For Every Action in Nature There Is an Equal and Opposite Reaction, What about Education?

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Abstract: The paper will try to provide an answer to the question whether there is going to be an opposite reaction to total online teaching during the COVID-19 pandemic. Moving totally online was the only outcome at that time, it was not easy either for teachers or for students, however, eventually many of them did quite well and even benefit from the situation. However, since the return to the traditional, face-to-face, regime of education, there are demands from many stakeholders, including the Ministry of Education, to totally forget the online teaching. The study tried to find out the opinions of students and teachers to what degree this reaction is. It was a qualitative study in the format of interview, which was held with students at Bachelor, Master's and Doctorate level in various majors in Georgia. The conclusion was made that, depending on the majors and the level of studies, the experience of total online teaching, with all its challenges, was a useful one, and its lessons should be further studied and their advantages go on being used.

Keywords: total Online Teaching, Face-To-Face Education, Lessons Of COVID-19 Pandemic

Introduction

According to Newton's third law of motion, for every action (force) in nature there is an equal and opposite reaction. As total online education was imposed on us by the environment and educational decision-makers, natural, there was a certain (sometimes passive and sometimes active) resistance to it. This paper will try to provide an answer to the question whether there is going to be an opposite reaction to the removal of total online teaching after the COVID-19 pandemic.

In March 2020, 185 countries in Asia, Europe, the Middle East, North America and South America had to shut

down schools and universities due to COVID-19 pandemic (Learning Portal, 2020), which had a dramatic effect on both teachers and students in those countries. The process involved a number of challenges, beginning with the availability of relative equipment and software, through lack of electronic educational materials, ending with teachers' and students' technical skills and awareness of possibilities of online teaching. Student and teacher stress, and decreased quality of education was mostly stated (Lavonen & Salmela-Aro, 2022; Hensley et al., 2021; Vachkova et al., 2022). Although, eventually, they more or less tackled the problem, there were many stakeholders, specialists and non-specialists, who expressed great displeasure with the quality of teaching and learning (Can & Bardakci, 2022; Ng, 2022; Tkacová et al, 2022; UNESCO, 2020a; 2020b). There was action (unplanned sudden transition to total online teaching) and counter-action (teacher, student and even society resistance to it. Therefore, there have been demands from many stakeholders, including even the Ministries of Education, to totally forget the online teaching as soon as the return to offline teaching became possible (Agenda.ge, 2022). The current paper will try to provide an answer to the question whether educators want to totally forget the total online teaching as a bad dream or whether they did benefit from it to a certain degree.

Method

Although it was an interview, the results could be analyzed both quantitatively and qualitatively. The analysis was done with the help of NVivo software. A survey was conducted among students and lecturers in Georgia. To conduct it, the researcher-made interview questions were developed. To assess their validity three specialists of online teaching were involved. After the recommended amendments were made, the interview was held. Its participants were volunteers. Some interviews were held in person and some online. The interviewers were the researchers.

The participants were 64 students and 31 teachers from Georgia. The students' majors were philology (7), art (18), business (9), medicine (11), tourism (4), and engineering (15). There were 41 Bachelor's, 15 Master's and 8 Doctorate students. Table 1 presents their data.

Table 1. Demographic data of the participants

	Private university	*Public university*	*University in the capital*	*Regional university*	*Total number*
Student number	28	36	38	26	64
Lecturer number	17	14	11	20	31

Although this is not a representative sample, it does reveal certain trends, as it represents types of universities and their various geographic location, student specialty and the degree they were studying for, giving a wide enough picture due to stratified and cluster sampling.

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Results

The results were analyzed both for various groups separately and for students on the whole and lecturers on the whole. The participants' opinions are presented anonymously, as S1, S2, etc., L1, L2, etc.

Q1: What is your general assessment of the total online teaching / learning? Was it mostly positive, mostly negative or was it related to some advantages and some disadvantages?

The general assessment of the total online teaching / learning was positive, 59 students (92%) and 28 lecturers (90%) assessing it as mostly positive. The remaining respondents assessed it as related to both advantages and disadvantages. The students who chose the latter answer were from Bachelor's programs in medicine and engineering from the public universities situated in the capital. The lecturers who chose the latter answer were from public regional universities.

S5: In the beginning it was too hard both fur us and teachers, but eventually we even enjoyed the process. We were protected from the virus, staying at home, didn't need to spend time commuting…

S16: Well, it was not as bad as one might have expected, the quality of lectures was fine, but I lacked socialization a lot, although lecturers did their best to provide communication and interaction.

L3: I was very annoyed in the beginning, it was so hard – sleepless nights in order to get ready for lectures, sore eyes due to spending all time in front of the computer… But finally I am glad to have learned to teach online effectively, self-confident and proud of myself.

L19: It wasn't a great difficulty for me, I even enjoyed it, especially with Master's and Doctorate students.

Q. 2: What advantages (if any) of total online teaching / learning can you name?

The advantages were classified into 3 large groups (resource management, pedagogical and psychological advantages), including more sub-groups (see Table 2).

