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E-learning Challenges in the Era of Covid-19: The Georgian Case

Tamar Kakutia
International Black Sea University, Georgia
Elena Hunt
Laurentian University, Canada
Paul Kwame Butakor
Department of Teacher Education,
University of Ghana, Ghana
Syed Mir Muhammad Shah
Sukkur IBA University, Pakistan

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Abstract

Digital literacy is an essential skill for learning, living and working, with the Internet remaining a main part of modern life. The Covid-19 pandemic has made the issue of effective use of information and communication tools and acquired digital skills of outmost importance and urgency. During the pandemic, higher education around the world has largely shifted to a distance/online learning format and Georgia's higher education system was no exception. The swift conversion challenged students and educators alike. Method: This descriptive study inquired N=2160 students from 5 top universities in Georgia about the challenges of online education, their learning experience during the pandemic and their recommendations for future opportunities. Results: The 21 items online survey used for data collection produced quantitative and qualitative results from a majority female body of participants. Even though they had no previous online learning experience, the vast majority of students prefer some online format of teaching and learning, as imperfect as it proved to be

and quickly implemented during the pandemic. As the university mandates the creation of a student-friendly environment and relevant services to inform and support students with low social status and students with disabilities, it became a great challenge for Georgian universities to provide socially disadvantaged students with the resources needed for E-learning. Numerous suggestions for improvement of the online teaching experience and performance were offered.

Keywords: Internet, Covid-19 pandemic, digital skills, Higher education, distance/online-learning and teaching, challenges, E-learning

Introduction

The Internet remains a main part of modern life, constantly evolving and facilitating people's lives. Public institutions, businesses, retail sales or service areas, financial organizations, higher and general educational institutions, health care organizations, all of them are dependent on the internet for the continuation and upkeep of their activities. Internet is also considered as a vehicle for learning, personal and professional development for students. Room (2021) highlights the advantages of student Internet use, such as a vast source of information acquired fast and a continuous access inside or outside the learning institution at any time, day or night. Entertainment and games are universally available and communication is user friendly and rapidly acquired in real time at the scale of the planet. Job opportunities in the 21st century, in the era of digital technologies, are accessible in the local market and abroad. Students are constantly aware of the professions in demand in the labor market and of the employers' requirements.

The Internet is the only way to provide the opportunity to receive online education. Many foreign universities offer students a variety of certificates, online courses, or degree programs. There are special web platforms that include courses and programs of universities in different countries of the world. Students can not only search for them on the website of individual universities, but also visit these educational web platforms and choose their desired direction and/or program provider from the wide variety of offers available (Laar, Alexander J. A. M., van Dijk, & de Haan, 2020).

Internet is the best way to access educational materials of various content for research, used by both students and faculty. The Internet helps students in academic circles and with academic goals to establish relationships and communication, to discuss issues related to education through various social platforms. It also confirms the uniqueness of the Internet for remote education and self-development (Adil, 2021).

It is important to analyze the Internet situation in Georgia, as the country should be able to meet the challenges of the future and the Georgian educational market should create an opportunity for students to maintain their competitiveness. The Internet Society's report (2017) examines the potential of the Internet as a mechanism for improving the quality of education and the opportunities that ensure that this potential be maximized. The Internet is an important tool to achieve the following goals (InternetSociety, 2017), in light of the Human Rights specifications of the United Nations:

Education is recognized as a basic human right, the tasks of which are

- provision of inclusive and quality education;
- ensuring equal access to education;
- Promoting lifelong learning opportunities.

In particular, Internet expands the possibility of receiving education, both in class and outside of it. Students and teachers have the opportunity to use diverse information and educational resources. Lecturers actively use online resources to prepare lectures and to increase the motivation of students to study. Many online resources, such as interactive teaching methods, allow lecturers to focus on the individual needs of students and promote shared learning (Dogniez, 2019).

The global Covid-19 pandemic has made the issue of effective use of information and communication tools, proper possession of digital skills and its importance even more urgent. As conditions for gathering and movement were limited, the demand for online services in both the public and private sectors increased rapidly and exponentially. Higher education around the world has largely shifted to a distance/online-learning format.

Digital literacy, as a set of knowledge and skills, became critical to using the Internet effectively and efficiently. Digital literacy requires not only technical, but also critical thinking skills and social responsibility; it gives us the opportunity to use technologies and materials correctly under the unifying, driving axis which is the Internet (Adil, 2021). The American Library Association (ALA) defines digital literacy as the ability to use information and communication technologies to find, evaluate, create, and communicate information requiring both cognitive and technical skills (Digital Literacy, 2021). The World Literacy Foundation notes that digital literacy, along with the technical skills of knowing and finding tools, requires thinking ability, knowledge of the necessary standards of behavior in the online space, critical thinking and social responsibility (Delle, 2020). Students who lack the skills to use digital technologies will not be able to take advantage of the diverse and rich resources and environments that modern information and communication technologies offer. They cannot

prepare for the future because 90% of the jobs of the future require at least a basic level of digital skills (Bartolo, 2014), uniquely creating a danger of imbalance of demand and supply in terms of employment of relevant personnel in this direction.

These results are confirmed by the University of Western Sydney (2020). Digital literacy is already an essential skill for learning, living and working. Thus, it is crucial to have it as a student, before they enter the professional and public arena, where they will constantly have to act and communicate in a digital environment (What is digital literacy?, 2020).

Digital literacy encompasses the following key elements:

1. **Functional skills** including knowledge of the use of devices and software, in particular how to connect, install, update of the respective device or software.
2. **Data management and critical thinking** is the ability to find, manage, organize information easily, purposefully, to determine the relevance and reliability of the information source, to analyze, synthesize, and create new knowledge; the ability to collect data, process it in different formats and share it. The ability to interpret information for academic and professional use while observing ethical norms, such as copyright or plagiarism, are essential (JISC, 2016).
3. **Communication and collaboration** refer to the ability to communicate effectively between people of different cultures, mutual respect, and conflict management through digital technologies and tools in the online space, in different formats and using different online tools, such as social networks, email, web platforms or forums; the ability to communicate, exchange and share information, resources and best practices, work in groups and collaborate for common goals online.
4. **Digital security (digital identity)** includes safe search and sharing of information on the Internet, prevention of possible online fraud on the Internet, protection against cyberbullying, sexting, personal data protection and safe management of online accounts, awareness of online rights and freedoms and their protection. (Digital Literacy Skills: Online Safety)
5. **Problem solving** includes identifying digital resources and needs relevant to solving a specific problem or issue (Laar, Alexander J. A. M., van Dijk, & de Haan, 2020). This skill involves solving problematic issues using digital technologies and tools. Solving a problem sometimes involves analyzing the problem, acquiring and applying new knowledge, finding new suitable digital tools

and using them to solve the problem (Laar, Alexander J. A. M., van Dijk, & de Haan, 2020).

Covid-19 pandemic has affected many countries on a large scale, and Georgia's higher education system was no exception. Prior to the Covid-19 emergency response period in Georgia, there was neither legal permission nor experience of online teaching. The transition to online teaching has also created problems in the process of fully implementing student support activities. As the university mandates the creation of a student-friendly environment, to offer relevant services, to inform and support students with low social status and students with disabilities, it became a great challenge for Georgian universities to provide socially disadvantaged students with the resources needed for E-learning, especially by state universities (Crozier & Greer, 2020).

The state was forced to make quick decisions about the existing situation. Such a rapid change in the teaching format, in turn, has had an impact on the achievement and evaluation of learning outcomes, as the programs of Georgian higher education institutions were not designed for online teaching. As a result, within a few weeks, new changes were made to the education system. Due to the wide-scale spread of the virus and in order to reduce the disastrous consequences, the state decided to continue education throughout Georgia remotely through online learning platforms, which posed a number of challenges for representatives of higher education institutions, as well as academic staff and students.

At the 2011 UN General Assembly, the right to access the Internet was declared a fundamental human right. The Human Rights Council stated: "The Internet is one of the most powerful tools of the 21st century to promote transparency, access to information and active participation of citizens in building a democratic society." The 30th session of the UN General Assembly in 2016 once again emphasized Internet access as an opportunity and fundamental right for human development and education on a global scale, as well as the need for digital literacy as an opportunity to enjoy the right to education. In 2018, the right to access and use the Internet was also recognized by Article 17, Clause 4 of the Constitution of Georgia. The relevance of the topic is confirmed by a number of studies conducted in 2010-2020 (Akende & Bamise, 2017; Adedotun, 2015). According to the European Commission, digital literacy for a citizen of the 21st century represents the necessary knowledge and skills without which it is impossible to fully participate in public activities and socialize. The UNESCO Institute for Information Technology in Education refers to digital literacy as an integral part of education and a component of life skills for the new century (Laar, Alexander J. A. M., van Dijk, & de Haan, 2020).

