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WHAT ARE THE ADVANTAGES AND DISADVANTAGES OF ONLINE EDUCATION IN 2020-2022 CAUSED BY COVID-19?

(COMMON ISSUES AND SOLUTIONS FROM TEACHERS' PERSPECTIVE)

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ABSTRACT

During the pandemic period, all educational institutions around the world were closed for offline sessions and transferred to online studying. Such a prerequisite caused a lot of irregularities which made many classes fail to operate. Causing this, there was not a single causative factor but a complex combination of many different aspects

The main challenge lies as follows: online education is a new step in the educational system that can limitedly support education in pandemic situations when face-to-face meetings are not allowed.

This research aims to define online education. Also, there are some questions: what are the advantages of online education? What are the disadvantages of online education? What are the impacts of COVID? After answering these questions, the findings will show how much importance online education has for the constant learning process and stability.

During 2020-2022, the necessity of online learning caused by the COVID-19 pandemic unveiled a lot of aspects. In order to collect proper data, a qualitative research method organizing interviews with 5 teachers and a quantitative research method surveying 10 students about online teaching aspects were utilized. In addition, some online sessions were observed.

The results indicate that online learning comprises a complex combination of positive and negative impacts. Advantages and disadvantages equally outweigh each other, but online education stands out as the best approach in a pandemic situation to keep education alive and facilitate tense global lock-downs as well as encourage the society not to collapse. Thus, using e-technologies in practice is going to be widely used and this process is irreversible

Keywords: online education, e-learning, technology use, personalization, flexibility, COVID-19, advantages, disadvantages, school closure, virtual learning

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CHAPTER 1: INTRODUCTION

In order to determine online education, its advantages and disadvantages as well as COVID's impacts on it, a very deep analysis should be done. It is also worth mentioning that online education is already an integral part of the 21ˢᵗ century educational systems as far as technologies develop constantly. Technology use flows more and more solidly into every part of life. Accordingly, as a young researcher Josep says " we are entering a new era – the revolution of online education".

The importance of online education has been raised massively by the outbreak of COVID 19, since all educational systems worldwide have been forced to transfer to online learning. Of course, it has not been an easy trail, but full of numerous obstacles that unconditionally needed to be overcome. It happened so that progress and necessity coincided and gave us a new reality in which e-learning became dominant.

There are a lot of opposite views, but online education still remains as the most relevant tool against the pandemic. The way society can tackle recent daily issues mainly relies on e-technologies. After the first hit that the educational system received, that was devastating for students, especially at elementary and secondary levels, kids and teens found themselves in a full confusion about how to work through electronic gadgets to join classes. Also, teachers were in a worse situation. But, „as students have access to new technologies which helps them to learn and retain information in a far better manner" (Dani, 2019), somehow the overall pandemic situation for education have been improved covering adults' powerlessness and governmental unpreparedness and led the whole system to working properly.

Afterall, online education will be seen as the most appropriate approach that can alter traditional classroom educational processes that can't stand against pandemic lockdowns and restrictions. So, whenever the situation requires locking indoors, online education can help the society to keep functioning normally and stably.

This paper is divided into four main parts. The first part deals with literature review about online education. This chapter unfolds several points such as definitions of online education, its advantages and disadvantages and Covid-19's impacts; The second part describes methodology and the steps of the research that were conducted to collect and analyze data, using both qualitative and quantitative research strategies. The third part states the results. The fourth part is the discussion of the findings. And the last is a conclusion.

CHAPTER 2: LITERATURE REVIEW

The theoretical materials of this study is based on the literature about online education. All the aspects of the topic cover the present common approaches of the online learning process, which has encompassed educational systems throughout the world. And, as mankind faced this complexity, the necessity required to adapt to the new environment. Hence, researchers started to conduct new studies and many have shaped new perspectives. However, opinions vary on what the needs and solutions are. Thus, the theoretical overview starts with the definitions of main terms and continues with the topics of online education, advantages and disadvantages, and impacts of the coronavirus pandemic on education.

ONLINE EDUCATION

Online education has been a revolution in the educational world that emerged as a new opportunity and a way of teaching especially during the last 2-3 decades. As new technologies develop, they give wider possibilities to work, study, communicate, change information online and provide all the required goods.

To start with, Abernathy defines e-learning as a kind of utilization of informational and communicational technologies that makes it possible to have access to online and teaching sources. According to Abbad et al (2009) e-learning is a possibility to learn electronically. Also, Larose et al (1998), Keller and Cernerud (2002) describe it as something that is based on the web and enabled by Internet use.

To overlook other scholars, Guri-Rosenbilt (2005) mentions that e-learning changed personal meetings in conventional classrooms with online sessions using electronic media platforms. She, in her work, distinguishes e-learning and online education from each other, which indicates the two terms are not similar in meaning for some authors. However, the two are often used as synonyms.

Clark and Mayer (2016) define that the learning process supported with the instructions given through digital devices is e-learning. Arkorful and Abaidoo (2015) fulfill this definition with the additional aspects of the use of technologies providing information and communication to make online learning and necessary sources available. Thus, it can be concluded that online education compiles not only the teaching process online, but also any kind of technology used in the process itself, also utilizing electronic materials and other electronic data.

Ruiz, Mintzer and Leipzig (March 2006) understand e-learning in a more complex way. Web-based learning, online learning, distributed learning, computer-assisted instructions or Internet-based learning are the phrases they use to determine the topic. At the same time, in all these terms they mean delivering instructions to the students with information technologies, availability of remote learning and computer-use for aiding the delivery of all multimedia packages.

To conclude, online education or e-learning, obviously are the same concepts according to the above-mentioned definitions. The most precise description and understanding of what it is, the closest is Abernathy's explanation. Therefore, online education is information and technology use that enables online teaching opportunities to work remotely, using the Internet, a computer, a tablet or a cell-phone and others.

THE USE OF ONLINE EDUCATION

Online education has been used in multiple ways in everyday life. In numerous business or non-business fields, this new approach has found wide use for several reasons. Firstly, businesses have started training their employees via online platforms which have reduced rental, office accommodation and infrastructure costs that eventually counts thousands and thousands of dollars. Secondly, time that both employers and employees save in case they work online is also

considerable. This also applies to educational institutions which have saved a lot of resources while lockdowns were in force. Not only the educational institutions, but also the students benefited as they did not have to commute to their studying places or spend money in copying learning materials since they started sharing PDF or JPG files in WhatsApp, Messenger, Viber and so on. On the whole, the educational system that consists of countless processes and steps in offline mode, went online.

Thus, the most significant traits of online learning according to Abernathy, are receiving and submitting assignments, test papers and results; free choices for attending lectures from their own places; the liberty to learn and progress on your own pace; time and place flexibility; Possibility to suit employment, family and learning together and so forth.

In their research, Arkorful and Abaidoo mention that e-learning in educational systems has been used quite importantly as it is a new technique of teaching, making great changes in teaching processes as well as bringing new understandings in. Yang and Arjomand (1999) underline the importance of additional choices in education that online education offers. Henry (2001) notices people's knowledge, skills and performance transformations by e-learning. By this way, Love and Fry (2006) states about a massive increase of online courses in almost all educational institutions with expanded services.

