

Challenges of distance learning at the universities of Georgia during the covid-19 pandemic

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ABSTRACT. Besides many health problems and challenges, the covid-19 pandemic had a major impact on social, economic, political, and educational processes. The study aims to assess the consequences of distance learning as a result of the pandemic from the perspective of students and teachers. Quantitative research was conducted. Respondents evaluated the process of distance learning positively since they had a satisfactory opportunity to attend lectures from any location, thus it saved costs, they learned new skills, gained valuable experience, and had more free time left than ever before. Using the Likert scale, the distance learning process was positively assessed by students (3.2 points) and teachers (3 points). The majority of students (n = 288, 69%) prefer the hybrid model, which combines online learning and face-to-face methods, as it considered students' own choices in a superior way. Respondents pointed out some deficiencies such as limited communication, technical access difficulties, low quality and malfunction of internet access, inconvenient environment, student's involvement process, and complicated social relationships. Despite some challenges, students and teachers could adapt to the new learning methods of full distance learning. The majority of students and lecturers agreed with hybrid learning which combines online learning and face-to-face methods. The covid-19 pandemic changes not only the utilization of technology in education but the pedagogy strategies in the future.

Keywords: distance education; distance learning; online education; educational technologies; quality.

Desafios do ensino a distância nas universidades da Geórgia durante a pandemia de covid-19

RESUMO. A adaptação ao ensino à distância, que é uma das formas mais eficazes de combate à pandemia de covid-19, provocou inúmeros desafios à sociedade e à economia. O estudo tem como objetivo avaliar as consequências do ensino a distância, em decorrência da pandemia, na perspectiva de alunos e professores. Nosso estudo foi pautado em uma pesquisa quantitativa. Os entrevistados avaliaram o processo de ensino a distância de forma positiva, pois tiveram uma oportunidade de assistir às palestras de qualquer local, economizando custos, aprendendo novas habilidades, ganhando uma experiência valiosa e tendo mais tempo livre. Utilizando a escala Likert, o processo de ensino a distância foi avaliado positivamente por alunos (3,2 pontos) e professores (3 pontos). A maioria dos alunos (n = 288, 69%) prefere o modelo híbrido, que combina aprendizagem online e métodos presenciais. Os entrevistados apontaram algumas deficiências como comunicação limitada, dificuldades de acesso técnico, baixa qualidade e mau funcionamento do acesso à internet, ambiente inconveniente, processo negativo de envolvimento do aluno, e relações sociais complicadas. Apesar de alguns desafios, alunos e professores puderam se adaptar aos novos métodos de aprendizagem do ensino integral a distância. A maioria dos alunos e professores concordaram com a aprendizagem híbrida que combina aprendizagem online e métodos presenciais. A pandemia do covid-19 muda não apenas a utilização da tecnologia na educação, mas as estratégias pedagógicas no futuro.

Palavras-chave: educação a distância; ensino a distância; educação online; tecnologias educacionais; qualidade.

Desafíos de la educación a distancia en las universidades da Georgia durante la pandemia de covid-19

RESUMEN. Además de muchos problemas y desafíos de salud, la pandemia de covid-19 tuvo un gran impacto en los procesos sociales, económicos, políticos y educativos. El estudio tiene como objetivo evaluar las consecuencias de la educación a distancia, como resultado de la pandemia, desde la perspectiva de estudiantes y docentes. Nuestro estudio se basó en una investigación cuantitativa. Los encuestados

califican positivamente el proceso de aprendizaje a distancia, ya que tienen una oportunidad increíble de asistir a conferencias desde cualquier lugar, ahorrando costos, aprendiendo nuevas habilidades, adquiriendo una experiencia valiosa y teniendo más tiempo libre que nunca. Utilizando la escala de Likert, el proceso de aprendizaje a distancia fue evaluado positivamente por estudiantes (3,2 puntos) y docentes (3 puntos). La mayoría de los estudiantes ($n = 288$, 69%) prefieren el modelo híbrido, que combina el aprendizaje en línea y los métodos presenciales, ya que considera las elecciones de los estudiantes de una manera superior. Los encuestados señalaron algunas deficiencias, como comunicación limitada, dificultades de acceso técnico, baja calidad y mal funcionamiento del acceso a Internet, entorno inconveniente, proceso de participación de los estudiantes y relaciones sociales complicadas. Apesar de algunos desafíos, alumnos y profesores pude adaptar a los nuevos métodos de aprendizaje de enseñanza integral a distancia. A maioria dos alunos y profesores concordaram com aprendizagem híbrido que combina aprendizagem online y métodos presenciales. A pandemia do covid-19 muda não apenas a utilização da tecnologia na educação, mas as estratégias pedagógicas no futuro.

Palabras clave: educación a distancia; la educación a distancia; educación en línea; tecnologías educativas; calidad.

