



# The Problems of the COVID-19 Pandemic in Higher Education

Valentina B. Salakhova<sup>1,2\*†</sup>, Liudmila V. Shukshina<sup>3†</sup>, Natalia V. Belyakova<sup>4†</sup>, Alexey V. Kidinov<sup>5†</sup>, Natalia S. Morozova<sup>6†</sup> and Natalia V. Osipova<sup>7†</sup>

<sup>1</sup> Laboratory of Humanistic Approach in Education, Moscow City University, Moscow, Russia, <sup>2</sup> Department of Psychology and Pedagogy, Ulyanovsk State University, Ulyanovsk, Russia, <sup>3</sup> Department of Psychology, Plekhanov Russian University of Economics, Moscow, Russia, <sup>4</sup> Department of Pedagogy and Psychology of Professional Education, K.G. Razumovsky Moscow State University of Technologies and Management, The First Cossack University, Moscow, Russia, <sup>5</sup> Department of Psychology and Human Capital Development, Financial University Under the Government of the Russian Federation, Moscow, Russia, <sup>6</sup> Department of Pediatric Dentistry and Orthodontics, I.M. Sechenov First Moscow State Medical University, Sechenov University, Moscow, Russia, <sup>7</sup> Department of Public Administration and Social Technologies, Moscow Aviation Institute, National Research University, Moscow, Russia

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### \*Correspondence:

Valentina B. Salakhova  
salakhovavb@mail.ru

### †ORCID:

Valentina B. Salakhova  
orcid.org/0000-0002-5056-6518  
Liudmila V. Shukshina  
orcid.org/0000-0002-9378-6633  
Natalia V. Belyakova  
orcid.org/0000-0001-7116-9389  
Alexey V. Kidinov  
orcid.org/0000-0002-1826-208X  
Natalia S. Morozova  
orcid.org/0000-0002-6453-1615  
Natalia V. Osipova  
orcid.org/0000-0002-9757-8057

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Since the outbreak of the pandemic COVID-19, many studies have been conducted to examine how education has responded to the challenges of a completely new situation that has led to the spread of distance education as the only form of instruction. In this study, data were collected and analyzed to understand the difficulties of distance education that higher education students faced during the pandemic. Our goal was to present the results of a socio-psychological study of accessibility, educational resources, applications, and distance learning technologies. A total of 160 students from different Moscow universities participated in the study. A qualitative research method was used for the study. For this purpose, mainly in-depth interviews were conducted to find out the participants' views on distance education. The data obtained were analyzed by the researchers using qualitative analysis methods. The results showed that all students faced technical difficulties during distance learning, such as poor internet connection, lack of access to online platforms due to the high number of users, lack of necessary equipment, and individual space for online learning. The results also showed low technical readiness for distance education and low quality of online resources, as well as cyber threats during online courses. In addition, the results showed that most students indicated that they would prefer a hybrid form of instruction that combines distance and face-to-face instruction. Implications for further studies are drawn in the conclusion.

**Keywords:** distance learning, pandemic, COVID-19, the system of higher professional education, digital platforms

## INTRODUCTION

Since the outbreak of the COVID-19 pandemic, one of the most pressing research topics around the world has been the introduction of distance learning and the development of online education and training (Jacques et al., 2020, 2021; Zagkos et al., 2022). All over the world, research has focused on how education is responding to the challenges of an entirely new situation in which distance education has become the only form of knowledge acquisition and learning. The initiative of the consortium of participants in the World Education Leadership Symposium (Vachkova et al., 2022)

and the international project World School Leadership Study [WSLS] (Huber and Spillane, 2016) can serve as an example of an international project. This project collected and analyzed data on the difficulties faced by school education participants around the world in the context of the pandemic and the full transition to distance education. The scientific community around the world has been struggling to cope with the global risks and challenges created by the pandemic COVID-19. This situation has led to the accumulation of research studies on the problem and the development of distance education in schools to investigate the most effective ways to solve the challenges under extreme conditions during the pandemic. The analysis of existing research on the aforementioned problems revealed several opportunities to identify new trends in the development of distance education during the pandemic (Galimova et al., 2019; Ulyanina, 2020).