Based on the analysis of the existing literature and research on this issue, which includes the experience of countries around the world, as well as Georgia, we can conclude that the pandemic has really had a great impact on higher education and pushed it to digital transformation, which implies overcoming of many challenges. However, these challenges were not insurmountable for Georgia. In the midst of the pandemic, the Organization for Economic Co-operation and Development (OECD) has named Georgia and Finland among the top 98 countries for their distance learning and continuing education process (OECD, 2020). Microsoft praised these two countries for promoting distance learning.

On the one hand, it was revealed that it was actually possible to conduct the teaching-learning process in an online format but, on the other hand, vulnerable groups found themselves in a difficult situation. They needed to have access to devices and connection capabilities in order to engage in the teaching-learning process remotely, to listen/watch/read the recorded lectures, e-resources, textbooks and other educational assets. Halas, not all could afford it. Equally challenging, some learners did not have the necessary digital skills in order to search and use all resources (Bendeliani, 2020).

In Georgia, distance learning as a means of non-formal learning was not a novelty, but this type of learning was not large-scale until recent, unfamiliar events. Due to the Covid-19 pandemic, the higher education institutions were facing a choice - they either had to create a safe environment to ensure health and conduct the education process in the classrooms or work remotely and manage online teaching-learning process via Internet. Due to the severity of the situation, it was decided to keep the remote teaching-learning process in online mode. Despite the force majeure situation, the universities were still able to quickly adapt to this challenge and soon began online lecture-seminars. All this, in turn, has led to the introduction of new policy directly related to online learning and the teaching-learning process in general: E-learning, distance learning, online learning, mixed learning, hybrid learning (Bakradze, 2020).

Distance education was developed differently in different countries, but it created problems for everyone because no one was ready for such mass and sudden switch to distance learning. The difference was that the countries that were advanced in this direction had to overcome less problems than those who were not (Abkhazava, 2020).

A key condition to the success of online education is the ability and experience of educational institutions, pupils, students and teachers to create and / or use appropriate resources for distance education through modern educational technologies, as well as independently plan, manage and participate in the distance learning process. The emergence of such skills or

technical capabilities in a short period of time across Georgia proved virtually impossible. The Ministry of Education has suddenly granted freedom to educational institutions, teachers and students, which, in turn, has led to a partial shift in responsibilities (Abkhazava, 2020). However, since all universities faced a common challenge, they successfully overcame these challenges through cooperation. Universities have also been guided by the recommended principles of e-learning and quality assurance developed by the European Association for Quality Assurance in Higher Education (ENQA) (OECD, 2020).

Higher Education institutions had a responsibility to uncover the problems and challenges regarding online learning during the pandemic, as it is no less important to assess the circumstances and results after the end of the pandemic. Along with the pandemic, online teaching has ended in the Georgian educational space, as the legislation of Georgia returned to this prohibition. However, it should be noted that with such an approach, going back to the old standards and refusing to use modern approaches of information technologies in education creates a problem for the further development of universities. Tackling this issue carries an urgency label, accordingly, the present study set out to identify, understand and analyze the possible approaches to online education that can be continued and developed in the process of teaching and learning in universities, in the future.

The following research questions will be answered:

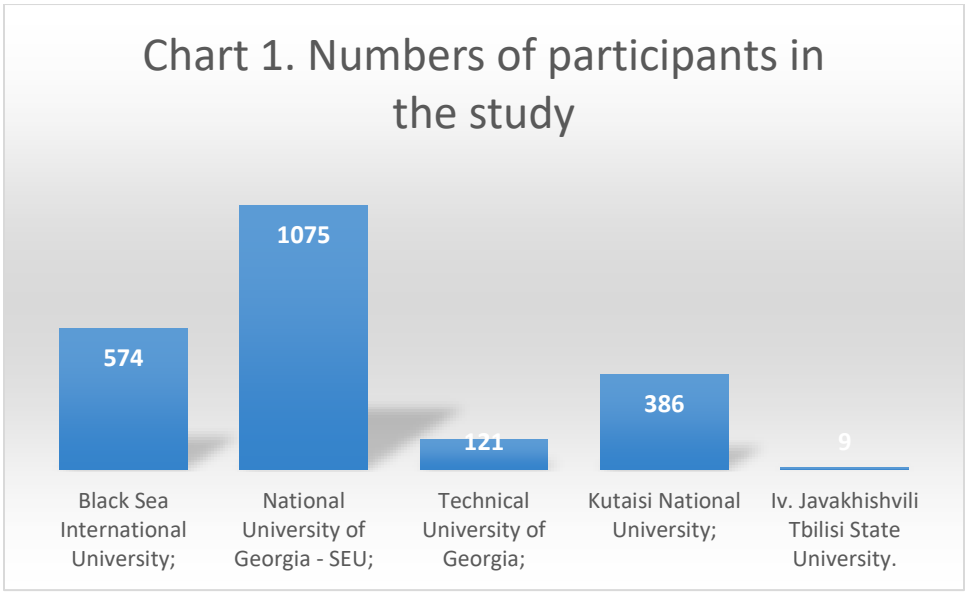
- **What problems did students face after transitioning to e-learning in higher educational institutions?**
- **What are the strengths of e-learning that can be developed over classroom teaching in the post-pandemic era?**
- **How is it possible to ensure a quality learning process by integrating the strengths and acquired skills as a result of two years of e-learning experience into the teaching-learning process?**

Method

In order to find answers to the above questions, the present study was carried out in the I-II quarter in 2022. An online questionnaire was selected (Saliaj, 2021), through which a survey of students of higher educational institutions was carried out. Students of three public and two private universities participated in the survey (Chart #1).

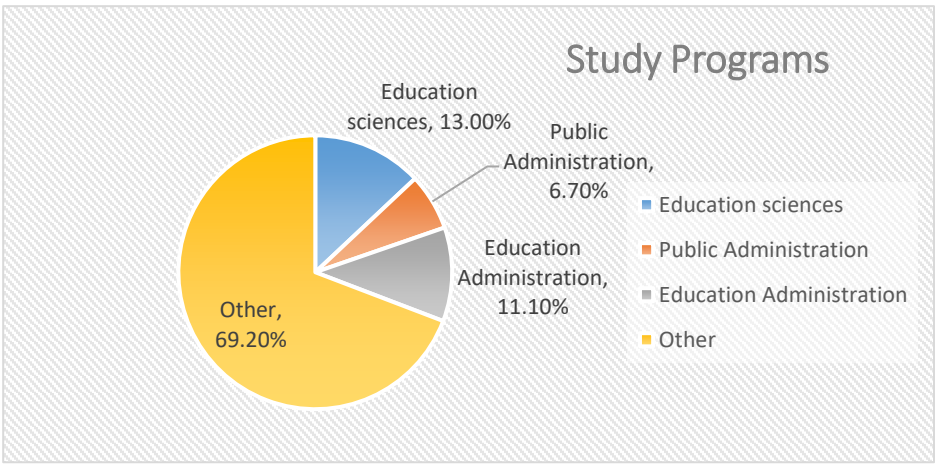
Namely:

- Black Sea International University;
- National University of Georgia - SEU;
- Technical University of Georgia;
- Kutaisi National University;
- Iv. Javakhishvili Tbilisi State University.