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Introduction

In December 2019, a new coronavirus (SARS-CoV-2) infection (covid-19) was detected in the Province of Hubei, China. On January 30, 2020, the World Health Organization declared the coronavirus as a global threat, and on March 11, as a pandemic (Cucinotta & Vanelli, 2020). The first case of virus infection in Georgia was confirmed on February 26, 2020. On March 21, 2020, a state of emergency was declared on the entire territory of Georgia, and from March 31, a general quarantine regime was introduced.

Besides many health problems and challenges, the covid-19 pandemic had a major impact on various aspects of human life (Cao et al., 2020). It affected social, economic, political, and educational processes (Brooks et al., 2020). Due to the current situation, to avoid further deterioration of the situation, it was necessary to take special measures based on the concept of social distance. Social distance allowed us to avoid being in crowded spaces, as it increased physical space among people and prevented the spread of disease.

The majority of the pandemic-affected countries have successfully managed to slow the spread of the virus. This has been achieved by carrying out radical measures such as banning public events and gatherings, staying at home, restricting domestic and international travel, and temporarily closing educational institutions (Owusu-Fordjour, Koomson, & Hanson, 2020). The transition to distance learning was one of the most effective ways to reduce the spread of the virus, but despite that, it has caused many challenges for both students and teachers, as well as for their families, friends, employers, and, consequently, for society and economy (Rose, 2020).

The adaptation to distance learning has completely changed the normal process of teaching in educational institutions, consequently, innovative teaching methods have been introduced. During distance learning, questions arose: How can we help students who do not have reliable access to the Internet or students who are without the necessary technology to participate in distance learning?

Numerous articles have already been published about the various aspects of the covid-19 pandemic crisis – particularly, its impact on physical and mental health, the economy, society, and the environment (Kaparounaki et al., 2020; Iyer, Aziz, & Ojcius, 2020; Aker & Midik, 2020; Reznik, Gritsenko, Konstantinov, Khamenka, & Isralowitz, 2020). However, sufficient information about best practices of distance learning is not yet available. In this regard, it is interesting to study the changes that have taken place in the education system during the covid-19 pandemic to make this process more effective. The study aims to assess the consequences of distance learning as a result of the pandemic from the perspective of students and teachers.

Literary review

The advancement of communication technologies led to a new method of teaching - electronic/distance learning. Distance learning is a form of education where teachers are physically separated from students in the teaching process. Distance learning using electronic technologies is not a new phenomenon and has been introduced in higher education institutions for many years (Leszczyński et al., 2018). Using electronic technologies has played an important role in increasing the productivity of teaching (Berawi, 2020). With the help of the internet, students can easily get the information they need and listen to the professor directly or asynchronously. Besides, they can contact the professor and solve problems remotely. Distance learning can be used in remote areas, such as rural areas as long as internet connection is available.

There are asynchronous, synchronous, and mixed models of online learning. Synchronous online learning means that the teacher and the student have to be online at the same time, however, they may be in different places. Furthermore, video/audio conferencing, electronic board, and webinars are used during the learning process. Apart from this, asynchronous online learning does not require both the teacher and the student to be online at the same time and is not strictly timed. This kind of learning process combines online courses based on digital media and forums, blogs, emails, and social networks. Also, there is a mixed learning method that combines the components of both, synchronous and asynchronous learning.

The sudden and quick transition from conventional learning to distance learning had a major impact on students' attitudes toward the learning process (Verma, Verma, Garg, & Godara, 2020). Students' practices related to academic work have changed (switching to online lectures, closed libraries, new assessment methods, etc.) (Kamarianos, Adamopoulou, Lambropoulos, & Stamelos, 2020). Students' social lives changed as dormitories were closed, meetings with friends stopped, parties and trips were canceled, as well as their financial situation as jobs were lost, and there was uncertainty about their financial status, education, and future career, and mental health (fears, frustrations, anxiety, boredom, etc.) (Pan, 2020).

Regarding positive effects, it should be mentioned that e-learning has made the education process more student-centered, creative, and flexible. Lecturers and students were forced to explore new methods of distance learning that had not been used before. E-learning creates a relatively free environment. There is more opportunity to communicate with people at any time. Stress has been reduced because the course of the lectures does not require physical involvement. The presence of teachers and students in one space helps strengthen relationships between them. In addition, online learning means constant engagement with teachers and, as a result, it reduces unpleasant distance.

E-learning reduces the cost of education as it is much more optimal and affordable while it does not require moving through space and time (Cheng, 2011). Studies show that distance learning platforms allow students to access a variety of learning resources without limiting time and space (Rienties, Giesbers, Lygo-Baker, Ma, & Rees, 2016). Online tuition is particularly effective and easily accessible for students living in rural and remote areas. It also reduces administrative costs associated with renting an apartment and buying some teaching equipment (desks, chairs). One of the advantages of distance learning is the easy access to the study material anywhere after connecting to the Internet and also it reduces the cost of transporting and renting an apartment (Molotsi, 2020). Self-directed e-learning allows students to manage their activities independently.