## METHODOLOGICAL FRAMEWORK

### Experience in the Implementation of Distance Education: International Analysis of Practices

The spread of the COVID-19 pandemic in early 2020 led to the largest disruption of the entire education system in the world. More than 1.5 billion students in more than 190 countries had to leave school to go to school. The closure of schools and other educational institutions affected exactly 94% of the world's students (United Nations, 2020). Moreover, the disruption of the educational process has serious consequences not only in the context of ensuring the right of students to education but also in the context of the economic and socio-political development of higher education. On the other hand, the crisis in the school system has triggered a new impetus for the emergence and development of innovative methods in the educational process (Lipatova et al., 2015; Kalinina et al., 2017; Salakhova et al., 2017; Valeeva et al., 2018; Joshi et al., 2020). From this perspective, educational innovations have affected all educational stakeholders, including parents, students, and teachers. To ensure continuity of learning during the pandemic, innovative approaches such as radio and television broadcasts were used for school lessons. In addition, other measures such as e-interviews (Temsah et al., 2021a), video interviews (Joshi et al., 2020), mobile learning (Bacolod, 2022), and distance learning (Mitin and Mitina, 2020; Tugun et al., 2020; Usak et al., 2020; Nagovitsyn et al., 2021; Qarkaxhja et al., 2021; Rerke et al., 2021) were taken to ensure continuity of the educational process.

In Argentina, for example, an educational website called "Seguimos Educando" has been created for students at all levels of schooling (Argentine Ministry of Education, 2021a). Seguimos Educando uses a virtual platform that brings together television, radio, and print media to provide educational support to students. In addition, a variety of digital technologies (with a description and download links) were created and published for students (Argentine Ministry of Education, 2021b). Collections of digital teaching materials and resources for students, organized

by grade level, have been published through this platform (Argentine Ministry of Education, 2021c).

Austria is another country that has implemented effective distance education practices. For this, a specialized section for students, teachers, and parents has been created on the website of the Ministry of Education, which contains up-to-date information on the implementation of distance learning during the pandemic (BMBWF, 2021). The Austrian Ministry of Education has developed the Eduthek content platform, which includes educational materials for learners of all ages. To improve the effectiveness of online education, a portal for distance learning services has been developed in this country. The provision of consulting services organized by the Austrian government for all participants in the educational environment deserves special attention. In another country, distance education is based on the use of educational television and broadcasting educational technologies through the YouTube channel in Brazil (YouTube, 2021). An educational online platform "AULA EM CASA" has also been designed to answer the need to shift training to the online mode.

Since March 2020, a digital learning system has been implemented in the territory of Bulgaria, which provides information and methodological support for all students. The country has also created a National Electronic Library (electronic content repository), which publishes materials from expert teachers on their activities in the digital environment. Education in schools is carried out on the Microsoft Teams platform (Ministry of Education and Science of the Republic of Bulgaria, 2020).

The experiences of distance learning in the United Kingdom indicate that the country has carried out large-scale work not only to create innovative technologies for teaching practice but also to implement a reform to the school system. In addition to the educational platforms, the country is constantly monitoring the implementation of the child's rights in education (control and supervision of the activities of mobile operators, control of Internet providers, collection of information about the operation of online platforms) (Find Government Services and Information GOV.UK, 2020; National Literacy Trust, 2020).

A specialized platform Aptus has been developed in Chile, on which digital resources are collected to provide distance learning (video lectures, assessment, and monitoring system) (Aptus Potenciadora Educacional, 2020). China has created and operated a national state educational online platform with total coverage of more than 180 million students and support for 7,000 servers (China National Online Education Platform, 2020). Colombia has created Aprender digital, a digital platform of the Ministry of Education, with over 80,000 digital learning resources, organized by grades in various forms (games, videos, etc.), available to teachers, principals, and other stakeholders in the educational process, covering preschool, primary and secondary school education (RTVC y Ministerio de Educación Nacional, 2020). For families who do not have access to the Internet, the government has developed a homeschooling kit. Also, in the territory of the country, educational programs are broadcast on state radio and television for primary and secondary school students. In Croatia, students can access digital content

through the portal “Skolaza Zivot” (Ministry of Science and Education of The Republic of Croatia, 2020). Instruction in educational institutions is carried out using platforms: Loomen, Microsoft Teams, and Yammer.