To sum up, obviously, the use of online education is going to be dominant or at least a serious opponent of conventional classroom education. Since the amount and importance of the benefits of online education can be credited, there is a big temptation for all the actors to minimize costs and increase the use of online education.

ADVANTAGES OF ONLINE EDUCATION

The advantages of using online education seem very colorful and beneficial. To start with, flexibility is one of the main assets. It seems to be a very wide term in which different authors perceive distinct understandings. For example, Zounek and Sudický credit online education as an unlimited access to whatever it may be, e.g. information, knowledge or learning. Along with this, the capability of saving information in electronic devices, including a computer, mobile phones, tablets, etc. is almost unlimited. Furthermore, sharing digital materials from students to students has become quite common.

Ruiz (2006) outlines the flexibility of informational delivery. Also, the number of recipients who can receive it is limitless. In the same way, these activities occur in social media platforms where correspondence and even live chats are a lot more extensive and priceless, free of charge and without boundaries than the ones outside the digital world. It is a kind of synchronous delivery method. On the other hand, e-mail, online bulletin boards, weblogs are examples of asynchronous ones.

Zhang at al (2006) separates online education flexibility for anyone without traveling to classes. Thus, the students are able to attend classes from any location. Moreover, watching a full set of activities in the classroom through video interaction or recorded lessons, extends accessibility to the learning materials in a far more convenient manner than ever before. According to Brown et al (2008) and Judahil (2007), teachers' perspective is greater as educators can hold more extensive possibilities for giving lectures, feedback and direct or indirect interactives via video records.

According to Healy and colleagues (2014), in their research, increased learning opportunities are what makes sense of partial flexibility. Interested learners from around the world have increased access to international experts globally, educational media and wider selection of course types.

All these benefits are accessible for the sake of technological approaches that have developed and spread globally. In common, the Internet, modern technologies, various apps or interactivities among learners and educators have become unlimited, without borders, including locations, time zones, etc. The point is to have availability of such technological improvements and support.

The other trait by Zounek and Sudicky is free condition of self-regulated learning pace, which means that students can learn and progress according to their skills and cognitive abilities. They can choose from different types of materials or courses that match their learning capabilities. Heally (2014) cites the studies of Gibbons and Fairweather who prove that in the terms of psychological and physical health, online education has more positive results than conventional

classroom teaching methods. When utilizing computer-based learning, students feel more comfortable, relaxed and show far more improved performance.

The subsequent positive feature of online education is overcoming personal shyness and awkwardness that hinder learners to show their skills in the classroom face-to-face. Zounek and Sudicky state that online education has been one of the best tools in this part of learners' lives. So, such students tend to respond better and work harder, are more active and involved in the lesson activities.

Healy (2014) and colleagues also mention cost-effectiveness. Educational institutions have enormously profited and saved millions and millions as they did not need to distribute paper materials anymore, to provide building maintenance, additional resources for more students, etc. In parallel, the students have also benefited much as they save money since they do not need to travel to the university locations, get the materials electronically, have more opportunities to be at work and attend classes simultaneously, and so on.

To sum up, it is quite clear that online education has brought a lot of benefits from which all of us profit. These positive aspects have also been global, which means no restrictions in place and time. But, along with advantages, there are always disadvantages. The following chapter deals with the negative effects of online education.

DISADVANTAGES OF ONLINE EDUCATION

Disadvantages like advantages count not too few. Alshamrani (2019) in his study describes some negative features of online education. The first one is ,,absenteeism". In Saudi Arabia for example, students' absence rates are much higher in online sessions than in classrooms. Kizilcec & Halawa state that when children are attending lessons in a classroom situation, it is called ,,the geographical presence of the learners'' and it discourages the chance to miss the lesson and remain absent.

Another important and frequent disadvantage is a lack of communication. Healy (2014) and colleagues suggest that in online sessions active communication with instructors and classmates

have been decreased considerably. Students often complain about the lack of feedback from educators, less opportunities for group discussions, brainstorming and so on. Zounek and Sudicky add that students can be even „lost in cyberspace". It happens when a learner is isolated from others and no one pays attention to him/her. Such examples occur quite a lot. The reason can be an inappropriately big size of the class where it is impossible to have contact to each attendant and even more unimaginably, to give feedback to all instantly.

The next issue that can take place in any situation is a bad Internet connection or other technological issues. Parikh (2020) emphasizes the Internet speed slowing down in the middle of the class, when two or more family members are using the Internet at the same time and results in insufficient use. Mendoza (2020) says that since pandemic outbreak all the schools in the US were forced to shut their doors and „shift to online". But, soon it appeared that the biggest challenge to e-learning was inaccessibility to technologies for low income families who lived in rural areas where even Wi-Fi is not available. Because of that 71 % of students anticipated low grades.

Furthermore, online learning has been also costly as remote learning needs proper tech equipment. Mendoza (2020) lists some figures in which most needed equipment are: computer (27%); printer (27%); Software (24%); Internet (23%); Webcam (21%); Microphone (16%);

The other negative thing can also be the workload of online materials that students receive continuously. Students get an unlimited amount of notifications from different online resources and applications or social networks that distract learners' concentration and hinder learning processes. Besides, insufficient knowledge of basic skills in use of technologies, create other obstacles by the way. Zounek and Sudicky refer to all these factors and describe them as frequent problems everywhere.

Scientists have studied that online education has also impacted on students' physical and mental health. Balram (2020), in her research cites Jennifer katzenstein, director of psychology and neuropsychology at Hopkins, who noted that increased screen usage for hours has a link with increased depression, anxiety and perceived attention problems.

These issues appear step by step in parallel with online education. Subsequently, we should all think also on the ways which could cope with it. But, it is also obvious that no technological improvement can replace conventional classroom learning, because social environment, physical closeness and active emotional ties are the core factors that make the society alive and integral.

IMPACTS OF CORONAVIRUS PANDEMIC ON EDUCATION

There has not been anything that was not affected by the impacts of COVID 19 including education, sports, arts, businesses and so forth. Everything has changed very quickly and forced the mankind to shift to other rails. The loss has been unpredictable and impossible to measure with any variables.

One of the clearest examples how pandemics affected the educational process can be shown on the statistics done by the online platform educations.com. Figure 1, shows worldwide search trends on Google. For example, searching for 'studying online' have increased dramatically while studying abroad has decreased.