Despite the positive aspects of e-learning, studies emphasized the challenges associated with distance learning such as disorganized infrastructure, internet problems, technological difficulties, and lack of access to software and internet services. The level of electricity and internet infrastructure in Georgia is lower than average. Communication may be interrupted during lectures and students should re-login to continue the session. Technological underdevelopment interrupts full and adequate involvement in the online learning process. Inequality in technology and internet access is particularly noticeable for poor students (Machisotti, França, Farias Filho, & Pinto, 2022). A pandemic may widen the gap between students, which would negatively affect their education (Fawaz & Samaha, 2021).

Online teaching is especially problematic for students who study medicine, natural sciences, and other similar fields because there is a limited opportunity to conduct practical and laboratory work. For medical students, experience and education gained in the clinical environment is crucial and cannot be fully replaced by distance learning. To some extent, this problem can be solved by simulating virtual patients (VPs) and real clinical scenarios.

The university environment and auditoriums offer students the opportunity to have direct communication with each other, which plays a significant role in the socialization process between students. It includes students' interaction and self-expression. This transition of the educational process to the online format has a negative impact on the psychological condition of students and has led to problems such as stress, social isolation, and depression (Othman, Ahmad, El Morr, & Ritvo, 2019). Social isolation and reduction of activities lower students' motivation, which causes the feeling of unproductiveness. Studies have found a close connection between online learning satisfaction and psychological state (depression, anxiety, and stress). The lower the level of satisfaction with online learning, the higher rate of depression, anxiety, and stress can be seen among students (Fawaz & Samaha, 2021).

The present study will examine the experiences of lecturers and students in Georgia. Specifically, it will identify which work or study-related situations university lecturers and students experienced as challenging during the covid-19 pandemic. The perspectives of both university lecturers and the students were gathered in order to understand differences and similarities in the challenges experienced.

Research methodology

The students and teachers of Caucasus University, Ivane Javakishvili Tbilisi State University, and Ilia State University participated in the research. These three universities were selected to represent both private and public universities.

A quantitative, cross-sectional research design was used for the study. A pre-structured online questionnaire made via the Google Forms electronic platform was used as a research tool. It was developed based on existing foreign literature and was adapted to the reality of Georgia. Before taking up the research, the questionnaire was pre-piloted, after piloting minor adjustments were made to the questionnaire.

The questionnaire included socio-demographic data and closed-ended questions where respondents could form opinions on both content and technical issues. The average duration of completing the questionnaire was 10 min. The survey was conducted in June-October 2021. 417 students participated in the study. Non-probability sampling technique was used for the study. The proportion of study participants varies according to stages. In particular, bachelors ($n = 336$, 80.6%), masters ($n = 77$, 18.5%) and PhD students ($n = 4$, 1%). 26 (6.2%) foreign students from all three universities participated in the survey among students. The study was attended by 47 teachers, including visiting professors ($n = 25$, 54%), associate professors ($n = 11$, 23%), full professors ($n = 9$, 19%), assistant professors ($n = 2$, 4%).

After finishing the research, the data was transferred and encoded in SPSS. Both one-dimensional analyses in the form of frequencies and two-dimensional analyses in the form of cross-constructions were used while analyzing the data.

Before starting the study, we received approval from the Research and Ethics Committee of Caucasus University. Before participating in the study, selected individuals were given informed consent forms. Survey participants could voluntarily leave the survey at any time.

The questionnaire was accompanied by an instruction/description that included several points that the survey was anonymous, respondents did not indicate personal data that would allow them to be identified. The aim of the research was described in the description of the questionnaire.

Results

Respondents had to rate the distance learning process on a 5-point scale where 5 meant very good and 1-very bad. Overall, students rated the distance learning process with an average point of 3.2. As for the distribution of point averages by levels, it was found that graduate students evaluate the process even more positively than bachelors. Undergraduate students rated the distance learning process with an average score of 2.8 points, while the average for graduate students is 3.5. The teachers evaluated the distance learning process with an above average score of 3 point.

The majority of students ($n = 288$, 69%) prefer the hybrid model, which combines online learning and face-to-face methods, as it considered students' own choices in a superior way. Rural ($n = 44$, 77%) and urban students ($n = 244$, 67.7%), students who are unemployed ($n = 288$, 69%) and who work and study all at once ($n = 84$, 65%) are particularly satisfied with this method. Students' answers to this question do not differ according to their gender, both male ($n = 62$, 68%) and female ($n = 226$, 69%) students prefer the synthesis of distance and auditory learning methods (Table 1). Surprisingly, Georgian and non-Georgian students' attitudes towards the distance learning method were different. All non-Georgian speaking students (100%) prefer the synthesis of distance and auditory learning methods. As for the difference between universities, Caucasus University students generally prefer the synthesis of distance and auditory learning methods to online teaching.

The vast majority of teachers surveyed ($n = 38$, 81%) prefer the synthesis of distance and auditory learning methods. Female teachers ($n = 25$, 83.3 %) even more prefer these methods, compared to male teachers ($n = 13$, 76.5%). The majority of teachers agree ($n = 18$, 38.3%) or slightly agree ($n = 10$, 21.3%) with the opinion that they need more effort while teaching online (Table 2).