The experiences of the Czech Republic have included a specialized website “distance education” that was designed for implementing distance learning (Specialized website “Distance education”, 2020). The developed platform includes a wide range of opportunities for the realization and support of online learning: digital content for students, a list of links to digital educational resources, practical advice for teachers and parents with detailed video instructions, training webinars, and masterclasses, etc. In France, the epidemiological situation prompted the creation of the online portal *Ma classe à la Maison* by the National Center for Distance Education (CNED) (Ministre de l’Education Nationale de la Jeunesse et des Sports, 2020). The online portal *Ma classe à la Maison* is not only a set of educational resources but also an “educational device,” the architecture and structure of which are aimed at helping the student in mastering new educational material. The technical and methodological support of the online portal is carried out by the CNED service, which increases the effectiveness of the educational activities of the teacher. In addition, educational content is hosted in digital work environments: “Environment Numérique de travail”–ENT; *EcoleDirecte*, *ProNote*, etc.–internal school networks (intranets). In addition, television, and radio broadcasting facilities (France Télévisions, Radio France, Arte, and National Education) are included in the educational process to expand learning opportunities in France. The resources are available through podcasts, streaming, or playback on national websites and platforms.

The experience of implementing distance learning in Italy also testifies to the development and creation of new educational resources and online platforms (Ministero dell’Istruzione Ministero dell’Università e della Ricerca, 2020). Italy has also created the platform of the National Institute for Documentary, Innovative and Educational Research (INDIRE), aimed at providing methodological support for teachers in the development of information technology (INDIRE, 2020). National television and radio broadcasting programs have been used to implement online educational activities in Italy. Great importance in the country’s education system has been given to pedagogical training and the continuity of distance learning practices [La Scuola per la Scuola community; Next-Level Association; ITE Tosi; Institute of Educational Technologies (ITD) of the National Research Council].

In Spain, the INTEF educational platform has been created to ensure the online educational process, which includes more than 100 thousand educational resources in various Procomún formats (INTEF, 2021); the educational portal *Educlan* for professional adaptation of teachers to the distance learning mode (EDUCLAN, 2020). Distance education in the United States varies from state to state. For example, in South Carolina, the online state program *VirtualSC* has been developed (*VirtualSC*, 2020). North Carolina has an online collection of resources and best educational practices (North Carolina Remote Learning Resources, 2020). Mainly e-mail, Zoom, and

Google Meet have been used as communication tools between teacher and student.

In India, educational portals were used to implement distance learning portal “DIKSHA” (DIKSHA, 2020); “E-Pathshala” (NCERT, 2020); the portal of the National Repository of Open Educational Resources “NROER” (NROER, 2020); *Swayam Prabha* (*Swayam Prabha*, 2020). In Indonesia, distance education is supported by the educational television “Televisi Pendidikan Indonesia” (Televisi Pendidikan Indonesia, 2020). The platform “Rumah Belajar” (*Rumah Belajar*, 2020) provides a learning management system, digital lesson delivery, e-textbooks, and assessment tools. Other educational platforms included Google Suite Education, Smart Class, Microsoft Teams, Quipper School, *Sekolahmu*, and *Kelas Pintar*.

In Jamaica, educational materials have been prepared for students who do not have the opportunity to access the internet. TV lessons and transmissions are included in the educational process (for example, “School is not OUT” on the TJ Live channel). Also, access has been provided to digital educational resources (One on One Educational Services, Cheetah, Book Fusion, *Edufocal*, Learning Hub, CSEC COVID-19 Toolkit, etc.).

There are four main platforms for educational programs and resources for students in Kenya for organizing distance education: Kenya Broadcasting Corporation “KBC” (Kenya Broadcasting Corporation, 2020); educational television programs are broadcast on Edu channel TV; KICD EduTV in Kenya on YouTube channel; Kenyan Education Cloud-hosted and supervised by KICD (Kenya Institute of Curriculum Development, 2020). To overcome the lack of Internet connectivity, Kenyan authorities have launched a program to use the Loon Google stratospheric balloon network with 4G LTE base stations (Loon Google Stratospheric Balloon Program, 2020). In Mexico, distance education “telesecundaria” has been used since 1968, and this state has not had particular difficulties in switching to online education due to the pandemic (Gobierno de México, 2021).

