 10.1016/j.sbspro.2017.02.043
- Nanotkar, L., Dhanvij, S., & Joshi, A. (2020). COVID-19 and Importance of Social Distancing. *Journal of Critical Reviews*, 7(8), 1103-1104. doi: 10.20944/preprints202004.0078.v1
- Oliveira, M. M., Penedo, A. S., & Pereira, V. S. (2018). Distance education: Advantages and disadvantages of the point of view of education and society. *Dialogia*, (29), 139-152. doi: doi.org/10.5585/dialogia.N29.7661

- Phillips, R. (2020). A Comparison of students' attitudes and attainment on an enterprise module for scientists and engineers. *6th International Conference on Higher Education Advances (HEAd'20)*, 6, 17-24. DOI: <https://doi.org/10.4995/HEAd20.2020.10954>
- Potvin, L. (2021). Is the end of the pandemic really in sight? *Canadian Journal of Public Health*, 112(1), 1-3. doi:10.17269/s41997-020-00465-5
- UNESCO (2021). UNESCO figures show two thirds of an academic year lost on average worldwide due to Covid-19 school closures. Retrieved from: <https://en.unesco.org/news/unesco-figures-show-two-thirds-academic-year-lost-average-worldwide-due-covid-19-school>
- Zhu, C. (2012). Student satisfaction, performance, and knowledge construction in online collaborative learning. *Journal of Educational Technology & Society*, 15(1), 127-136. Retrieved from: <https://www.jstor.org/stable/jeductechsoci.15.1.127>