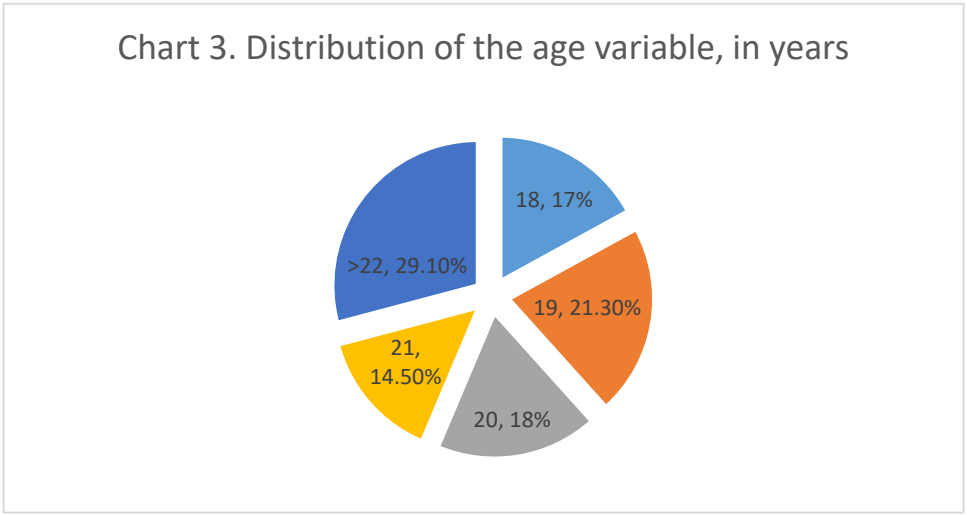


Quantitative and qualitative research was used as a research design. The questionnaire was deemed valid and reliable, with a coefficient of Kronback's alpha .84, consisting of 21 open and closed questions (Saliaj, 2021). The questionnaire was prepared and sent through Google forms online questionnaire. Data analysis of open-ended questions were processed in MAXQDA. Accordingly, the responses were categorized and coded. A total of 2160 students from the above-mentioned universities participated in the anonymous survey. Of these, 907 students represented rural areas and 1253 represented urban areas. Students represented more than 10 different educational programs at all three levels of higher education (undergraduate, graduate and doctoral levels) (Chart #2).

Chart 2. Educational programs represented in the stud

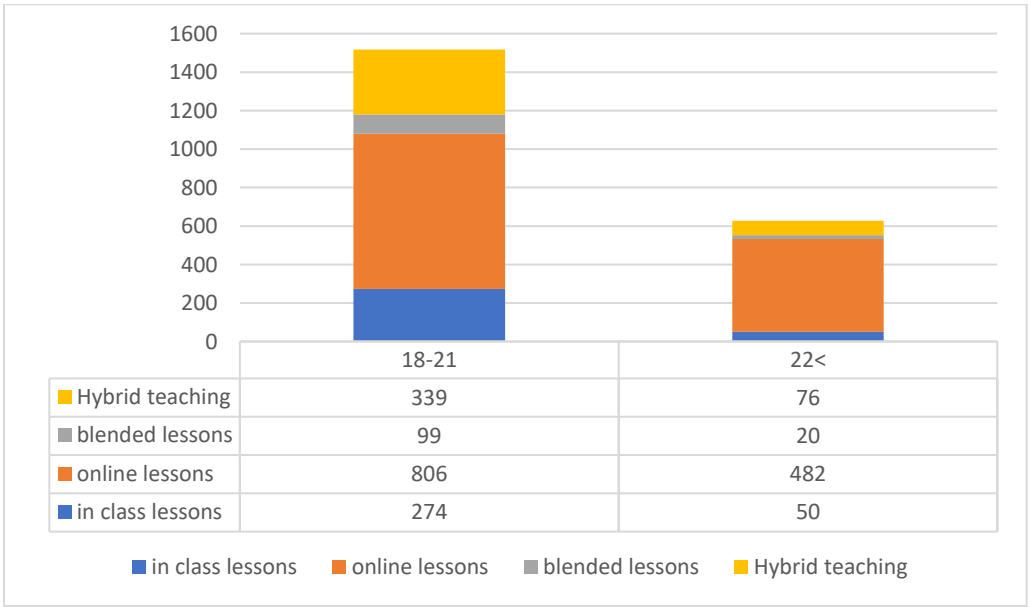


Results
Socio-demographic information
Age



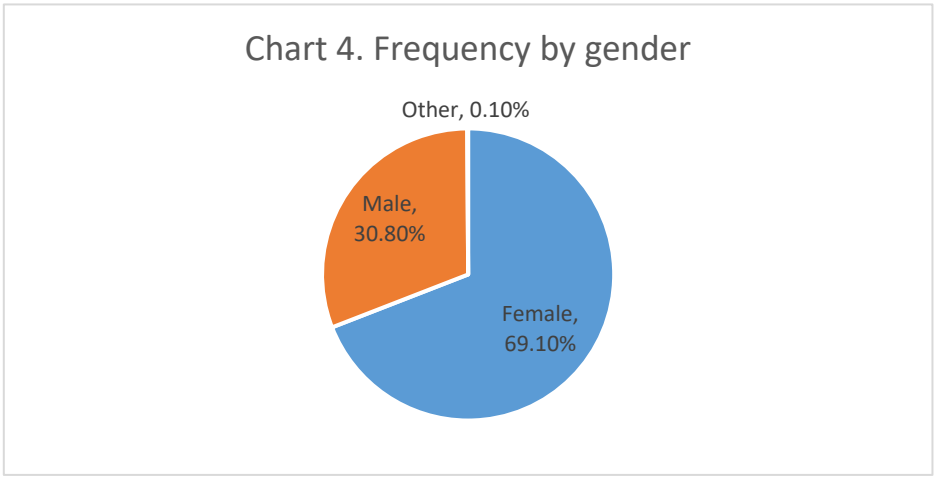
The age of the surveyed students was calculated according to the following ratio, the result was almost evenly distributed in percentage, see chart #3.

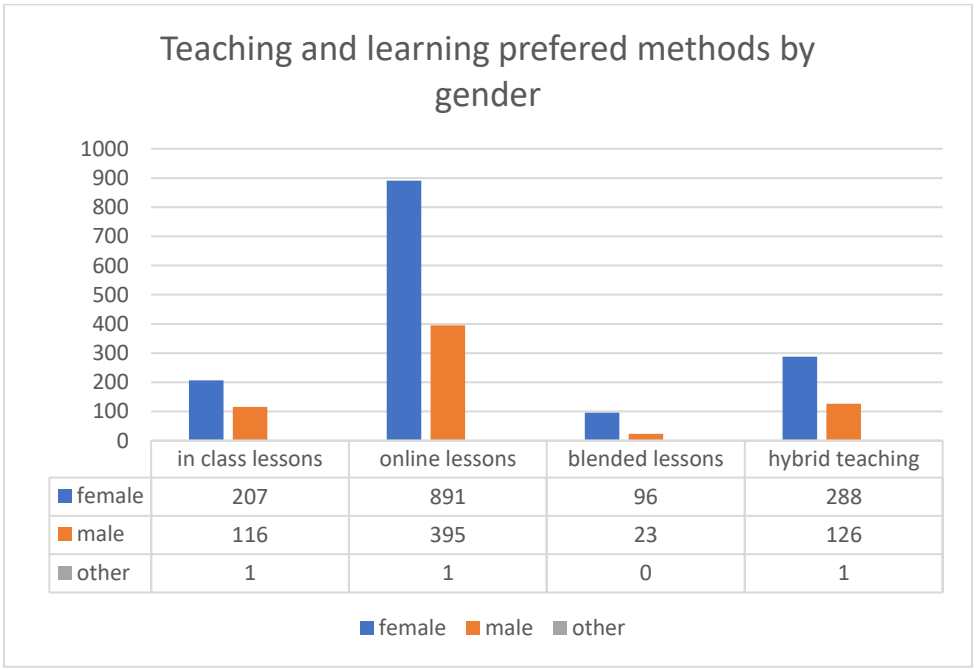
According to age, the preference of students between 18-21 years and after 22 years regarding the form of education remains in the first place for online education, and the second place for hybrid education, as it is illustrated bellow:



Gender

According to gender, 69.1% of respondents were female, 30.8% were male, 0.1% other (Chart #4).