FIGURE 1: GOOGLE SEARCH STATISTICS: STUDY ABROAD VS. STUDY ONLINE (APRIL 2019 - APRIL 2020)
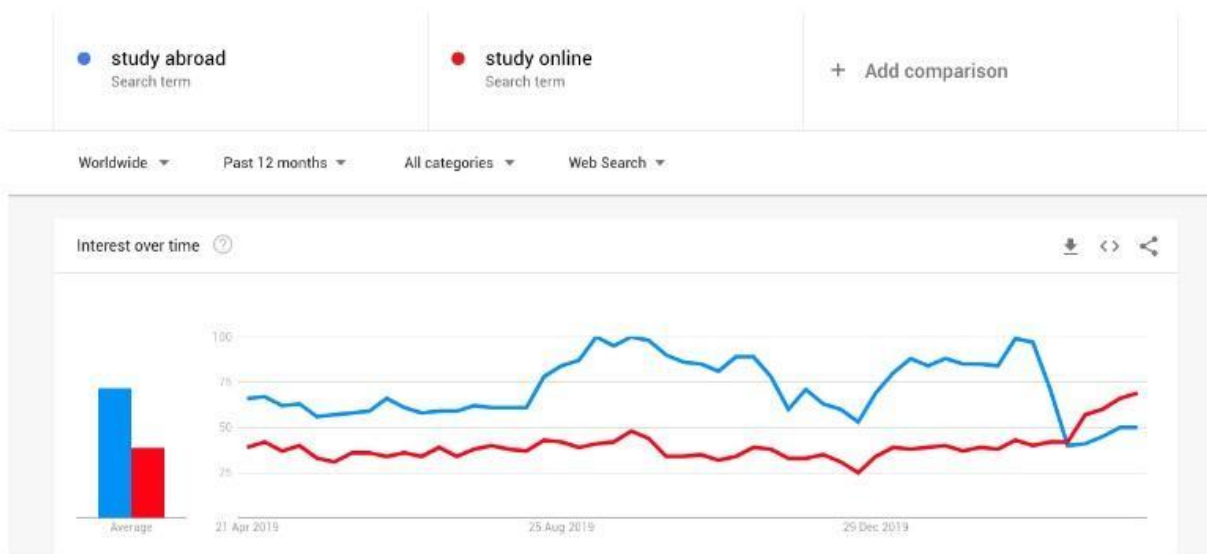
Onyema and others describe the effects we have on education from the pandemic outbreak. The first and most evident affection was school closure that forced children to stay at home and disrupt their active lifestyle until the end of the pandemic.

Onyema gives a warning of UNESCO Director-General, Andrey Azoulayals who cited by VOA News (2020) that ,,unplanned school closures can cause severe problems for students, educators, parents and the society at large. It could negatively affect the academic interest and performance of students. If the students are not engaged productively, it could lead to idleness which might result in youth involvement in crimes, loss of interest in learning, and poor academic performance". The US Centre for Disease Prevention and Control (CDC) also expressed concerns about the implications of school closures. According to the CDC, "longer closures may result in more students congregating outside of schools". Quentin (2014), states that school closing is very controversial, and it can have spillover effects on a large number of students in receiving schools. It can affect the quality of teaching and learning and academic achievements, particularly for the students with special needs or those with learning difficulties that often require more physical attention and guidance from teachers.

THE MAIN AIM OF THE STUDY

The aim of the study is to find out:

- What are the main issues in online education in relationship with pandemic influences?
- What are the possible solutions for the teachers to handle and facilitate the teaching process online?

CHAPTER 3: METHODOLOGY

THE STRUCTURE OF THE STUDY

The final purpose of this study is to identify currently most important issues in online education while teachers are using different technological tools to conduct lessons online and then formulate key options to solve such issues and challenges. The study is mainly done via qualitative research method to understand and fix practical problems of technology and its use. In order to conduct this research, the most appropriate approaches have been observations and

interviews. Spradley (1980) underlines the usefulness of observation that enables the researcher to assume different roles in the process. Interviewing like observation is also another qualitative research method when two or more participants answer open-ended questions.

Using these tools, various essential information and data have been gathered. They give chances to analyze and come up with certain answers that are being looked for to answer the questions around the topic. The observations on live performance made it possible to collect the data about how the technology works, what advantages and disadvantages teachers and students face and how effective it is in the purpose of educational goals.

On the other hand, using interviews with teachers and students, have given opportunities to familiarize with how they are getting used to online learning, the level of understanding learning materials, the degree of class direction and so forth.

This study focuses on searching common issues that teachers and students face in online performance and finding possible solutions for them. To achieve these goals, the data has been collected from online studies describing basic situations globally and then from interviewing 5 teachers and 10 students of different ages. The questionnaires were sent online via FB Messenger, but some of them were paper-based. However, the data collecting pace went on in different conditions:

- Attending online lessons.
- Taking interviews online in a structured way.
- Interviewing face-to-face.

For conducting the study, the participants were chosen from different educational institutions (private and state schools) teaching different subjects. This aspect will generalize common features of online education taking a broader picture.

The participating students are also in different grades studying at separate schools and universities. It is believed that this kind of variety of the respondents will form a wider and deeper picture of the reality.

Basing the research on observation and interviewing strategy, first notes were made in a personal journal. The observations took place on different spots with individuals as well as in groups. Online observations were done with 3 teachers from March to May in 2021. These teachers were performing in different subjects such as math, Georgian literature and Georgian history. They are emotionally and personally differently characterized, employed at different schools and having distinctive experiences in teaching as well as in technology use.

In contribution to the study, the other sample is the data collected from teachers and students through the structured interview questionnaires. These have brought further fruitful results in the research process. In this part participants were selected with different backgrounds and occupations. They are a historian, a Georgian philologist, a physician, a chemist, and an English teacher. Some of them were interviewed face-to-face after completing the questionnaires.

The number of interviews and objects of the observation are limited, but additional statistics and analysis are provided from online sources. They also contribute to this study and embed the overall results with general views.

DATA COLLECTION

QUESTIONNAIRES

For collecting data, besides observations and notes, questionnaires were given to all respondents. After fulfilling queries, face-to-face conversations and discussions were conducted to specify more accurately what each of them meant in their answers and if there were some other things that could possibly be missed while replying questions. The students, at different grades and status were asked to see their understanding of online teaching methods. The questions referred to how they reacted to different challenges, what they did and did not like, what helped them and what worsened their performance, if they had better grades or vice versa and etc.

The questionnaires for the teachers were all open-ended and compiled the following:

1) Do you like online lessons? Why?
2) What problems do you face during the sessions?

3) Do the students often hide, mute or even quit from the lesson? Do they often behave inattentively?
4) What were the main hindering factors in the beginning of these problems in online teaching when the pandemic broke out?
5) What measures did you carry out to solve each problem?
6) How effective were they at first? And now?
7) Did you need to change your strategies often? Why?
8) What support did you get from your senior managers and how did they help?
9) Evaluation: what do you think are the strengths and weaknesses of online sessions?
10) Self-evaluation: what strong and weak sides do you think your interactions have had during online teaching?

On the other hand, the questionnaire for the students was a little distinctive with the structure.

The questions were partly predetermined and open-ended as well. They look as such:

1. **Do you like online lessons? Why?**
2. **What do you like the most about online lessons?**

a. Being at home	
b. Saving time and energy	
c. The chance of resting and eating anytime	
d. Easily doing homework and classwork because the control is weak	
e. I can attend the lesson from any place	
Circle one or more options and assess each of them according to its importance with the marks 1-5, where 1 meanss that it has the least importance and 5 – the highest.	