The significant part of the students do not agree ($n = 200$, 48%) or slightly consent ($n = 103$, 24.7%) with the opinion that the quality of learning has improved in the online learning mode, although according to their answers, the frequency of attending lectures has increased (Table 3).

The significant part of the teachers do not agree ($n = 17$, 36.2%) or slightly consent ($n = 19$, 40.4%) with the opinion that the quality of teaching has improved when switching to online learning (Table 3).

Table 1. Which teaching method would you prefer?

	Distance learning		Auditory learning		Hybrid of auditory and distance learning		All	
	Student n = 4	Teacher n = 47	Student n = 4	Teacher n = 47	Student n = 41	Teacher n = 47	Student n = 4	Teacher n = 47
Sex								
Female	40 (12.3%)	1 (3.3%)	60 (18.4%)	4 (13%)	226 (69%)	25 (83%)	326 (78%)	30 (64%)
Man	10 (11%)	1 (5.9%)	19 (20.9%)	3 (18%)	62 (68%)	13 (77%)	91 (21.8%)	17 (36%)
Residence								
City	43 (12%)	3 (7%)	73 (20%)	5 (11%)	244 (68%)	36 (82%)	360 (86%)	44 (94%)
The village	7 (12%)	0 (0%)	6 (11%)	2 (33.3%)	44 (77%)	2 (66.6%)	57 (14%)	3 (6.4%)
Citizenship								
Georgian	50 (13%)	2 (4%)	79 (20%)	7 (15%)	262 (67%)	38 (81%)	391 (94%)	47 (100%)
Foreigner	0 (0%)	0 (0%)	0 (0%)	0 (0%)	26 (100%)	0 (0%)	26 (6%)	0 (0%)
Are you employed?	32 (35%)		13 (10%)		84 (65%)		129 (30.9)	
Yes, I am, full time	18 (46%)		10 (16%)		33 (54%)		61 (14.6%)	
Yes, I'm a part-time	0 (0%)		56 (25%)		171 (75%)		227 (54%)	
I am not employed	50 (12%)		9 (19.1%)		79 (19%)		7 (15%)	
All	288 (69%)		38 (81%)		417 (100%)		47 (100%)	

Table 2. How do you assess your readiness for a pandemic during the transition to distance learning?

	I was prepared in advance to use the distance learning method In general	I was ready to switch to the distance learning method, but I had to learn some things	I was poorly prepared to switch to the distance learning method	I needed to learn a lot	All
Student					
Undergraduate	81 (24.1%)	176 (52.4%)	49 (14.6%)	30 (8.9%)	336 (81%)
Master's degree	34 (44.2%)	34 (44.2%)	5 (6.5%)	4 (5.2%)	77 (18.5%)
Doctorate	2 (50%)	1 (25%)	0 (0.0%)	1 (25%)	4 (1%)
All	117 (28.1%)	211 (50.6%)	54 (12.9%)	35 (8.4%)	417 (100%)
Teacher	16 (34%)	23 (48.9%)	6 (12.8%)	2 (4.3%)	47 (100%)

Table 3. Assessment of distance learning.

	Strongly agree	More or less Agree	More or less Disagree	Strongly disagree
I need more effort in distance learning than in the classroom				
Student	18 (4.3%)	79 (18.9%)	229 (54.9%)	91 (21.8%)
teacher	18 (38.3%)	10 (21.5%)	6 (12.8%)	13 (27.7%)
During distance learning, I am more able to attend lectures				
Student	171 (41%)	138 (33.1%)	64 (15.3%)	44 (10.6%)
With the distance learning method, the quality of teaching in general is improved				
Student	25 (6%)	89 (21.3%)	103 (24.7)	200 (48%)
Teacher	0 (0%)	11 (23.4%)	17 (36.2%)	19 (40.4%)
When using the distance learning method, I have more free time				
Student	189 (45.3%)	154 (36.9%)	47 (11.3%)	27 (6.5%)
Teacher	26 (55.3%)	12 (25.5%)	6 (12.8%)	3 (6.4%)
Using the remote method, I gained new useful experiences and skills				
Student	185 (44.4%)	147 (35.3%)	51 (12.2%)	34 (8.2%)
Teacher	20 (42.6%)	21 (44.7%)	6 (12.8%)	1 (2.1%)
I have comfortable conditions for distance learning at home				
Student	183 (43.9%)	144 (34.5%)	69 (16.5%)	21 (5.0%)
Teacher	27 (57.4%)	13 (27.7%)	5 (10.6%)	2 (4.3%)
I generally like working from home				
Student	114 (27.3%)	160 (38.4%)	73 (17.5%)	70 (16.8%)
Teacher	9 (19.1%)	23 (48.9%)	7 (14.9%)	8 (17%)
The quality of the organization of distance learning by the University is very good				
Student	142 (34.1%)	192 (46%)	65 (15.6%)	18 (4.3%)
Teacher	30 (63.8%)	14 (29.8%)	2 (4.3%)	1 (2.1%)
With distance learning, more time is saved on learning				
Student	183 (43.9%)	116 (27.8%)	62 (14.9%)	56 (13.4%)