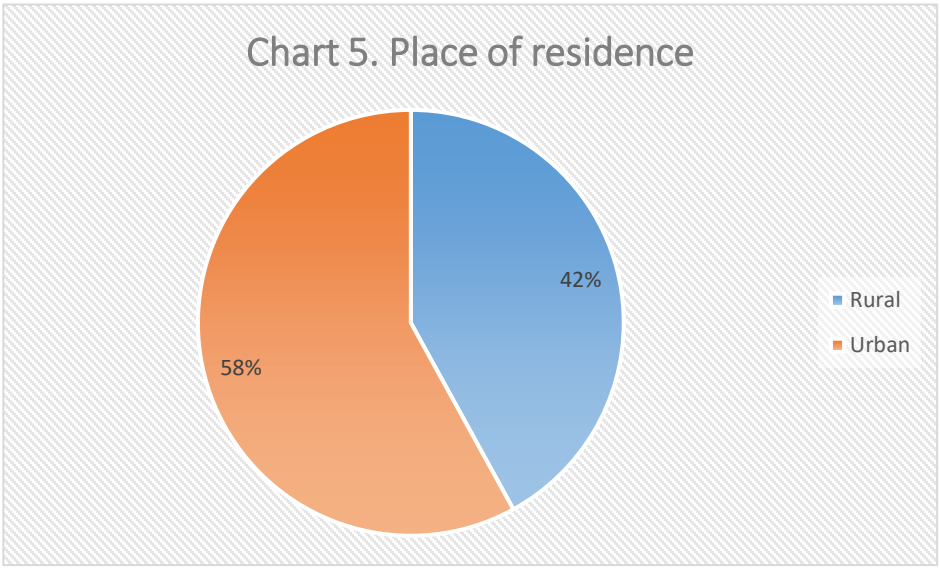




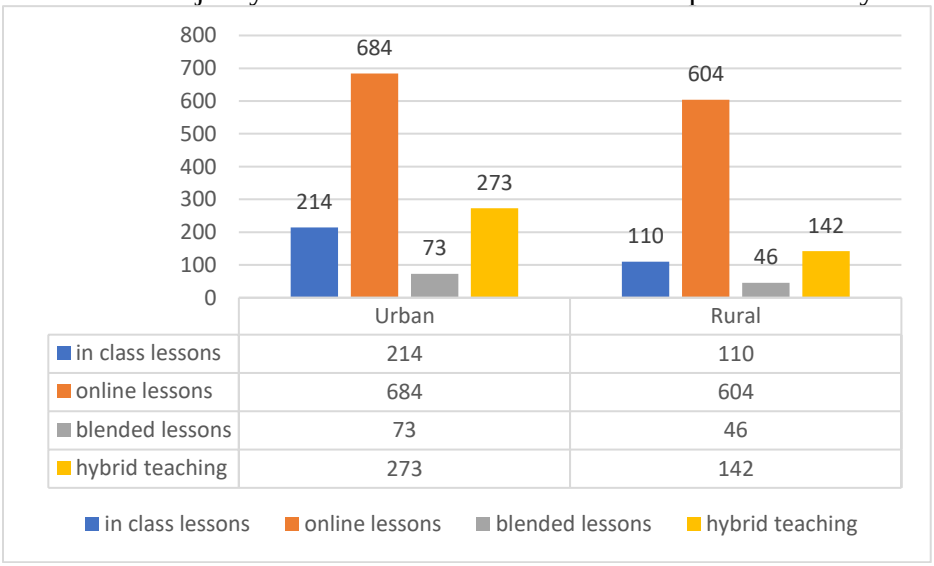
From the gender variable stand point, online education always presents an advantage.

Place of residence

The distribution of participants by region and city represents the following ratio: 58.0% live in the city and 42.0% in the region (Chart #5).



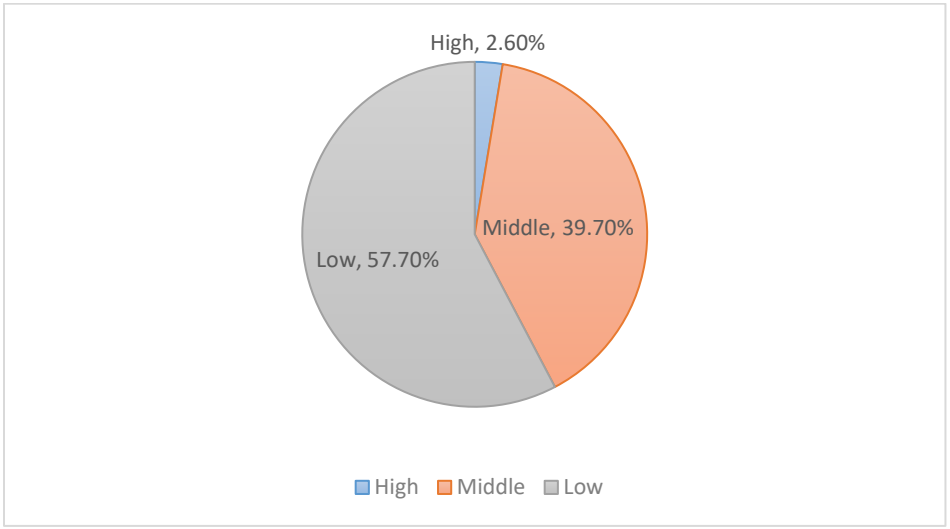
The majority of both urban and rural students prefer to study online.



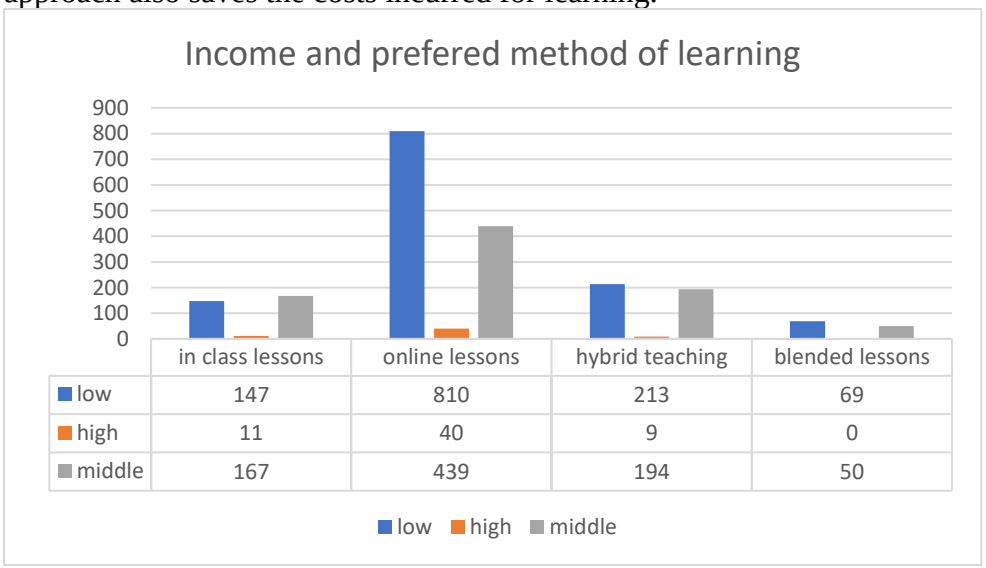
Monthly income

The monthly income of students presented the following distribution: 2.6% have high income, 39.7% medium income, and 57.7% low income (Chart 6).

Chart 6. Distribution of student income



More students with low and middle income than higher income want to study online. Hybrid learning comes in next, since the mentioned approach also saves the costs incurred for learning.

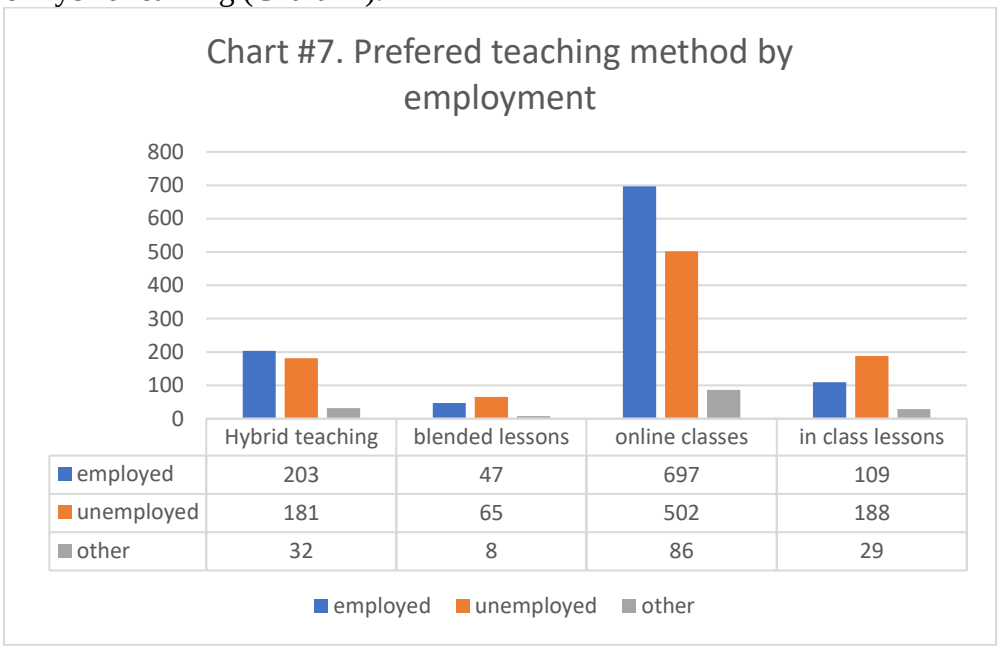


	in class lessons	online lessons	hybrid teaching	blended lessons
low	147	810	213	69
high	11	40	9	0
middle	167	439	194	50