The presented international experience in organizing distance education, regardless of the level of economic development and experience in implementing the country’s information technologies, allows us to conclude that all countries have made

**TABLE 1** | Participants’ demographic information for the study ( $n = 160$ ).

Characteristics	Frequency	Percentages (%)
<b>Sex</b>		
Female	68	42.5%
Male	92	57.5%
<b>Age range</b>		
18–25	143	89.4%
26–33	17	10.6%
<b>Program of study</b>		
Education	64	40%
Engineering	56	35%
Social work	40	25%
<b>Ethnicity</b>		
White	160	100%

many efforts to maintain the educational process and offer online learning.

## Experiences in Organizing Online Education in Russia

Across the Russian Federation, as well as in foreign countries around the world, a set of measures was carried out aimed at organizing activities for the transition of the education system to the online format. Large-scale research and monitoring, revealing the specifics of organized measures, were carried out both by the scientific community and by representatives of state authorities. For example, the HSE Laboratory of Media Communications in Education studied the experience of teachers who were in transition to distance learning (HSE University, 2020). More than 22 thousand teachers from 73 territorial entities of the Russian Federation did participate in the study. Four main problems were determined in the analyses. These are difficulties in giving lessons *via* video communication; lack of practice in the use of online resources; technical difficulties and organizational difficulties. The study concluded that, despite the indicated difficulties, all teachers quickly mastered the required digital skills and successfully adapted to the new form of teaching. This finding is reflected in the UNESCO report on the progress of distance learning during the pandemic (UNESCO, 2020).

The People's Foundation conducted a study whose results showed that more than 80% of teachers faced organizational, technical, and adjustment difficulties in implementing distance education. Among the students' problems, teachers mentioned the lack of necessary equipment for online learning (*via* computers, tablets, phones) and problems with Internet connection (Vachkova et al., 2022). The study of students' and parents' opinions on distance education was the subject of a study conducted by experts from the project PF "Equal Opportunities for Children" and the National Education Resources Foundation. The results of their analysis showed that the overwhelming majority of both school children and parents do not want to replace offline learning with a distance form. More than 80% of respondents (children and parents) also reported technical difficulties, slow internet connection speed, and deficiencies in educational platforms and resources.

The analysis of the results of the transition to distance education was conducted by Moscow State Pedagogical College, HSE Institute of Education (Adamovich et al., 2020), and their international partners, Research Center for the Socialization and Personalization of Children's Education at FIRO RANEPa (Tarasova et al., 2020), NAFI Analytical Center, etc. The results of these studies confirm that, in general, the Russian education system has coped well with the transition to online mode. However, many teachers have found that the transition to distance education has caused a different range of problems that require additional effort. Therefore, the present study aims to understand the difficulties of distance education faced by higher education students during the pandemic. We also aimed to understand the accessibility, educational resources, applications, and distance education technologies in higher education during the COVID-19 pandemic.

## RESEARCH METHODS

Since this study is empirical research to understand the difficulties of distance education faced by higher education students during the pandemic, an exploratory and descriptive case study approach was used. In-depth interviews were the main data collection tool. Case study research is appropriate for the acquisition of an in-depth understanding of the behavior and experiences of individual participants in a natural setting (Patton, 2002).

A large-scale socio-psychological study among students from Moscow universities was carried out to study the problems of accessibility, educational resources, applications, and distance educational technologies during the pandemic. The research included in-depth interviews of the participants voluntarily. An unstructured interview was conducted with students according to a previously prepared script (guide) with audio recording. The interviews were conducted by researchers with training in the interview process. Interviews averaged 20 min in length. Interviews were recorded with the participants' permission. All the interviews were transcribed and reviewed by researchers. To collect the data for the present study, necessary approval procedures were received by the Moscow City University, which enrolled the participants in this study. This research was conducted under the approval of the Moscow City University institutional review board.