3. **Do you often experience hardship in hearing the lecture? If yes, what are the main causes?**

a. Bad Internet quality	

b. The device doesn't function properly	
c. The teachers can't organize the online sessions well	
d. The teacher is not well equipped with necessary facilities	
e. The environment is not supportive, family members or/and neighbors make much noise in the background	
Circle one or more options and assess each of them according to its importance with the marks 1-5, where 1 means that it has the least importance and 5 – the highest.	

4. **Other stuff prevents my attention during online sessions. What?**

Supposedly, these questionnaires got some very important information. However, only such interviews are not enough to realize the whole picture of the process in online education. Therefore, to contribute the study with additional findings, face-to-face interviews were also made with some participants, who revealed readiness to speak volitionally. That part of research has also been useful.

OBSERVATION OF ONLINE LESSONS

To enrich the study with more relevant data and to see how the teacher was conducting the lesson, online sessions were attended in the chat rooms or watched remotely. Along this process notes were written down. All in all, 15 lessons were observed and studied for the research.

Two different locations with different backgrounds were used, providing a comfortable environment and situations to observe easily. The first one was the office of an educational center in the capital city. In this center there are isolated rooms for all teachers with good quality internet and Wi-Fi preventing any interruptions in the learning process. The environment is cozy and quiet enough to concentrate on the subject well.

The other location, where the observation was conducted, was a house environment. My wife and I work mostly from home. So, doing lessons online from home is much more convenient.

We planned several lessons online in order to be able to watch the process thoroughly. In this case, the benefit of the study was the opportunity to examine what happens when the educator works from home and household situation effects on it.

Before starting observation, preliminary talks were done with the participants explaining about the survey that was going to be conducted. They were promised that everything would be confidential except the statistical data that was needed for the research purposes. At each unit of observation, nearly half an hour was spent. Sometimes the time spent for observing changed according to the job requirements.

In parallel with the process, some drawbacks were also detected. For example, the inconvenience caused by the possibility that the lesson could be stopped anytime because of the study reasons. Definitely, knowing that someone observes from outside is somehow a cause of awkwardness. But the participants accepted this factor as much as possible.

All these data will be used in advocating the findings and analysis. Also, to be involved and get some kind of benefits for career and professional growth, all those who took part in the study, the results will be shared with.

DATA ANALYSIS

The study is based on qualitative research methodology using semi-structured interviews with open-ended questions, face-to-face interviews and observations. With these tools, the collected data shows a kind of picture of the overall experiences of the interviewees who are employed in Georgia and have a clear understanding of the topic related issues.

As an observer, I was observing online learning as a teacher. Afterwards, when the lesson was over, I usually did some notes about. Sometimes, I was a non-participant observer, watching the situation as an outsider but still being in the site of observation, which lasted for about 20-30 minutes on average.

Using interviews which were semi-structured was very useful in the data collecting process. Mainly, when interviewing teachers or students, it was more flexible than just a structured interview. The interviewing process was held in different modes, such as: in classroom situations, in the educational center's space; via emails, FB messenger chats and online video

chats. The interviewees were completely free to extend their answers and describe farther facts than the questions required. It was so helpful to make a wider picture and the data more interesting than just transcripts on the paper.

All in all, the data was very informative in detail and diverse as interviewees were from different backgrounds and also their perceptions were distinctive.

CHAPTER 4: RESULTS

The main purpose of this study was to clarify what are the common positive traits or issues that teachers faced during online teaching process and then to draw the solutions for each of them. The basic findings are provided based on the answers that respondents gave in the questionnaires and also on the notes that were made during the observations, in addition with some international studies conducted recently.

The results will be sorted and listed in the sequence of questions that were given in the questionnaire. Also, the answers will be oriented on common ideas that the teachers provided. But, before bringing the results, it would be better to pose special symbols for each teacher then to be used more conveniently. A chemist teacher will be symbolized as a person ,,C", a Georgian literature teacher - ,, L", a Georgian history teacher - ,,H", a physics teacher - ,,P'' and an English teacher - ,,E". This would make it easier to credit their answers to them briefly.

RESULTS FROM THE TEACHERS' PERSPECTIVE

Do you like online teaching? Why?

Under this question the respondents have been received distinct understandings. For example:

- **C** mentions positive aspects, that online working process gives a wide range of colorful video, audio and written resources usable during lessons.
- **L** outlines the most valuable aspect in online teaching - the opportunity to share a range of prominent materials, but she doesn't recommend systematic online teaching as the pupils also need direct physical contact. They learn not only school subjects, but also general behaviors in a social environment, which helps them to overcome numerous

obstacles and grow the feeling of being a member of the society. All these things are almost impossible in online format.

- **H** says that she likes the unique opportunity of working from home very much.

- **P** says that it is really easier to send and receive digital materials on online platforms, but for a high quality teaching and learning process, direct communication is essential.

- And the fifth, **E** describes many important components that come in our life through e-learning. You can save time, create a lot of materials, find sources easily, get prepared in a meantime, distribute multiple tasks or subject-related learning games, including listening and speaking exercises; All these items make the learning process fascinating. Despite all these features, direct schooling is better at the moment since there are many technical issues. This factor is an important role-payer for the pupils who have technological issues and a lack of other material support which in overall hinders online working. Furthermore, online learning is some kind of hole for lazy students to miss the lessons easily. Here is a gap, where teachers are unable to control students' behavior and the cheating practice increases. These problems in classroom situations are minimal compared to online format.

What problems do you face during the sessions?

This part of the questionnaire will show the issues Georgian teachers meet every day.

- C lists typical issues such as: joining the classes late; unexpected removals from the system because of bad Internet quality; delayed delivery of the sound or video images; the noise that comes from the background at home; inaccessibility to the Internet or proper technologies, because of poverty; difficulties in giving personal feedback to each student; time-consuming checking process of assignments; cheating in tests, receiving parental (or other relatives) help prompting answers; decreased amount of time for each lesson, etc.

- L mentions technical and technological defects that take place quite frequently. Even worse is the fact that, sometimes the students cite that reason as an excuse for their misbehavior.

- H notices that some children have the Internet or technical issues. In addition, sometimes there are situations, when students can not be alone and noise is being heard from the background, forcing them to mute and be inactive during the whole session.
- P states that common problems are low quality Internet and other poor digital equipment.
- And E states that, basic problems are absence from the lessons, having no Internet, outage of the electricity unexpectedly, and difficulties in conducting quizzes accurately.

Do the students often hide, mute or even quit from the lesson? Do they often behave inattentively?

The intention of this question is to investigate the rate of the students' involvement into the online learning process.