Advantages of distance learning

Students point out the advantages of the online teaching method along with the pros of synthesizing distance and auditory learning methods. In general, the majority of students (n = 183, 43.9%) agree and relatively agree (n = 116, 27.8%) with the statement that while switching to distance learning, they spend more time studying. The majority of students completely agree (n = 171, 41%) or relatively agree (n = 138,

33.1%) with the opinion that they are more able to attend lectures in distance learning conditions. In addition, a larger proportion of students surveyed agree ($n = 185$, 44.4%) or relatively agree ($n = 147$, 35.3%) that switching to distance learning has given them new, useful skills and experience. Moreover, a larger proportion of students surveyed agree ($n = 142$, 34%) or relatively agree ($n = 192$, 46%) with the statement that the quality of the university's transition to distance learning is acceptable (Table 3).

The majority of teachers completely agree ($n = 26$, 55.3%) or relatively agree ($n = 12$, 25.5%) with the opinion that they have more free time left in distance learning conditions. Furthermore, most of them ($n = 32$, 68%) admit that they generally enjoy working from home as they have comfortable conditions at home ($n = 40$, 85%) (Table 3).

Willingness to switch to distance learning mode

According to the majority of students surveyed ($n = 211$, 50.6%), they were generally ready to switch to distance mode, yet they also had to learn something. In terms of previous experience, only 8.4% of students ($n = 35$) did not have the experience of attending lectures or seminars online before the pandemic and had to learn everything from scratch (Table 2).

Most of the teachers ($n = 39$, 83%) were fully ready to switch to distance mode, as they had already given lectures/internships online.

The majority of students ($n = 285$, 68.3%) mainly use Moodle's platform for online learning mode. This rate is the same for both undergraduates and graduate students, as well as for students from different universities. Students also use WhatsApp, and Skype platforms for online learning (14% of respondents).

Most of the teachers ($n = 30$, 64%) mainly use Moodle platform for online teaching mode. However, they also use WhatsApp, Skype platforms ($n = 18$, 38%), university e-learning resources ($n = 9$, 19%) (Table 4).

Obstacles have been faced up to when switching to distance learning mode

Most of the students surveyed ($n = 189$, 45.3%) stated that access to the internet was not significantly problematic, or not problematic at all ($n = 166$, 39.8%) and therefore they had access to online lectures on time. Some respondents for whom access to online lectures was very problematic were only 15.6% ($n = 63$). Similar results were seen from a survey of teachers. According to the vast majority of teachers ($n = 43$, 91.5%), access to the Internet was not significantly problematic, or not problematic at all (Table 5).

When switching to the distance learning method, the least problematic is the comfortable workplace for students ($n = 88$, 21.1%). Controversially, the most problematic thing for students was the lack of skills or experience when switching to distance learning ($n = 53$, 12.7%).

According to teachers, the biggest obstacle in terms of online learning is the weak technical capabilities of the techniques used by students ($n = 28$, 59.6%). The least problematic thing for them is the lack of skills or experience ($n = 4$, 8.5%) (Table 5).

Table 4. Electronic resources used in distance learning.

What electronic distance learning resources do you currently use in the learning process?	Student	Teacher
I use the capabilities of an e-learning system based on Moodle.	285 (68.3%)	30 (64%)
I use social networks (e.g. Facebook, Twitter)	45 (10.8%)	7 (14.9%)
I use the university's e-learning resources	73 (17.5%)	9 (19.2%)
I use messengers like Viber, WhatsApp, Skype, or others	57 (14%)	18 (38%)
I do not use electronic resources	7 (1.7%)	1 (2.1%)
I use other electronic resources	31 (7.4%)	5 (10.6%)

Discussion

Research has shown that the distance learning process is positively assessed by both students and teachers. Many students are satisfied with distance learning because they have more free time, as they do not have to waste time commuting to and from university, and can spend more time studying some disciplines or engaging in activities they are interested in. Travel costs are reduced. Students who attended the lectures from the district villages were allowed to save on the cost of renting an apartment. In addition, they are more likely enroll in courses on distance learning. Similar results have been seen in other studies (Pelikan et al., 2021; Katić, Ferraro, Ambra, & Iavarone, 2021).

Table 5. Remote Switching Problems.