The developed script of the interviews, which provided the possibility of subsequent use of qualitative analysis of the processing of the data, served as a toolkit. When developing the interview guides, various types and forms of questions were used to determine general and specific problems in the accessibility, educational resources, applications, distance learning technologies, as well as their satisfaction with the services provided to them. To analyze the data gathered from the interviews, we used open-ended coding methods as suggested by Strauss and Corbin (1990). A total number of 160 students from various Moscow universities were involved in the interviews. The participants' demographic information is given in **Table 1**. The participants were a convenience sample of higher education students who enrolled at the universities during the pandemic in Russia. All participants ranged in age from 18 to 27 ( $M = 20.5$ ,  $S.D. = 1.2$ ). The key criterion was that all participants had to be higher education students. The participants were involved in the study voluntarily. The male to female ratio was 92–68. All of the participants were predominantly white people. Permission to conduct the study was granted by the Research Ethics Committee of the Faculty of Education of the Moscow City University. Before beginning the interviews with the participants, they were informed about the purpose of the study so that they participated knowingly, and their confidentiality and anonymity were assured. The interviews were conducted between February 1, 2021 and June 1, 2021. The organizational platform of the online research was the Zoom service.

In our study, responses from the interviews were used only to understand the difficulties of distance education faced by higher education students during the pandemic, and no statistical analysis was performed on the results. Since the data obtained from the interviews provide an in-depth understanding of the

difficulties of distance education faced by higher education students during the pandemic, no other data sources were not included in the study.

In the data analysis, qualitative content analysis was conducted by researchers. For the analyses, all of the researchers read the transcripts. Later, the researchers began to code the transcripts. While doing this coding, researchers determined codes and themes that emerged from the data. The transcripts were constantly compared to see what patterns or themes emerged in the interview data. The coding of data into themes was conducted independently by two researchers. After this coding, two researchers met and compared their codes. When there was no consensus on codes, researchers discuss their coding and reached a consensus on the coding.

Trustworthiness in this study was ensured by using triangulation and member-checking methods. The triangulation aims to evaluate the accuracy of the data (Merriam, 1998). For the triangulation, the authors sought to obtain rich data to answer the research question. Another method, member checking was used to reduce the impact of subjective bias (Patton, 2002). For this procedure, the researchers distributed the analyzed themes from the interviews to the participants and asked them about the accuracy of the data.

## RESULTS

In our results regarding the organizational conditions for distance learning, all students (160 people) emphasized the low technical readiness of electronic platforms and applications (Zoom, Teams), as well as the quality of these electronic resources on the Internet. The students indicated that the quality of courses did completely depend on the work of these electronic resources. Sample quotations from students' are as follows: "We just flew out of Zoom, for example, and the screen darkened," "The teachers were hard to hear and everything was always freezing," "Problems emerged with connection and it was not clear what the lecturer was saying, I had to ask again."

- In addition, 16 students out of 160 respondents reported cyber threats (attacks) while studying online. For example, "Hackers wrote. Someone wrote obscene phrases passing himself off as other students. We had a lot of such things. felt sorry for the teachers."
- Almost all students, except for students living in a residence hall, mentioned the presence of their home workspace for distance learning. It was difficult for these students to organize their attendance in distance classes. All students had technical tools (computer/laptop/tablet/phone) for distance learning. However, most of the students (121 out of 160) generally preferred to use a tablet or phone rather than a computer. The following quotations for these results are: "Using the phone is more convenient and more mobile," "You can walk around the house with it," "You can attend to your business," "You can stay in bed and turn on a lecture

on the phone," "You can turn on the lecture on the phone and at the same time do your homework on the computer."

- Regarding the involvement of students in distance learning technologies, the participants expressed the following quotations: "At the beginning of the distance learning format it was interesting, and then it became terribly boring" "Interactive activity was interesting, but not all lecturers bother with it," "It was difficult to understand the subject and master the information. The poor quality of the Internet service always forced us to revise the material," "Everything was easy and standard," "It was just our duty to study remotely," and "I kept on studying. There was no particular interest."