- C claims that mostly students mute by her order and unmute whom she chooses to speak.
- L's observation on this aspect is more fascinating. She says that the rate of camera offs and muting modes is more often with elder students than their younger counterparts.. Mainly students name technical issues as an excuse to avoid cameras on. The other obstacle is to control a larger group of the students in a single class making it more difficult to overlook who is on and who is not. This process takes time and the main point of the job can be lost easily.
- H clarifies that students often miss online lessons. But, if they attend, mostly they are attentive and concentrated.
- P goes further and explains that some students switch off the camera to enjoy the fact that they are not alone in their learning space. Or, sometimes they are even still laying in their beds. Leaving the lesson because of a low Internet connection is a common explanation. And, inattentiveness at the lesson is frequent but it depends on the individual.
- E also credits the higher rate of inattentiveness to the online learning format than in the classroom situation. However, mostly such behavior is typical for those who were lazy-bones before.

What were the main hindering factors in the beginning of these problems in online teaching when the pandemic broke out?

Transferring to online teaching mode was commonly forced by the pandemic situation throughout the world. So, it is meaningful to study what were the basic issues that were found in the beginning of the pandemic and how they impacted educational systems.

- C declares that when the pandemic outbreak became ubiquitous, forced by the fear and also other external factors, most of the students with their parents left cities and went to remote villages where the Internet access was extremely low or nonexistent. Due to these circumstances the learning process was dramatically disrupted.

- L states that a pack of problems appeared very quickly and all of them needed a solution to cope with. This affected everyone psychologically in a negative way. At first, it was quite a complex issue to realize the essence of the pandemic and its seriousness. Then, following lockdowns even worsened the conditions. Everyone was feeling confused. But, the only solution was online education, new and challenging for both educators and students. Soon, after all, technical problems came up in the daytime. By the way, some embarrassing facts were typical. For instance, pupils appeared in their pajamas or with food in their hands. They could not understand well that an online lesson was the same with its importance as it was in the classroom.

- H refers to timetable problems. When the whole system changed, escorting the technology use problems, teachers also had to face timetable problems. There was no exact schedule for classes and as a result, teachers had to do it themselves. Hence, the problems were increasing in numbers.

- P adds that a new era in education which required working with computers, caused the situations where teachers and students needed to sit at the computers for long hours. It was a big threat to health. Many healthcare problems connected to the eyes, back or other body parts have appeared over time.

- E defines that the most underlying difficulty in the beginning of pandemic was that teachers had to adapt to online applications and learn their use in practice in addition to creating relevant materials for pupils, organizing all such things, lack of parents' support, clarifying and overcoming the issues caused by the pandemic..

What measures did you carry out to solve each problem?

After presenting common issues that pandemic and online education have caused, it is reasonable to see what measures they used to cope with them.

- C mentions that the only tool to conduct the online lessons properly was to ask the parents to keep quiet and support their children to learn. Other things were out of her power and useless to carry out.
- L provides that in overcoming problems, the teachers, school administration and parents were collaborating together. The school gave laptops to some students to foster their studying process. Also, parents were asked to take care of their children and help and explain to get ready for online lessons like in a classroom situation and not like at home, dressing in relevant clothes and adjusting the environment.
- H remembers that the staff learnt the usage of online platforms quickly and scheduled the timetables so that no classes overlapped each other.
- P, in order to avoid exhaustion during lessons, took frequent breaks. Also, he divided the classes into smaller units and in such way he was able to communicate with all students more actively and effectively.
- E states that she learnt every necessary tool online and started using them step by step so that in no time she arranged her classes to function well enough.

How effective were they at first? And now?

Measures that educators carried out would have some effects but in different qualities. It is interesting how they evaluate this criterion.

- C proposed that the effect was just 5 % out of 100 % of the efforts that were invested in the whole process.
- Controversially, L suggests that their measures were effective and the parents also took into account teachers' requests.

- H claims that currently their school is ready to transfer to online mode at any time when the situation demands to.
- According to P, online learning was some kind of relaxation for students only in the beginning, but then it turned out to be exhausting. .
- For E, at first, the measures were fruitless, but now, as time went and everything was elaborated, it is much more effective than before as there is a better collaboration between colleagues, parents and pupils.

Did you need to change your strategies often? Why?

In this part, we can have a more precise image of how respondents were able to work efficiently compared to their previous ideas about the use of technology and adaptation to the new requirements.

- C thinks that her strategies in online sessions mostly were useless because the students who really were engaged in learning, kept their attitudes the same way even after the radical swift of the educational process. In contrast, the students with a lack of interest remained reluctantly to contribute and therefore almost none of the strategies worked for them.
- L writes that she had to change strategy several times in order to make the lessons interesting and colorful.
- H highlights that there was no actual need to change strategies.
- P emphasizes that he keeps working with the same style and strategy as she had it before the pandemic situation.
- E states that there was no actual need to change a strategy except online and offline teaching methods which depended on pandemics and how the restrictions would change.

What kind of support did you need from your senior managers and how did they help?

This criterion is supposed to evaluate the overall support of the government and administrations and how effective they were in facilitating common conditions.

- C feels completely supported by the administration morally, technically or in any other ways. The whole staff was working on coping with the problems, especially in searching information and suitable tools to provide the students with education.

- According to L, all measures were actively engaged into the process.

- H separates school administration's active engagement in control of attendance. If any student was missing the lesson, their parents were informed. Thus, the number of absences was minimal.

- P says that administration was attentive but the main role players were teachers themselves.

- E lists several activities that the administration provided, such as training and meetings on specific approaches and methods during the pandemic period. That helped to maintain quality in education. Also, there were other technical support.

Evaluation: what do you think are the strengths and weaknesses of online sessions?

In this section teachers gave examples of the benefits they saw in online education.

- C outlines **strengths** such as: the opportunity of using colorful educational resources in the teaching process; **Weaknesses**: parents' overstated involvement in students' assignment execution or absolute ignorance.

- L – **strengths**: convenience in the terms of sharing material sources. **Weaknesses**: There are no direct, live interactions. Also, less control manuals of the attentiveness from the students.

- H – **strengths**: prominent visual material and easy distribution. **Weaknesses**: technical issues and communication problems.

- P – **strengths**: time-saving; energy-saving; no geographical barriers for the participants; **Weaknesses**: weak Internet connection, frequent interruptions, health problems, etc.

- E – **Strengths**: colorful and fascinating online tasks and exercises, time-saving, students did not have to spend time in transport or much money in clothes, being protected from pandemic. **Weaknesses**: absence of technical support or improper equipment, lack of direct communication causing students' bad behavior and academic performance.

Self-evaluation: what strong and weak sides do you think your interventions have had during the online teaching?

- C ----------------
- L considers that her strong side in interventions was that she tried her best to make all the students to be involved in the learning process, providing interesting and colorful activities.
- H ----------------
- P does not think that his measures deserve to be discussed.
- E considers that her positive side is that she managed to conduct interesting, good quality lessons and ensure students' high rate of involvement. But as a negative side, she mentioned unexpected technical defects.

RESULTS FROM THE LEARNERS' POINT OF VIEW

Do you like online lessons? Why?

The interview with learners was conducted individually based on a paper method. The results are mostly against online lessons. Most of interviewees do not like online lessons for a group of reasons such as:

- Lessons are not educationally effective;
- Many program defects emrge from time to time, or, in some cases very often;
- Often the environment does not provide relevant attitude and support;
- Bad internet connection;
- Bad internet connection hinders the students to concentrate and study properly;
- Lack of active, direct interactions with other students and teachers;
- Virtual environment that affects students' health;
- It is hard to understand new material at the online lesson.
- Because of bad internet connection, teachers need most of the time to arrange things properly.