Employment Status

The number of employed students prevails at 37% full-time and 15% part-time, while a great number, 48%, are unemployed, which should be considered an unexpected result. This phenomenon is not alien to today's Georgian reality, since the majority of students are forced to work and study at the same time to sustain themselves and ensure payment of their own expenses (study, travel, housing and food). This picture may justify

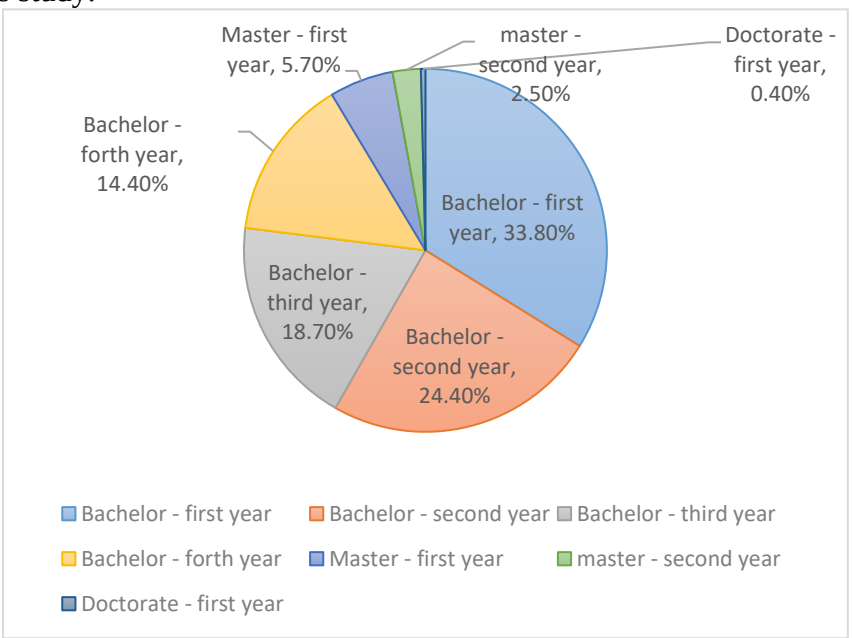
preference for more flexibility such as hybrid or mixed teaching methods. However, even among unemployed students, the vast majority prefer online or hybrid learning (Chart #7).



	Hybrid teaching	blended lessons	online classes	in class lessons
employed	203	47	697	109
unemployed	181	65	502	188
other	32	8	86	29

Academic status

Students from more than 10 study program from 5 universities participated in this study.

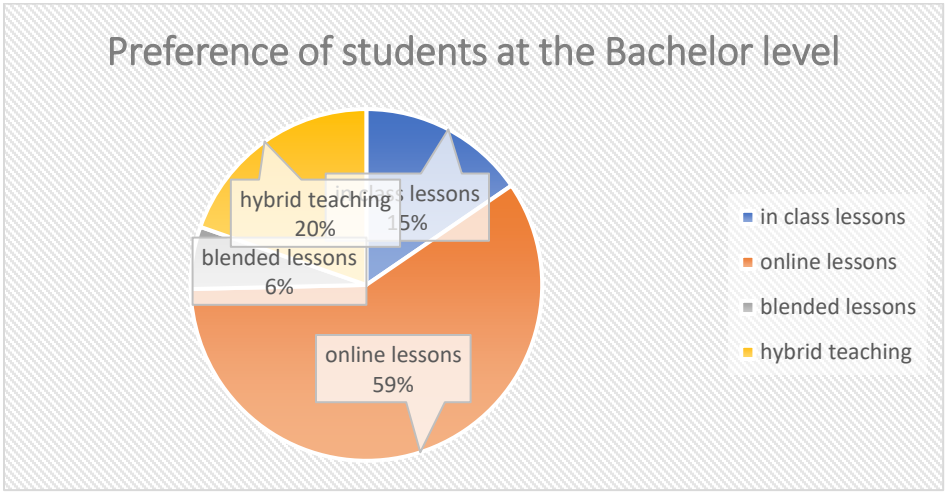


Here is the distribution of students by program cycle:

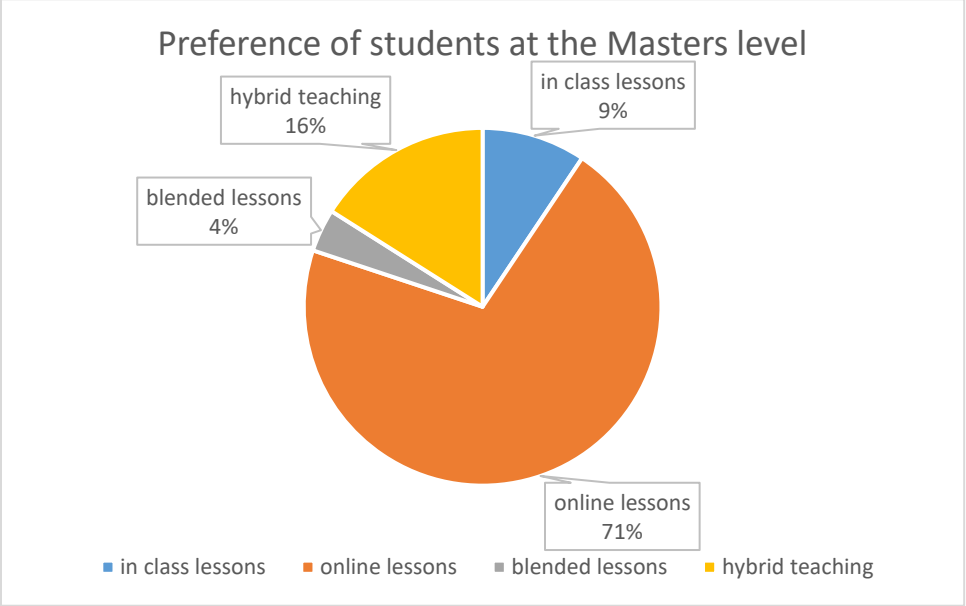
	Undergraduate students	Master's degree	Doctorate
First year:	33.8%	5.7%	0.4%
Second year:	24.4%	2.5%	
Third year:	18%		
Fourth year:	14.45%		

The data clearly shows the participation between education levels. When filling out the questionnaire, first and second year undergraduate students are more active. The dynamics of decreasing student participation is observed at the bachelor's level of the third and fourth academic years. With the same logic, the first and second academic years at the master's level attract less students to participate. At the doctoral level, participation is observed only in the first year. It should be noted here that the duration of a doctoral program in Georgia is generally three years. The program consists of theoretical and research components. In the first year, the students mainly follow the educational component. In subsequent years, the research component prevails, therefore, online learning is less relevant in the following years. This may explain the low participation during the first year and the absence of it in all in the following years. The effectives are also reduced at the master and doctoral levels compared to the undergraduate level. It should also be noted that one teaching university, with no doctoral degree, participated in the study. As for the number of trade programs, almost all programs implemented by the universities took part in the survey.

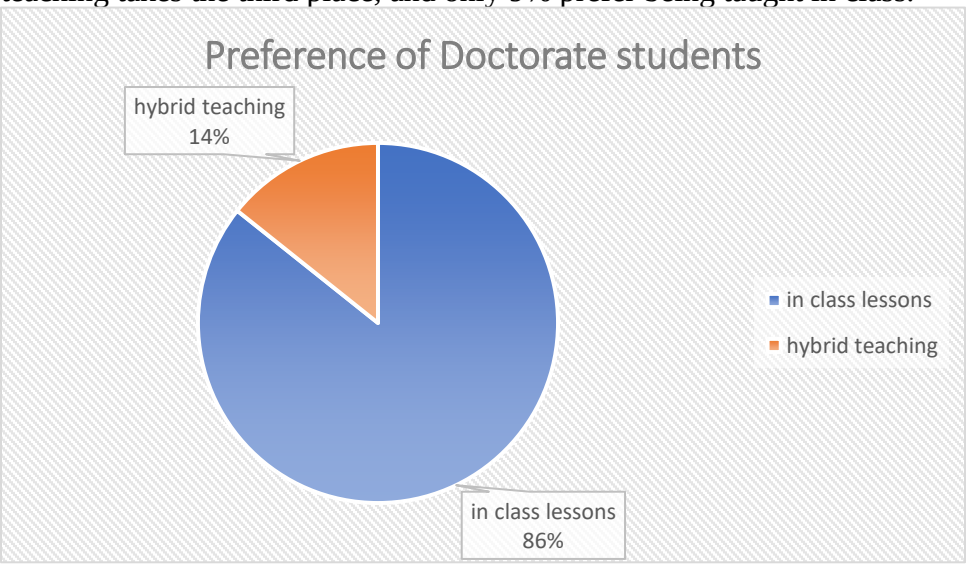
Here, too, online learning gained an advantage at the undergraduate, master's and doctoral levels. It is interesting to observe the results of bachelor's, master's, doctorate at each level according to the percentage distribution:



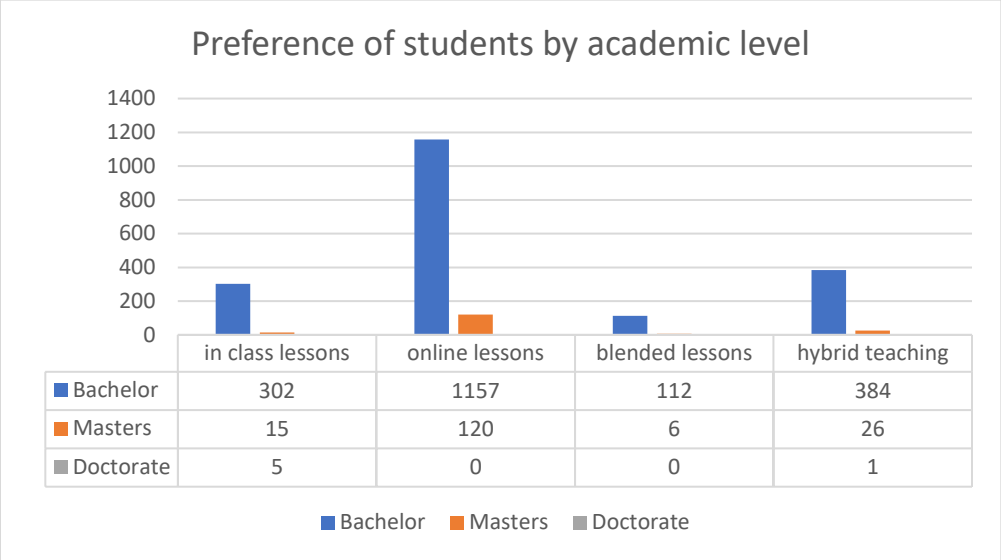
In the context of the education levels, a surprising finding is that 59% of the undergraduate students are in favor of online learning, and hybrid learning takes the second place with 20%; 15% are in favor of classroom teaching, and 6% prefer mixed learning.



A higher percentage of those seeking graduate degrees prefer online teaching at 71%, followed by hybrid learning at 16%. Here, 4% of mixed teaching takes the third place, and only 9% prefer being taught in class.



At the doctoral level, only two indicators were identified, namely 86% preferring in class teaching and 14% preferring hybrid education.



Overall, the vast majority of students are willing to study online. Those who want online lectures are followed by the number of those favoring hybrid learning. As for the data received in the field of doctoral education, since only 6 students participated, the issue of considering the data as representative is called into question.

Online teaching experience

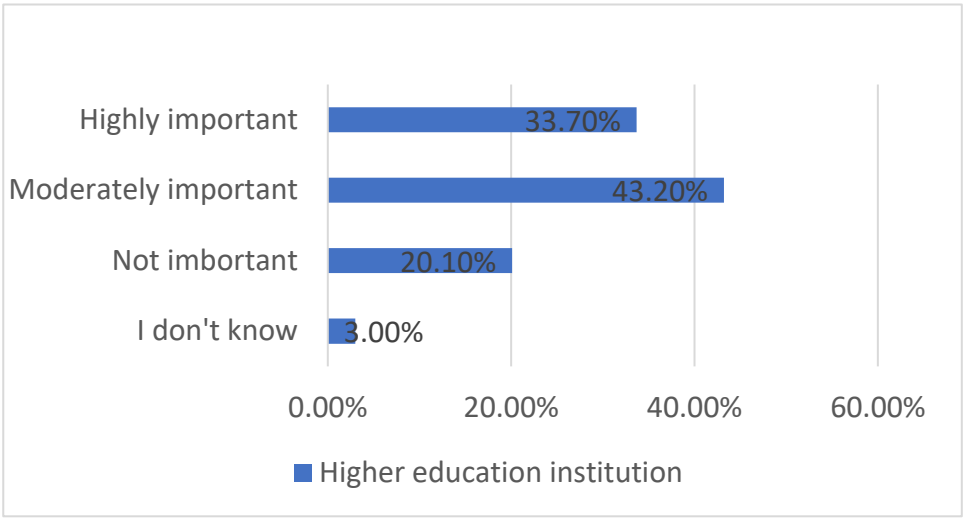
Survey question: Have you experienced online learning before the pandemic Covid-19?

One of the first questions asked about access to the Internet, an important factor for further assessment, is the availability of an online connection. Interestingly, 61% had no online learning experience at the onset of the pandemic. Although the majority of students have had no experience with online learning, they still prefer online learning (59.5%), classroom lectures (14.9%), hybrid learning (19.1%) or blended learning (5.4%). The most common and justified reason reported about this choice is to save resources, as most students want to save time and money allotted to transportation and accommodation.

Survey question: Is the screen size of your device important when attending online lectures?

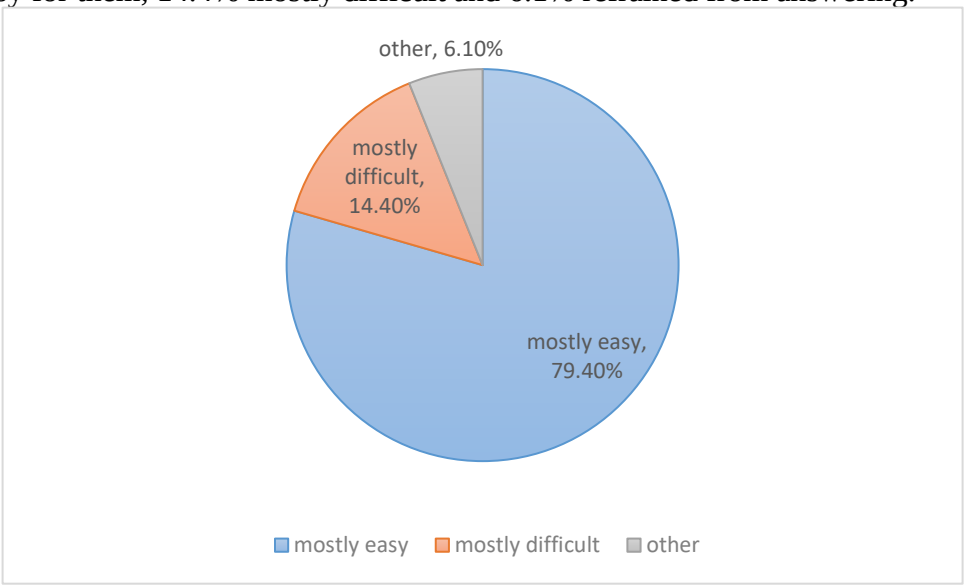
For the majority of students, the screen size of their device is moderately important (43.20%) or very important (33.70%).

Distribution of importance of screen size



Survey question: Rate your access to Internet for your online class/school work

Most participants (79.4%) indicated that online learning is mostly easy for them, 14.4% mostly difficult and 6.1% refrained from answering.



Survey question: When you miss lessons it happens because…

In answering this question, 45.9% of students declare that they do not miss lectures; 18.6% of students mostly miss lectures in class. The reasons for missing lectures are work, family (mainly mentioned by women), transport problems (traffic jams, lack of time and resources), as well as

problems related to renting housing for people living in the region, due to the influx of citizens of Russia, Belarus and Ukraine since the war between Russia and Ukraine, due to the shortage of apartments for rent and inadequately increased prices and cost of living in Georgia. Many students indicate missing online lectures for technical problems (31.1%), such as lack of internet, low income or no internet at all in some areas, slow internet connection, lack of light, as well as other types of technical problems. Others report low motivation, unsuitable conditions in the family, lack of appropriate technical equipment due to low income in the family, uninteresting lectures, low motivation in online learning, inability to view lecture notes, concentration problems when listening to long online lectures or lack of student engagement during online lectures.