	Pretty problematic	Not greatly problematic	Not problematic at all	Very problematic	Pretty problematic	Not greatly problematic	Not problematic at all
Proper technological equipment (computer, tablet)							
Student				13 (3.1%)	52 (12.5%)	186 (44.6%)	166 (39.8%)
Teacher				0 (0%)	3 (6.4%)	16 (34%)	28 (59.6%)
Internet access							
Student				22 (5.3%)	40 (9.6%)	189 (45.3%)	166 (39.8%)
Teacher				0 (0%)	4 (8.5%)	0 (0.0%)	43 (91.5%)
Comfortable place to work							
Student				27 (6.5%)	61 (14.6%)	170 (40.8%)	159 (38.1%)
Teacher				3 (6.4%)	9 (19.1%)	0 (0.0%)	35 (74.5%)
Good communication from the university while in remote mode							
Student				25 (6.0%)	44 (10.6%)	166 (39.8%)	182 (43.6%)
Teacher				0 (0.0%)	3 (6.4%)	0 (0.0%)	44 (93.6%)
Lack of skills or experience in using distance learning on my part							
Student				17 (4.1%)	36 (8.6%)	196 (47.0%)	168 (40.3%)
Teacher				0 (0.0%)	4 (8.5%)	0 (0.0%)	43 (91.5%)
Weak technical capabilities of the equipment used							
Student				11 (2.6%)	52 (12.5%)	197 (47.2%)	157 (37.6%)
Teacher				28 (59.6%)	17 (36.2%)	0 (0.0%)	2 (4.3%)
Insufficient methodological or technical capabilities of the e-learning system							
Student				17 (4.1%)	61 (14.6%)	204 (48.9%)	155 (32.4%)
Teacher				0 (0.0%)	9 (19.1%)	0 (0.0%)	38 (80.9%)

Students living in villages and remote areas are particularly satisfied with the distance learning method (Rahman, 2021). Most of the respondents enjoy working from home as they have comfortable conditions at home. Lecturing remotely is more mobile since both students and lecturers have the opportunity to join the lecture from any location if they have access to the internet (Şahin, 2021).

According to most students, the distance learning method has given them new useful experiences and skills. It enables students to develop valuable skills independently. The student masters the skills of autonomy. It also gives the opportunity to practically use brand-new, previously unknown possibilities of communication technologies.

Most of the students and teachers were ready to switch to the distance mode of learning because they had lectures online before (Aroshidze & Dzaganian, 2021). However, studies confirm that some teachers do not have real practice and experience in online learning.

The majority of students and teachers prefer the synthesis of distance and auditory learning methods as it takes into account the specifics of particular subjects and the students' own choices. This kind of choice allows those who prefer to get an education remotely, to choose an online course, and students who learn better only through direct communication - to choose an auditory training. In this regard, it is necessary to equip the university auditoriums with the necessary technical equipment and to develop curricula that will allow students to decide whether to attend the lecture in the auditorium or to join online. The synthesis of distance and auditory learning methods is a rather complex problem and requires further research.

Even though the transition to distance learning is undoubtedly proved to be an effective tool in protecting oneself from the Covid-pandemic, there are many drawbacks. This can be caused by limited distance learning communication, technical difficulties, and an uncomfortable environment. The most problematic for students is the comfortable workplace needed for distance learning. According to the teachers, the biggest obstacle in online teaching is the weak technical capabilities of the equipment used by the students or its absence at all.

According to the survey results, access to the Internet was problematic for some of the surveyed students (15.6%, n = 63). It is primarily related to the low quality and malfunction of the internet in several regions (villages) of Georgia, because of that, students are not able to participate in both lecture and practical classes. It is also noteworthy that some of the students from the districts have an opportunity to save on costs associated with renting an apartment, however, hence online tuition became a serious challenge for them as they faced the problem of accessing the internet (Özüdoğru, 2021).

Studies show that in some cases, due to the lack of experience of working in distance learning mode, in the beginning too much time was spent on the technical organization of the lecture (entering the platform,

turning on the microphone, adjusting the camera, etc.), which negatively affected the quality of online lecture (Roszak, Sawik, Stańdo, & Baum, 2021).

One of the serious problems for teachers is the form of students' involvement (they have the right to 'cover' their faces). The student has the right not to turn on the video camera, or 'cover' his face, which excludes visual contact and disrupts the process of exchanging knowledge. Consequently, it is difficult for the teacher to understand how well the students perceived the explained lecture. However, while turning off the video eye, students can easily be distracted by various activities and they may not concentrate on the lecture material. Students find the process of learning with a computer screen boring and they are less motivated to participate in lectures.

Research has shown that the majority of students and teachers think that the online distance learning regime has a negative impact on the quality of learning. In this regard, the test methodology for assessing student knowledge is particularly problematic. Closed-ended testing is sometimes used to test students' knowledge, accompanied by a few possible answers. This kind of exam tests students' memory more than their knowledge and excludes students' critical thinking and reasoning skills.

Other research also shows that students do not find online lessons as effective as traditional teaching methods (Abbasi, Ayoob, Malik, & Memon, 2020). Students who are in favor of online learning, however, believe that it reduces the use of vehicles and the cost of attending auditorium lessons. In addition, while online lectures can be recorded, independent learning is much more significant.

The study also included non-Georgian students and the vast majority of them prefer the synthesis of distance and auditory learning methods. Apart from the academic point of view, this may also be related to their socialization, as in most cases non-Georgian students are not permanent residents of Georgia and the only source of their socialization is the university. Consequently, during the distance learning mode, they lose their only place of making new friends. Usually, the time spent at the university for students is crucial. At the same time, students had direct contact with lecturers during conventional studies, not only in the auditoriums but also in the university library, cafes, and various university events, where useful information can be shared.