There were also supportive arguments in favor of online learning.

In the predetermined question, "**what do you like the most about the online lessons?**", the rating based on 10 interviewees came as such:

- 1st place - I can attend the lesson from anywhere– 5 people marked with 5
- 2nd place- The chance of resting and eating anything anytime – 4 people marked 5
- 3rd place – Being at home – 3 people marked with 5
- 4th place – Saving time and energy – 1 person marked with 5
- 5th place –Homework and classwork can be done easily because the control is weak – none of the interviewees marked it with 5.

Next topic in the interview was to survey what were general issues for the learners while attending online classes. The rating for the answer on the question – "Do you often experience hardship in hearing the lecture? If yes, what are the main causes?", is as such:

- 1st place – The teachers can not organize the online sessions well – two 5 marks, one-4, three – 3, one-1
- 2nd place –The teacher is not well equipped with necessary facilities –four – 4, one -3, two-1
- 3rd place – The device doesn't function properly – two - 5, one -3 , one - 2, three -1
- Bad internet quality – one-5, one-4, two – 3, three -1
- The environment is not supportive, family members or/and neighbors make much noise in the background – one -5, one-4, one-3, three-3

And the last indicator of the issues during online sessions was provided with an open-ended question: ,,other details prevent my attention during online sessions. What?". The responses are the following:

- Noise around
- The number of students who join the lesson online
- Teachers didn't know what to do and were not well equipped
- Can't react quickly to mute and unmute
- The environment and while using smartphones the possibility to move around
- Simultaneous use of other online applications or receiving messages, notifications
- Often online lessons are dull and can be done anything else;

During the March to May period in 2021 observations were conducted in several sites: at home, at the office with private students and at different teachers' online sessions.

The observation of all these sites have shown particular results both negative and positive.

In online platform, education.com, the research also shows how ambiguity within the students has increased from March/April 2020 till October 2020. (See FIGURE 2):

FIGURE 2: *MAIN CHALLENGES WITH ONLINE EDUCATION*
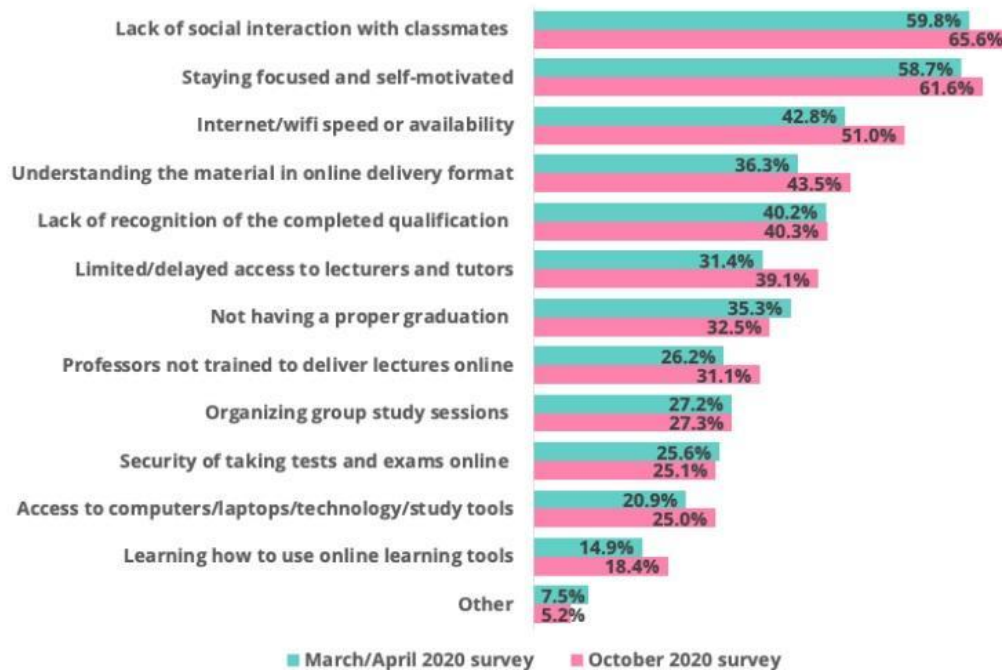
After illustrating some international research in the area, it's time to introduce advantages and disadvantages of online teaching.

ADVANTAGES OF ONLINE TEACHING

- While delivering online lessons, the most comfortable thing I experienced was being at home. I felt more relaxed, happy and satisfied. The environment was mostly supportive and helpful to me. This aspect was also clearly positive with some of my students online, but some of them had problems from family members which was quite meaningless.
- The other positive aspect emerged to be the opportunity to send digital materials quickly, easily and in a good quality.
- I also received and executed assignments in the same way, quickly and nonstop.
- The next thing was that online students liked the opportunity that they could easily change schedules. Time management was so flexible that it formed a great comfort zone for everyone.
- The geographical location is also flexible that extends accessible areas, approaching a plenty of educational services without much effort and expenses.
- Observing other teachers, obviously all above-mentioned aspects escorted their lessons, too. Additionally, they could easily look for some urgent materials on the computer and share them at once.
- If something was doubtful, checking and correction was simpler than looking up the information in the books and textbooks.

DISADVANTAGES OF ONLINE TEACHING

- The most inconvenient feature of online teaching was the permanent sitting position that causes back pain and other physical problems.
- Continuous watching the computer screen or tablet makes eyes tired and worsens vision.
- Passive physical condition in general.
- Fewer physical and emotional interactions with other people.
- Students also get tired easily and frequently ask for a break or even for quitting the lessons early.
- Bad Internet connection stretching the lessons, making difficulties to deliver your voice, materials and defecting the students' attention meaningfully.

- It is difficult to encourage students and increase motivation.

CHAPTER 5: DISCUSSION

The aim of this study was to find out advantages and disadvantages that covid-19 caused in online education during 2020-2022 and the solutions from the teachers' perspective. During the research main focus was made on some critical aspects which were extremely hindering educational processes. This part will discuss which issues were more extreme and what solutions were brought for them according to the teachers' and students' experiences.

It is worth to say that obvious problems in online education started from the very beginning. The most significant issue was quality in technological and technical support. Most of the interviewees cite to have suffered from unexpected interruptions during the online sessions. The primary causing factors were electricity outage, the Internet connection problems or the application errors, etc. Thus technical issues prominently decreased the quality of education. As a result many of the students could not keep learning in a good manner.

The solution to these issues lies in the state's and school administration's support. Special professionals must be attached to any educational institute to maintain all the technical and online applications working smoothly.

The next problem was a fragile control of the students' behavior. The basic producer was a large number of students in a single class. That would surely minimize a control level. Students often tried to mute or switch off the cameras with different excuses and explanations, but the goal was just to avoid their attendance or to cheat and get help from outsiders. This aspect can be changed over time through continuous interventions by the teachers through the communication with parents or other family members.