- These listed judgments allow us to conclude that all students consider the transition to distance learning as a requirement for teaching. Students showed their interest in this form only at the beginning of self-isolation and explained it by the possibility of not attending a university. However, after the lapse of time, this interest was flagged. In addition, a negligent attitude toward online classes has appeared.
- As part of the study of student's assessment of the quality of the provision of training courses, additional education during the period of distance learning and its impact on the quality of educational results, study load, contradictory data were obtained. Some students (89 out of 160 children) mentioned that the transition to distance learning has nothing to do with the quality of mastering academic disciplines and everything depends only on the student himself. Others, on the contrary, emphasized the importance of face-to-face education and the decline in learning outcomes due to the transition of classes to distance learning (71 out of 160). It is worth noting that the conclusions obtained on this block of questions do not find any relationship with the category of students but depend on individual personality traits (locus of control, level of development of the emotional-volitional sphere, the intellectual level of development, character traits, temperament, etc.).
- As part of the study, on the attitude of students to the future opportunities and directions of development of distance learning, 71 out of 160 students expressed negative attitudes. For example, among the students' judgments about the future of distance learning, the following judgments were recorded: "I would rather keep attending classes at university. It is impossible to study at home. Home is not for learning," "There must be no distance learning. There is no control. Nobody learns. Everyone goes about his business," "I became more independent during my online studies," "Everything is clear at university. The lecturer when he explains the material, you can ask, and he will explain everything. This cannot be done online," and many others.
- However, 89 out of 160 students emphasized the importance of combining distance learning and the traditional form in the future: "It is advisable to combine distance learning and university studies. Some lectures can

be missed,” “A 50% to 50% form would be ideal,” “Distance learning is more mobile and more rational. Why, under compulsion, attend classes that are not interesting and unnecessary”?

- The data obtained indicate that students of higher educational institutions in the city of Moscow have a more negative attitude to distance learning. However, despite their attitude, most students believe that the optimal form of training lies in a hybrid form. Students believe that only by combining distance learning online and full-time format, effective learning outcomes be possible. One hundred and twenty-nine students out of 160 said that “In our group, basically all students work, and it would be great if the attendance was not considered when assessing the student’s academic performance,” “I work and it is very difficult for me to get to the university physically by a certain time, but I’m fine I learn the material online. I am for online courses,” “There are subjects, for example, “of general orientation,” which can be changed over to an online format. The quality of education would only benefit from this,” “A hybrid form means new opportunities! It is cool and great.”

## DISCUSSION

The purpose of this study was to explore the results of a socio-psychological study to understand the problems of accessibility, educational resources, applications, and distance educational technologies in higher education during the pandemic. Our results revealed that nearly all higher education students (160 people) did emphasize that they had problems with the low technical readiness of electronic platforms and applications (such as Zoom and Teams), as well as the quality of these electronic resources on the Internet in general. These results are consistent with those of studies conducted in other countries (Leontyeva, 2018; Devkota, 2021; Lakshman Naik et al., 2021; Nsengimana et al., 2021; Zapata-Garibay et al., 2021). In general, many studies (Leontyeva, 2018; Devkota, 2021; Lakshman Naik et al., 2021; Nsengimana et al., 2021; Zapata-Garibay et al., 2021) reported that the students in the higher education level had some problems regarding technical equipment, the quality of internet, and applications for distance education during the pandemic. The reason for these problems may be that the emergence of the COVID-19 pandemic was at an unexpected time. Therefore, institutions, scholars, and students were not prepared for this pandemic and knowledgeable about what they would encounter in the pandemic. Because of this reason, the unpreparedness of all stakeholders including scholars, students, and universities for the pandemic can be explained as the reason for this result.

Another finding is that all students had technical tools such as computers, laptops, tablets, and phones for distance learning. However, the majority of the students (121 out of 160) generally did prefer to use a tablet or a phone for their internet connection rather than a computer. These results show that the use of tablets or phone is very common in higher education.

Another point from this result is that most of the students had an opportunity to connect lessons in distance education. This result is parallel to those of Zapata-Garibay et al. (2021). However, the same result contradicts the study of Rahiem (2020) who reported that university students in Indonesia had many deficiencies and inequities in finding a device to connect distance education lessons.