Other studies also confirm that students' social interactions and relationships have become more and more complex during distance learning (Leal Filho et al., 2021). Most students and teachers have access to all the necessary technical equipment needed for distance learning (computer, personal computer, tablet, mobile phone, etc.). They have the freedom to choose the most convenient learning platform. Students and teachers mainly use Moodle's platform for online learning mode. However, some students are involved in the learning process through mobile phones and apply to platforms such as WhatsApp, Skype, etc (Yilmaz, 2016). Mobile devices are simple and comfortable to use and they are becoming more and more popular. However, in some cases, the use of mobile phones is associated with the lack of computers, because of that, students are not able to complete tasks on time, so they have to write homework by hand, then take a picture of it and send it by e-mail. It should be also highlighted that some students are not skilled in computer technology properly.

Conclusion

The technological progress of the XXI century has a great impact on the process of education. The crisis caused by the covid-19 pandemic has identified the need to advance the methods of continuous, high-quality acquisition of knowledge. To protect itself from the pandemic, an online teaching model was introduced with its positive and negative characteristics, which caused a serious challenge to both the student and the teacher.

Online learning helps students acquire the skills needed to work independently, enhance self-organization skills, communicate effectively with computer technology, and make responsible decisions independently. However, the distance learning mode may endanger students' personal development. Despite some challenges, students and teachers could adapt to the new learning methods of full distance learning. The majority of students and lecturers agreed with hybrid learning which combines online learning and face-to-face methods. covid-19 pandemic, changes not only the utilization of technology in education but the pedagogy strategies in the future.

This study is one of the first in the Caucasus which evaluates online teaching from the perspective of students and teachers. Since though the study was conducted at more than one university, it is not possible to generalize the results to the university community. The limit of the study is the total number of responses received, therefore, no generalizations can be made. The number of respondents is limited compared to the total number of students and teachers. The possibility of bias while answering the questionnaire is not excluded.

References

- Abbasi, S., Ayoob, T., Malik, A., & Memon, S. I. (2020). Perceptions of students regarding E-learning during Covid-19 at a private medical college. *Pakistan Journal of Medical Sciences*, 36(covid19-S4), S57-61. DOI: <https://doi.org/10.12669/pjms.36.covid19-S4.2766>
- Aker, S., & Midik, Ö. (2020). The views of medical faculty students in turkey concerning the covid-19 pandemic. *Journal of Community Health*, 45, 684-688. DOI: <https://doi.org/10.1007/s10900-020-00841-9>
- Aroshidze, M., & Dzagania, I. (2021). Pros and cons of online learning. In *International Scientific Conference Online Learning Under the Conditions of Covid-19 and Educational System*. Academy of Educational Sciences of Georgia.
- Berawi, M. A. (2020). Empowering healthcare, economic, and social resilience during global pandemic covid-19. *International Journal of Technology*, 11(3), 436-439. DOI: <https://doi.org/10.14716/ijtech.v11i3.4200>
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet*, 395(10227), P912-920. DOI: [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the covid-19 epidemic on college students in China. *Psychiatry Research*, 287, 112934. DOI: <https://doi.org/10.1016/j.psychres.2020.112934>
- Cheng, Y.-M., (2011). Antecedents and consequences of e-learning acceptance. *Information Systems Journal*, 21(3), 269-299. DOI: <https://doi.org/10.1111/j.1365-2575.2010.00356.x>
- Cucinotta, D., & Vanelli, M. (2020). WHO declares covid-19 a pandemic. *Acta Biomedica*, 91(1), 157-160. DOI: <https://doi.org/10.23750/abm.v91i1.9397>
- Fawaz, M., & Samaha, A. (2021). E-learning: depression, anxiety, and stress symptomatology among Lebanese university students during covid-19 quarantine. *Nursing Forum*, 56(1), 52-57. DOI: <https://doi.org/10.1111/nuf.12521>
- Iyer, P., Aziz, K., & Ojcius, D. M. (2020). Impact of covid-19 on dental education in the United States. *Journal of Dental Education*, 84(6), 718-722. DOI: <https://doi.org/10.1002/jdd.12163>
- Kamarianos, I., Adamopoulou, A., Lambropoulos, H., & Stamelos, G. (2020). Towards an understanding of university students' response in times of pandemic crisis (covid-19). *European Journal Education Studies*, 7(7), 20-40. DOI: <https://doi.org/10.46827/ejes.v7i7.3149>
- Kaparounaki, C. K., Patsali, M. E., Mousa, D.-P. V., Papadopoulou, E. V. K., Papadopoulou, K. K. K., & Fountoulakis, K. N. (2020). University students' mental health amidst the covid-19 quarantine in Greece. *Psychiatry Research*, 290, 113111. DOI: <https://doi.org/10.1016/j.psychres.2020.113111>
- Katić, S., Ferraro, F. V., Ambra, F. I., & Iavarone, M. L. (2021). Distance Learning during the covid-19 pandemic. A comparison between european countries. *Education Sciences*, 11(10), 595. DOI: <https://doi.org/10.3390/educsci11100595>
- Leal Filho, W., Wall, T., Rayman-Bacchus, L., Mifsud, M., Pritchard, D. J., Lovren, V. O., ... Balogun, A.-L. (2021). Impacts of covid-19 and social isolation on academic staff and students at universities: a cross-sectional study. *BMC Public Health*, 21(1213). DOI: <https://doi.org/10.1186/s12889-021-11040-z>
- Leszczyński, P., Charuta, A., Łaziuk, B., Gałązkowski, R., Wejnarski, A., Roszak, M., & Kołodziejczak, B. (2018). Multimedia and interactivity in distance learning of resuscitation guidelines: A randomised controlled trial. *Interactive Learning Environments*, 26(2), 151-162. DOI: <https://doi.org/10.1080/10494820.2017.1337035>
- Machisotti, G. G., França, S. L. B., Farias Filho, J. R., & Pinto, S. R. R. (2022). Guidelines for the dissemination of distance education, from the analysis of prejudice against this education modality. *Acta Scientiarum. Education*. 44(1), e53622. DOI: <https://doi.org/10.4025/actascieduc.v44i1.53622>
- Molotsi, A. (2020). The university staff experience of using a virtual learning environment as a platform for e-learning. *Journal of Educational Technology and Online Learning*, 3(2), 133-151. DOI: <https://doi.org/10.31681/jetol.690917>
- Othman, N., Ahmad, F., El Morr, C., & Ritvo, P. (2019). Perceived impact of contextual determinants on depression, anxiety and stress: a survey with university students. *International Journal of Mental Health Systems*, 13(17). DOI: <https://doi.org/10.1186/s13033-019-0275-x>