The deeper we look in the social environment of the society in Georgia, we would see that a large amount of people experience poverty that has been a critically hindering factor for the families to provide their children with appropriate technological support. In such conditions the only solution would be the state's support for economically vulnerable groups of the society.

The next common trouble was shortage of time for each lesson which was declined from 45 to 30 or 20 minutes. As a result, teachers have not been able to give full classroom sessions. For example, feedback was sent later in online apps, but students did not react to them properly. In this case, the recommendation would be to have an active communication with the parents or some other responsible careers.

The following issue means a lack of concentration and attention during online lessons. This detail was mainly conditioned by a number of facts. Mostly social media and entertaining applications distracted their focus with a lot of notifications. In this battle, parents are the only tools who can control their children and ensure that students attend classes instead of being involved in social networks or other entertaining platforms online.

Next, the most preferable issue to mention is social, such as a lack of interactions and relationships. This aspect influenced enormously on children's mood and their attitudes towards the learning process. The loss of socially close activities deprived children from emotions and fostered their dependence on electronic gadgets and social networks. And, without emotional ties, they have become more and more stressed and inadequate. I guess that the only solution to this problem is backward to the school environment with active social interactions.

Despite emotional disorders, online education has caused static body positioning. Continuously sitting at the computer has conditioned multiple health problems such as physical passiveness, obesity, eye and back problems and so on. The solution is just to be active, move and ensure a relevant environment, rather than lockdowns that prevent social closeness and activities.

Also, the school staff were not well qualified in technology use. This factor in practice brought inappropriate lessons and educational materials. All these things depleted the motivation in the students' minds. The easiest way out of this situation is to provide special training programs for teachers.

Referring to advantages, the main features that positively influenced the society are: an easy access to educational resources locally and abroad, staying at home, saving time, energy and money, health protection, bullying prevention, overcoming geographical barriers and so on.

To sum up the whole research, online education unveiled a great range of opportunities for every part of the society. It is a new step in life and poses new visions to new achievements and more extensive discoveries. Considering its pros and cons, the changes are irreversible. We have just to adjust to these new event and learn living with it collaboratively.

This study was conducted using qualitative research methods, interviews and observation on sample sites. Also, 5 teachers in different occupations and schools, 10 students from different age groups and social backgrounds were participating. This created the opportunity to conduct an unbiased and objective study. The limitation of the study is that numbers of interviewees were limited, presented a small part of the whole community. Therefore, the results cannot be referred to all situations and conditions. The results might be common and useful but deeper studies and further development is recommended as well as taking into consideration different groups differentiated by the age, social status, studying field, students goals, teachers' experience, etc.

CONCLUDING REMARKS

The purpose of this research was to study online education and its characteristics. There are many positive or negative traits escorting the research. Which one outweighs the other is hard to assess but the fact is one: the world today needs online education as an approach to cope with new challenges.

In the beginning the wish was to understand how education developed in Georgia since online working has come in need. In order to make sense of the whole process, teachers and students were interviewed that gave a chance to clearly visualize the exact situation. The observation includes online lessons and personal experiences.

After all, the findings are the following: teachers and students have somehow got used to online education. They all see the necessity of it in the current situation. Everyone has transferred to the new mode of learning. Although they faced many obstacles on the way, finally all of them managed to get used to new requirements.

On the other hand, online education eminently causes many serious issues in social and practical life including break of close relationships and health aspects that need to be changed and give correct directions.

And the last, online education still needs to be elaborated, further governmental support is needed and the society has to give an even harder effort to take over the drawbacks that may accompany all these processes.

*   *   *

Thank you for reading

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Vladimer Okujava

Tartu, Estonia

June, 2021

AUTHOR'S DECLARATION

I hereby declare that I have written this thesis independently and that all contributions of other authors and supporters have been referenced. The thesis has been written in accordance with the requirements for graduation theses of the Institute of Education of the University of Tartu and is in compliance with good academic practices.

V. Okujava

(Signature)

13 June 2021

REFERENCES

Academic Medicine. (2006). *The Impact of E-Learning in Medical Education :.* LWW.

https://journals.lww.com/academicmedicine/fulltext/2006/03000/theimpactofelearningin

medicaleducation.2.aspx?fbclid=IwAR11Y1ppWZ68Fmi5yJQpNoxzQS45B2mCmK2QI

s-dYWN_7u02q6-iH3xyVS0

Armstrong, S. (2021, May 12). *What Are The Advantages And Disadvantages Of Online*

Learning? ELearning Industry. https://elearningindustry.com/advantages-and-

disadvantages-of-online-learning

Advantages and Disadvantages of Online Courses | Montgomery College, Maryland. (2020).

Https://Www.Montgomerycollege.Edu/.

https://www.montgomerycollege.edu/academics/online-learning/distance/advantages-

and-disadvantages-online-courses.html

Dumford, A. D., & Miller, A. L. (2018). Online learning in higher education: exploring

advantages and disadvantages for engagement. *Journal of Computing in Higher*

Education, *30*(3), 452–465. https://doi.org/10.1007/s12528-018-9179-z

Economic Policy Institute. (2020). *COVID-19 and student performance, equity, and U.S.*

education policy: Lessons from pre-pandemic research to inform relief, recovery, and

rebuilding. https://www.epi.org/publication/the-consequences-of-the-covid-19-pandemic-

for-education-performance-and-equity-in-the-united-states-what-can-we-learn-from-pre-

pandemic-research-to-inform-relief-recovery-and-rebuilding/

Eztalks. (2021). *Advantages and Disadvantages of Online Learning _Online*

Education_ezTalks_Video Conferencing, Webinar, Online Meeting, Screensharing Tips

and Reviews. Com. https://eztalks.com/online-education/advantages-and-disadvantages-of-online-learning.html

Gautam, P. (2021, May 12). *Advantages And Disadvantages Of Online Learning*. ELearning

Industry. https://elearningindustry.com/advantages-and-disadvantages-online-learning

Gemma Josep (May 22, 2022). 5 Reasons Why Online Learning is the Future of Education in 2022. https://www.educations.com/articles-and-advice/5-reasons-online-learning-is-future-of- education-17146

Hopkins (2020, April 20). *How online learning can affect student health*. News-Letter.

https://www.jhunewsletter.com/article/2020/04/how-online-learning-can-affect-student-health

Hung, M. L. (2016). Teacher readiness for online learning: Scale development and teacher

perceptions. *Computers & Education*, *94*, 120–133.

https://doi.org/10.1016/j.compedu.2015.11.012

Healy, Sean & Block, Martin & Judge, Joann. (2014). Adapted physical education teacher perceptions on advantages and disadvantages of online teacher development. Palaestra.

H.M.S.Ü.T.B.Ö.Z.N.A.Ç.A.R. (2017). Effects of COVID-19 period on educational systems and

institutions. *International Journal of Curriculum and Instruction*, *13*(1).