Teaching methods

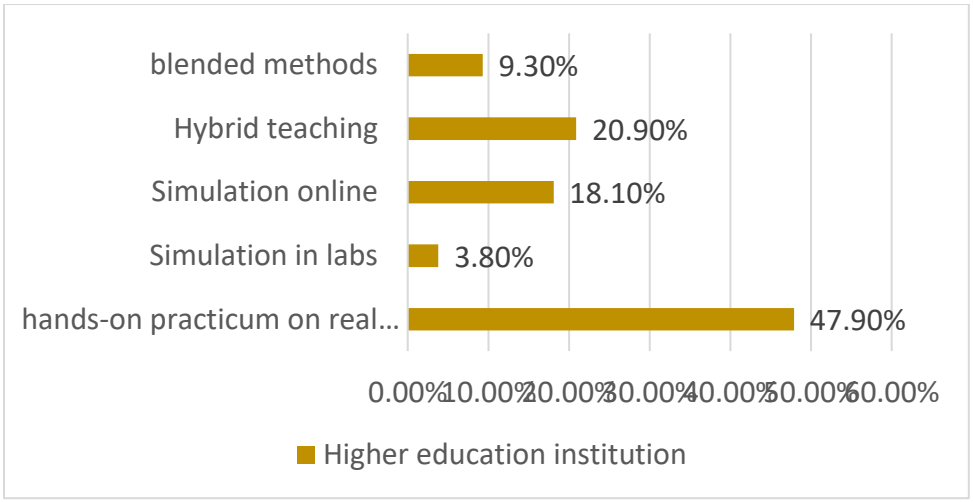
Survey question: In my experience, the learning objectives are better achieved through…

According to their experience, 41% of the students participating in the research believe that learning outcomes can be achieved mostly through online teaching, 19% through hybrid, 7% consider blended teaching more flexible, and for 33% it is easier to achieve learning outcomes through classroom teaching.

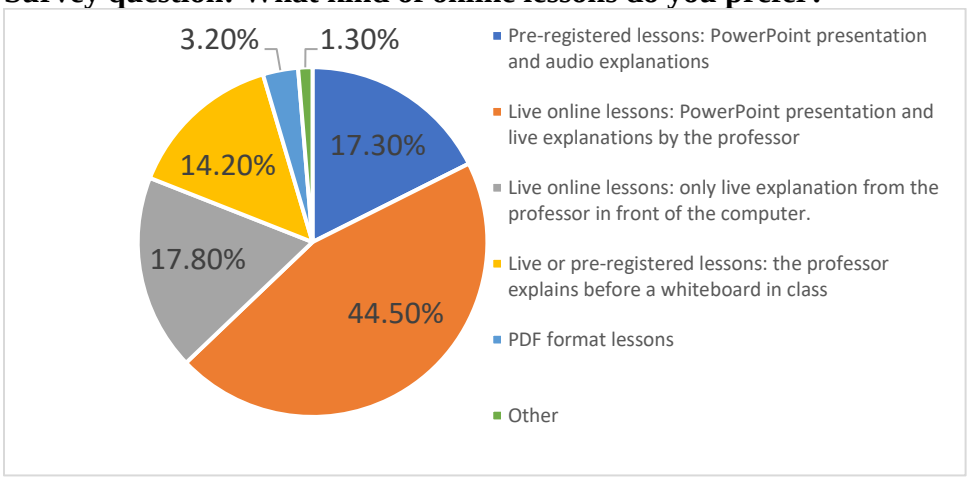
It is important to understand why the percentage of hybrid and blended learning is so different from online learning and classroom learning. It is natural that some of the students who prefer online teaching want to be able to learn in a hybrid approach after providing the appropriate technical means and unite with students in groups who have the desire to study in the classroom. However, despite the fact that at the beginning of filling out the questionnaire, the students were provided with the definition of all the forms of education, it is still possible to assume that the forms of education needed more clarification and significant efforts should be spent in this direction in future research. Here, the issue arises in connection with the availability of the necessary technical means for online education in Georgia. The adequacy of online access is mostly easy (79.4%), mostly difficult (14.4%), other (6.10%), according to the participants in this survey.

Survey question: If your program includes practicum or experiential learning, which method do you prefer?

The following diagram illustrates that 47,9% of the participants prefer hands-on practicum on real beneficiaries. When it comes to simulations, students prefer the kind of simulations in a virtual environment, an important finding of modern innovative approaches to teaching and learning.



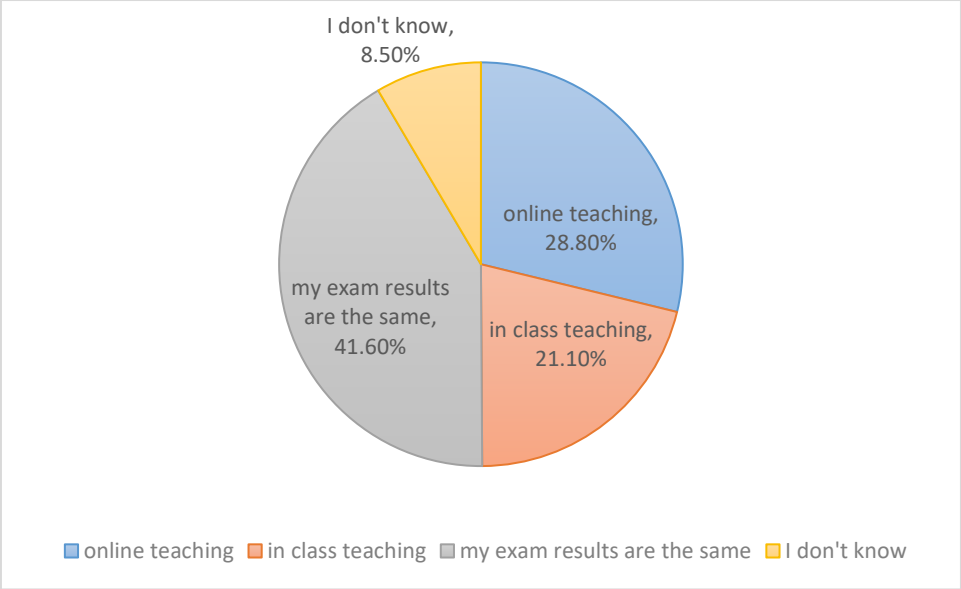
Survey question: What kind of online lessons do you prefer?



Almost half of the participants prefer live online lessons presented by the professor in Power Point style presentation.

Survey question: I have had better evaluation results through….

When asking about writing exams online, it is important to consider the risk, such as rewriting or academic dishonesty. The results were almost evenly distributed, with 28.8% reporting better results on exams attributed to online learning, and 21.1% to classroom learning. The largest percentage, 41.6% of the students declared that they would obtain the same result in both cases. Only 8.5 indicated that they do not have an answer to the question.



The future of online learning

Survey question: What type of teaching would you prefer next year?

The largest majority of students (59.5%) prefer online education and second place supporters of hybrid education (19.1%). Classroom teaching ranks third with 14.9%, and blended teaching ranks last with 5.4%.

Survey question: When the next semester commences, would you prefer to maintain some elements of online learning?

The desire to use elements of online learning in classroom teaching leads with a majority (66.1%), while 19.4% would refuse to integrate elements of online learning in the classroom, and 14.5% do not know, meaning that if shown significant benefits, participants desire for a particular approach might turn to positive.

Survey question: What elements of online learning would you like to see implemented while being taught in the classroom?

The participants answers to this question show that they understood the modern needs of the future education and their professional development. Here are the most frequent opinions that students included in their answers to this open question:

- Recorded lectures, uploading assignments to online platforms;
- When teaching takes place in the auditorium, I would like to be e-mailed the lecture material before class, then the material explained in front of the audience.
- Discussing the challenges of the virtual world and alternatives;

- In my opinion, it is better to have online lectures-seminars every day, except for group work or practicum, which would be more interesting and effective for the audience;
- Probably a hybrid method that is, when the student is unable to learn, he would be included in the lecture process;
- For programs where it is necessary to acquire practical knowledge, it would be good if there was a practical component, however, in the Faculty of Business, I think it is preferable to leave all the components online;
- Conducting lectures online would be preferable and seminars in auditoriums;
- Online lectures with leading foreign specialists who cannot come to Georgia to meet with them to share their experience;
- Using innovative platforms such as Moodle, Padlet, menti.com, Ka hoot, Quizzes and other platforms where lecturers can demonstrate their knowledge easier.
- We all participate in online seminars and during hybrid teaching, we remain online without a lead, and the lecturer's answer is that the instructor can't survey everyone. It is important for the lecturer to have clear knowledge of appropriate approaches so that no one is left unattended.
- Activities that we do online without any problems: for example, the use of various innovative web pages, through which it is easier for the student to receive information.