- Owusu-Fordjour, C., Koomson, C. K., & Hanson, D. (2020). The impact of covid-19 on learning - the perspective of the Ghanaian student. *European Journal of Education Studies*, 7(3), 1-14. DOI: <https://doi.org/10.5281/zenodo.3753586>
- Özüdoğru, G. (2021). Problems faced in distance education during covid-19 pandemic. *Participatory Educational Research*, 8(4), 321-333. DOI: <https://doi.org/10.17275/per.21.92.8.4>
- Pan, H. (2020). A glimpse of university students' family life amidst the covid-19 virus. *Journal of Loss and Trauma*, 25(6-7), 594-597. DOI: <https://doi.org/10.1080/15325024.2020.1750194>
- Pelikan, E. R., Korlat, S., Reiter, J., Holzer, J., Mayerhofer, M., Schober, B., ... Lüftenegger, M. (2021). Distance learning in higher education during covid-19: The role of basic psychological needs and intrinsic motivation for persistence and procrastination—a multi-country study. *PLoS One*, 16(10), e0257346. DOI: <https://doi.org/10.1371/journal.pone.0257346>
- Rahman, A. (2021). Using students' experience to derive effectiveness of covid-19-lockdown-induced emergency online learning at undergraduate level: evidence from Assam, India. *Higher Education for the Future*, 8(1), 71-89. DOI: <https://doi.org/10.1177/2347631120980549>
- Reznik, A., Gritsenko, V., Konstantinov, V., Khamenka, N., & Isralowitz, R. (2020). Covid-19 fear in Eastern Europe: validation of the fear of covid-19 scale. *International Journal of Mental Health and Addiction*, 19, 1903-1908. DOI: <https://doi.org/10.1007/s11469-020-00283-3>
- Rienties, B., Giesbers, B., Lygo-Baker, S., Ma, H. W. S., & Rees, R. (2016). Why some teachers easily learn to use a new virtual learning environment: A technology acceptance perspective. *Interactive Learning Environments*, 24(3), 539-552. DOI: <https://doi.org/10.1080/10494820.2014.881394>
- Rose, S. (2020). Medical student education in the time of covid-19. *JAMA*, 323(21), 2131-2132. DOI: <https://doi.org/10.1001/jama.2020.5227>
- Rozsak, M., Sawik, B., Stańdo, J., & Baum, E. (2021). E-Learning as a factor optimizing the amount of work time devoted to preparing an exam for medical program students during the covid-19 epidemic situation. *Healthcare*, 9(9), 1147. DOI: <https://doi.org/10.3390/healthcare9091147>
- Şahin, M. (2021). Opinions of university students on effects of distance learning in Turkey during the covid-19 pandemic. *African Educational Research Journal*, 9(2), 526-543. DOI: <https://doi.org/10.30918/AERJ.92.21.082>
- Verma, A., Verma, S., Garg, P., & Godara, R. (2020). Online teaching during covid-19: perception of medical undergraduate students. *Indian Journal of Surgery*, 82(3), 299-300. DOI: <https://doi.org/10.1007/s12262-020-02487-2>
- Yilmaz, O. (2016). E-Learning: students input for using mobile devices in science instructional settings. *Journal of Education and Learning*, 5(3), 182-192. DOI: <https://doi.org/10.5539/jel.v5n3p182>

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