The results also revealed that more than half of the students (89 out of 160 children) indicated that the transition to distance learning has nothing to do with the quality of mastering academic disciplines and everything depends only on the student himself. This result is very similar to the findings of Lischer et al. (2021) who reported the experiences of the undergraduate student with coping with the challenges to their teaching during the COVID-19 pandemic in Switzerland. The study of Lischer et al. (2021) revealed that undergraduate students considered discussions in distance education as boring than in face-to-face teaching. From this perspective, the reason behind our results may be that distance education is not well-organized and/or implemented for the satisfaction of the students.

In addition, nearly half of the students in this study (71 out of 160 students) expressed negative attitudes to distance learning. This result is interesting for distance education during the COVID-19 pandemic. The reason for this result may be that, in general, the students were passive throughout lessons in distance education. This result is consistent with a recent study by Supriya et al. (2021) that shows that students perceived several negative impacts of the transition to remote learning during the COVID-19 pandemic. In particular, these negative impacts were “... *particularly on students’ perceived understanding of course content, interactions with other students and instructors, feeling like a part of the biology community at the university, and career preparation.*” (Supriya et al., 2021, p. 10). As a result of this situation, students may have been boring during the teaching. Therefore, they might consider that lessons in distance education were more sluggish than face-to-face teaching. Another reason may be that poorly prepared lessons and the deficiencies in distance teaching may have caused this result. From this perspective, it can be concluded that face-to-face classes are a substitute for teaching in higher education.

Finally, nearly more than half of the students (89 out of 160 students) indicated the importance of combining distance learning and the traditional form in the future. This result is parallel to the comments of Lischer et al. (2021). As it is well-known, institutions in various countries consider combining distance teaching and face-to-face learning from the beginning of the pandemic. This result may stem from the positive effects of active learning during face-to-face teaching. A recent study by Deslauriers et al. (2019) found that students who received active instruction had higher scores in the assessment. Based on our findings, it is important to combine distance and face-to-face teaching to overcome the deficiencies and inequities of distance learning during the pandemic. Based on the literature, there has been an effort to combine distance and face-to-face teaching in a hybrid form of teaching (Lischer et al., 2021; Temsah et al., 2021b).

## CONCLUSION

The results obtained from this study showed that all students did experience technical difficulties during distance learning such as low quality of the internet connection, failure access to online platforms due to an increased number of users, lack of necessary equipment, and individual space for online classes. The results also showed that all the students depicted distance learning as a process of a high degree of complexity in terms of organizational, methodological, organizational, and technical work. In particular, the students pointed out the low level of technical readiness for online platforms and applications (such as Zoom, Teams) and the low quality of the online resources, as well as the presence of cyber threats during online courses. Our results also revealed that most of the students (129 out of 160 students) indicated that they would prefer a hybrid format for courses when switching to face-to-face education. In addition, our findings have revealed that students consider distance education technologies highly effective and motivating them in learning subjects. Namely, students believe that effective results of educational activities will be increased by combining distance and face-to-face education.

The COVID-19 pandemic is continuing. It is well-accepted that distance education is a part of teaching in higher education in the world. Because of this reason, more research is needed to examine and understand the effects of the pandemic on higher education. This study investigated the problems in the implementation of distance education in one country. Future studies should be conducted to explore the problems while implementing distance education in different countries so that differences and similarities between different countries may be revealed from these studies.

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## LIMITATIONS

One of the limitations of our study is the small number of participants. Our participants were students who enrolled at universities in Moscow city. It should be noted that the histories and experiences of this group in Russia are different from other students in other places of the world. Another limitation is that we used only interviews to understand the change and challenges in higher education during the pandemic. However, we agree that different data collections could be included in assessing the effects of the pandemic among higher education students. Future studies should consist of different data collection tools to obtain detailed data. Another limitation is that the data were based on the Russian higher education student's views of the problems in distance teaching during the pandemic. We need to emphasize that the results of this research are not generalizable to the country's situation in higher education.

## DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

## AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct, and intellectual contribution to the work, and approved it for publication.

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