Survey question: What suggestions would you have for improving online learning?

No less relevant are the suggestions of students for improving online education, which can be considered when planning future education. In response to this research question, the most frequent suggestions are presented below:

- Training of lecturers in technical matters is essential. Some lecturers are not familiar with new technologies, then it becomes difficult for them to teach and for the students to understand the lecture; academic staff must have modern high-definition devices for high-quality sound recording and microphone use. For more visibility, they should use presentations and various video recordings. Appropriate training of lecturers in preparation of adequate programs and practical work, as well as online teaching. Lectures should be conducted with the text specified in advance by the lecturer. Recording of lectures by all lecturers and providing the material.

- Everyone wants quality education, but backstage is different. Some students find online lectures tiring, sitting in front of the screen for 3 hours and more. More activities, perhaps trying new platforms, would be fun and productive. More interactive classes, more practical assignments and different methods to increase student engagement. Using more online platforms will help the student to grasp the knowledge gained during the lecture through practical exercises;
- The technical side also needs improvement. Better internet connectivity and better provision of different learning opportunities. Free internet for everyone, improvement of technical equipment.
- The positive side of online learning is that students are able to work in a parallel mode, therefore they have income and better living conditions, but on the other hand, the level of learning decreases, here it is important to use modern technologies effectively.
- Some students think that online learning has given them better results, since they could get rid of crowded buses, standing in line to get on the transport. The time saved was devoted to studying or a healthy life. The easy access from anywhere is also important. Students find online learning Convenient and comfortable - studying anywhere in the world without leaving home and reducing cost. Online course is more affordable and does not require travel and accommodation expenses. Podcasts, video and other visual elements, as well as e-books are available anywhere there is an Internet connection.
- It is easy to cheat during online exams. While the lecturers are able to effectively create such tests that minimize the possibility of cheating, it is important to improve the work in this direction.

Discussion

In the 21st century, all students around the world, even in the most isolated places, should have access to Internet. A relatively less important but somewhat wider problem is the quality of the Internet connection and its stability. This issue mostly concerns students living in rural areas, who are provided with consistently low-quality Internet. Periodically, speed changes and drops are also observed in cities and regions.

In addition to the direct Internet connection, it is not enough to have an Internet connection to make the most of Internet resources and Internet opportunities in the educational process. Along with it, it is important to have appropriate digital equipment. Despite the digital age, it is impossible to properly use all Internet resources only through mobile phones, therefore not having a computer device prevents students from using these resources and properly engaging in the learning process. In this regard, this study showed

that 14.4% of students still do not have easy access to internet and computer devices, despite the efforts of some universities to eliminate this problem.

The issue of assessment in online education remains a definite problem. Based on the current assessment approaches, the student has more opportunities to behave dishonestly while taking the online exam. The students themselves note the need for diversity of the assessment system and teaching methods, which should ultimately ensure the acquisition of knowledge and minimize dishonesty when writing exams. It is also important to prepare lecturers with relevant IT skills to create online learning content and exams.

Students living in areas where electricity and internet are not reliable find their rights regarding access to education being violated. The research showed that such problems are mainly faced by students living on the border and in the territory of Abkhazia. This study showed that the following barriers hindered students in the process of distance learning: access to equipment and the Internet, problematic feedback and communication between lecturers and students during the teaching and learning process, stressful work and learning process, especially for first-year students.

All the students involved in the educational process actively used the Internet, both in the academic and administrative part, without a choice in the matter, especially after the transition to a distance learning format, which contributed to the improvement of digital literacy among students. For the final conclusion, it can be said that the majority of students possess digital skills. Now, with the pandemic behind us, it is important not to forget these skills, and to further develop them.

Based on this survey, it can be surmised that e-learning has many benefits for students. It revealed that online learning makes the educational process more student-centered and flexible. According to this study, students find online learning very useful and perceive it positively and 66% of surveyed students want to continue studying online while only 19% are against it. These percentages clearly show the views of the students of the higher education institution regarding this issue and the importance and benefit of its further development. Furthermore, the majority of participants favors online teaching and/or the use of its elements in classrooms.

Recommendations and conclusion

In the future, the adequate use of Internet technologies by teachers and students will continue to significantly contribute to the improvement of the quality of education, the transfer of knowledge and skills that will help them continue their education independently, the basis of lifelong learning. One of the most important factors for the successful implementation of the above processes is the availability of the Internet, affected by several factors:

- The existence of appropriate legal environment and regulatory documents;
- Internet access by higher educational institutions, teachers and students;
- Providing stake holders with digital literacy and skills for proper, targeted use of the Internet.

In reviewing this study's results, several important conclusions are highlighted. Variables such as students' place of residence, gender and employment status influence their social background. For those students who live in the city, the distance learning process was less problematic from a social point of view, meaning access to the Internet and technology. However, despite the fact that students in the rural areas faced various technical problems related to the full accessibility of distance learning, with some delays, they were still able to get results in the course of studies and successfully complete each semester for two years.

The distance learning process turned out to be favorable for undergraduate, graduate and doctoral students, especially for those who could not attend lectures-seminars due to work. There were also students who lost their jobs and could not afford to pay the tuition fee. It was for this reason that some had to temporarily postpone their studies. However, some universities provided some relief for the benefit of students. This is the advantage of private universities compared to state universities, as it turned out that private universities are able to respond to problems quicker than the state ones.

As for the general background, the study showed that the universities tried to react quickly to problems, but due to inexperience in such matters, it was still not possible to carry out distance learning perfectly. Today, when the state has already returned the educational process to in class teaching, the opportunities for development in this direction have been shrinking.

Is it possible to ensure a quality learning process by integrating the strengths identified as a result of two years of online learning experience into the learning process? Several recommendations regarding the possibility of continuing e-learning in higher education in the post-pandemic period can be outlined, as follows:

- Consider the possibility and allow universities to integrate elements of online learning into university-classroom teaching, considering the relevant requirements and risk protection. The present as well as various other studies can be used as a reference.
- The vast majority at the undergraduate and especially the graduate level students are willing to learn online or at least use a hybrid method of teaching. Only in programs for which practical learning

constitutes an important component, there is a request for a hybrid teaching approach: theoretical part – online, practicum – live face to face. The approach to access the practical component through online simulations becomes interesting and needs to be explored through modern innovative teaching methods.

In order to finally achieve the desired results, several key issues are identified:

Accessibility - The first and necessary condition for the accessibility of online education is the appropriate **infrastructure** and universal access to resources. Availability of adequate broadband infrastructure is essential for students to take full advantage of the Internet. The Internet Society also notes that approximately 4 times more people in developed countries have access to the Internet than in developing countries (InternetSociety, 2017). In this regard, the rural areas are especially problematic. They are either not provided with Internet at all, or it is very low-speed. Access to Internet remains a challenge for some students due to their low economic status. Internet access is especially important for students living in geographically inaccessible, hard-to-reach areas, or for socially vulnerable students. Some of them either do not have access or have access to low-speed Internet. However, the barrier to access the Internet, beyond the lack of Internet connection, may also signify lack of appropriate equipment or digital skills (UNICEF, 2017).

Vision and Policy - Information and communication technology specialists, as well as education policy makers should collaborate to develop a vision and policy that integrates technology into education, in view of its development. Identifying strengths and weaknesses in the field of education, setting attainable goals, objectives, then implementing and finally monitoring the integration of Internet in education would enable the system to better perform in delivering better quality education.

Potential - The Internet is a quick and easy way to access information helping individuals develop their knowledge, education, and skills required in today's society. The development of the entire country and its economy take shape through the Internet (Bartolo, 2014). The youth of the country, through its students, must be able to cultivate this potential to significantly increase the progress and success of Georgia as a developing nation, in all directions.

In reflecting upon the results of the present study and the opportunities ahead, several directions are envisioned at the national level.

- Review current accreditation standards and consider opportunities to provide online and/or hybrid or blended teaching supported by

legislation, while at the same time developing mechanisms to ensure quality learning;
- Ensure the availability of online learning and other necessary resources for all students, without exception;
- Provide adequate assistance in teaching programs such as medical, artistic and other professional programs;
- Provide administrative and academic staff to universities, capable to develop electronic learning resources and use relevant standardized teaching methods to be recommended and enforced;
- Consider the creation of an individualized learning environment for people with special needs;
- Consider the needs of the rural vs. urban students when it comes to e-learning;
- In order for Georgia not to lag behind in the development of a world class education, consider an international collaborative approach which may stimulate and simplify the issue of fully implementing online and hybrid learning.

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