Jena, Pravat. (2020). Impact of Pandemic COVID-19 on Education in India. International Journal of Current Research. 12. 12582-12586. 10.24941/ijcr.39209.07.2020.

Kaltura (2021, June 10)*Top 5 Advantages & Disadvantages of Online Learning [2021]*.

https://corp.kaltura.com/blog/advantages-disadvantages-online-classes/

Malala Fund. (2020). *COVID-19 Response*. https://malala.org/donate/covid-19-response?sc=adwords&gclid=CjwKCAjwtpGGBhBJEiwAyRZX2p6B5MJ-Wj-iVErrGDD2EBlvfSzh47W6M3G1ZOWjRsmKnu1kTd2teBoC5iMQAvD_BwE

Malala Fund. (2020). *COVID-19 Response*. https://malala.org/donate/covid-19-
    response?sc=adwords&gclid=CjwKCAjwtpGGBhBJEiwAyRZX2p6B5MJ-Wj-
    iVErrGDD2EBlvfSzh47W6M3G1ZOWjRsmKnu1kTd2teBoC5iMQAvD_BwE

Mendoza, N. F. (2020, October 1). *Online learning challenges: Inaccessibility to tech and*
    academic dishonesty. TechRepublic. https://www.techrepublic.com/article/online-
    learning-challenges-inaccessibility-to-tech-and-academic-dishonesty/

Malik, S., & Rana, A. (2020). E-Learning: Role, Advantages, and Disadvantages of its
    implementation in Higher Education. *JIMS8I � International Journal of Information*
    Communication and Computing Technology, *8*(1), 403. https://doi.org/10.5958/2347-
    7202.2020.00003.1

M.S.A. (2019). *An Investigation of the Advantages and Disadvantages of Online Education* (1st
    ed., Vol. 1). School of Engineering, Computer and Mathematical Sciences Auckland
    University of Technology.

Powell, C. G., & Bodur, Y. (2019). Teachers' perceptions of an online professional development
    experience: Implications for a design and implementation framework. *Teaching and*
    Teacher Education, *77*, 19–30. https://doi.org/10.1016/j.tate.2018.09.004

Qiu, M., & McDougall, D. (2013). Foster strengths and circumvent weaknesses: Advantages and
    disadvantages of online versus face-to-face subgroup discourse. *Computers & Education*,
    67, 1–11. https://doi.org/10.1016/j.compedu.2013.02.005

Rotary International. (2020). *Rotary and the coronavirus impact: Frequently Asked Questions*.
    https://www.rotary.org/en/rotary-and-coronavirus-impact-frequently-asked-
    questions?gclid=CjwKCAjwtpGGBhBJEiwAyRZX2n0E8fAInTuWqz9DKkqrr67BBiO2
    kd-Iehz5KXljzlpxQTQPkdn4GBoC1HQQAvD_BwE

Shevchuk, H. Y. (2021). Distance learning in higher education: advantages, disadvantages,

prospects. *Pedagogical Sciences Reality and Perspectives*, *2*(79), 205–208.

https://doi.org/10.31392/npu-nc.series5.2021.79.2.44

Tamm, S. (2021, April 11). *What is the Definition of E-Learning?* E-Student. https://e-

student.org/what-is-e-

learning/?fbclid=IwAR3M4d3ELsmU4G3DuSmjO9TwOIWzFaBxcyEm_gVJEKKyLD

VRmD_svpP_ooQ

Taylor & Francis. (2020). *Global impact of COVID-19 on education systems: the emergency

remote teaching at Sultan Qaboos University*.

https://www.tandfonline.com/doi/full/10.1080/02607476.2020.1802583

Urokova, S. B. Q. (2020). ADVANTAGES AND DISADVANTAGES OF ONLINE

EDUCATION. *Theoretical & Applied Science*, *89*(09), 34–37.

https://doi.org/10.15863/tas.2020.09.89.9

V.A.N.A. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher

education. *INTERNATIONAL JOURNAL OF INSTRUCTIONAL TECHNOLOGY AND

DISTANCE LEARNING*, *12*(1), 33–37.

Www.Who.Int. (2020). *Coronavirus disease (COVID-19): Schools*.

https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-

answers-hub/q-a-detail/coronavirus-disease-covid-19-schools

Wong, M. (2020, November 19). *Technology issues interfere with online learning*.

AmadorValleyToday. https://www.amadorvalleytoday.org/9807/news/technology-issues-

interfere-with-online-learning/

Wright, R. (2010). *Online Education*. Amsterdam University Press.

Wayne, D. M. C. (2018). *The Future of Education. Advantages and Disadvantages of Online Education*. Beltz Verlag.

YoungMinds (2021).*How is COVID-19 impacting young people's education?*. https://youngminds.org.uk/resources/policy-reports/what-impact-is-the-covid-19-pandemic-having-on-education /

Yang, N. & Arjomand, L. H. (1999). "Opportunities and Challenges in Computer- Mediated Business Education: An Exploratory Investigation of Online Programs," Academy of Educational Leadership Journal, 3 (2), 17-29.

APPENDIX 1

INTERVIEWS FOR TEACHERS:

Name   _____

Surname   _____

Occupation _____

Subject   _____

Date   _____

1. Do you like online lessoning? Why?
   _____
   _____
   _____

2. What problems do you face during the sessions?
   _____
   _____
   _____
   _____
   _____

3. Do the students often hide, mute or even quit from the lesson? Do they often behave inattentively?
   _____
   _____
   _____
   _____
   _____

4. What were the main hindering factors in the beginning of these problems in online teaching when the pandemic situation appeared?
   _____
   _____
   _____
   _____

5. What measures did you carry out to solve each problem?
   _____
   _____

_____
_____

6. How effective were they at first? And now?

_____
_____
_____
_____

7. Did you need to change your strategies often? Why?

_____
_____
_____

8. What supports did you get from your senior managers and how they helped?

_____
_____
_____

9. Evaluation: what do you think what are the strengths and weaknesses of online sessions?

_____
_____
_____
_____
_____

10. Self-evaluation: what strong and weak sides do you think your interventions have had during the online teaching?

_____
_____
_____
_____
_____

INTERVIEWS FOR STUDENTS:

Name / _____

Surname / _____

Grade / _____

Subject / _____

Date / _____

1. **Do you like online lessons? Why?**

_____
_____
_____
_____
_____

2. **What do you like the most about online lessons?**

a. Being at home	
b. Saving time and energy	
c. The chance of resting and eating anytime	
d. Easily doing homework and classwork because the control is weak	
e. I can attend the lesson from any place	
Choose one or more answers and write 1 to 5 points according to the relevance of the issue.	⊠

3. **Do you often experience hardship in hearing the lecture? If yes, what are the main causes?**

a. Bad Internet quality	
b. The device doesn't function properly	
c. The teacherᶴ can't organize the online sessions well	
d. The teacher is not well equipped with necessary facilities	
e. The environment is not supportive, family members or/and neighbors make much noise in the background	
Choose one or more answers and write 1 to 5 points according to the relevance of the issue.	

4. **Other stuff prevents my attention during online sessions. What?**

_____
_____
_____
_____