Table 2. Classification of advantages of total online management

Themes	Codes/advantages	number of students	number of lecturers	Sub-codes/advantages	number of students	number of lecturers
Resource management	Time management	n/a	n/a	it saves time on commuting	60	30
				it develops time management skills	14	20
				it enables one to spend more time with one's family	12	25
				it enables to combine some house / family routines with	13	21

				learning / teaching		
	Space management	n/a	n/a	large classes do not matter	n/a	31
	Materials management	n/a	n/a	it provides all needed electronic materials	53	n/a
	Financial management: it saves money on:	n/a	n/a	renting a flat/room, as one can study from his native town/village	26	n/a
				commuting	17	10
				even clothing and footwear	6	5
Pedagogical advantages	one can teach/learn even when s/he is ill	60	31	n/a	n/a	n/a
	it may be used both synchronously and asynchronously	33	31	n/a	n/a	n/a
	it develops the skill of using educational technology	17	31	n/a	n/a	n/a
	it enables one to feel comfortable during the class	17	12	n/a	n/a	n/a
	it enables one to learn at a comfortable for him/her rate	14	12	n/a	n/a	n/a
	it provides various ways of interaction during the class	8	9	n/a	n/a	n/a
	it improves communication	7	11	n/a	n/a	n/a

	skills under non-standard conditions					
	it helps avoid disciplinary problems (noise) in the classroom	5	21	n/a	n/a	n/a
Psychological advantages	it decreases stress	45	51	n/a	n/a	n/a
	it ensures safety	41	31	n/a	n/a	n/a
	students become more independent	16	14	n/a	n/a	n/a
	it improves the attitude towards technology in education	15	23	n/a	n/a	n/a
	it is more motivating than learning face-to-face learning	13		n/a	n/a	n/a

While more than 70% of the students thought that total online education reduced stress, few teachers though so (from the next question we will see that for teachers it, in fact, increased stress). As some students' parents and students' income was frozen, while others lost jobs, saving money on rent, commuting and clothes was a very important factor for the majority of students. What is really valuable, was that all students and lecturers, even those who in the pre-COVID-19 period resisted the application of technologies in education, had to master the needed skills. Students and teachers with children especially valued the possibility of looking after their children while learning / teaching – this saved their money for baby-sitter and made children happier. While for many students who are X or Y generation studying via technologies was more motivating than without them, for the teachers it was not so. Master's and doctorate students mentioned that they managed to combine their online / offline work (in the daytime) with the online classes (in the evening), as they didn't need to spend time commuting. Both the students and the lecturers confirmed that students were seldom late for the classes and practically never missed them. Below see some interesting answers.

S17: During the pandemic I stayed with my parents in the village. I could help them with the housework. We didn't feel lonely. And it saved us a lot of money – renting a room, living alone, commuting… I had the Internet, and when the electricity sometimes went off, we had a generator, so it was OK. The classes were recorded, so, when I didn't understand or remember something, I could watch it when and as many times as I needed.

S 26: I didn't have to spend money on books and to "hunt" for them – all educational materials (scanned or e-

books) were provided by the university. I could sit, walk or lie during the class – that was great! I didn't really get tired. The teachers always noticed who "raised hands" and let everybody ask their questions or say what they wanted. We, students, organized our blog, which helped learning a lot, we were more supportive of each other than usually.

S 30: Neither I, nor the teacher ever missed a class, a quiz or a midterm exam, there was no need to compensate anything, which had always been a problem before. Maybe I shouldn't be saying so, but, if the lecture was dull, I could be there and simultaneously do something more pleasant and important. I've learnt to distribute my time so that I couldn't any more say "I didn't have the time to study / do homework."

 L 2. I have two kids, one had stayed at home with a nanny and one had attended the kindergarten. They were ill all the time, because the elder one always brought some infection from the kindergarten. I had been torn between the children and my job. During the pandemic it was difficult to explain to them that mum is "at work" and they shouldn't interfere, but it was still easier and more comfortable than before.

L 7: I was among those who didn't lose their job and income during the pandemic, it was great! Of course I had to work much harder than before, practically day and night. But I felt safe financially and I didn't worry much about the family members' health (my son and husband both worked online like me).

L 21: Besides the video-recorded lectures, I uploaded so many resources for students – texts, audios, videos, articles, textbooks. "Autonomous learner" wasn't an empty word from the syllabus any more, the students had to learn autonomy, and many of them benefitted from it a lot.

Q3. What challenges / disadvantages of total online teaching / learning can you name?
The following challenges / disadvantages named are given in Table 3.

Table 3. Classification of challenges of total online management

Themes	codes / challenges	number of students	number of lecturers
Technical challenges	internet access and quality, availability of the needed hardware and software	11	17
	lack of IT skills	5	21
	quality of equipment	5	21
Pedagogical challenges	lack of educational e-materials	17	12
	lack of pedagogical knowledge dealing with online teaching	15	15
	lack of feedback	13	27
	difficulties of organization and self-organization	12	15
	need to make urgent changes to syllabi (e.g., assessment modes)	5	31
	cheating and difficulty of assessment		25

Psychological challenges	lack of socialization	61	29
	lack of emotional support	18	27
	demotivation	13	7
	distractions (from family members, internet and books)	12	23
	abnormal work/study/life balance	11	28
	stressfulness, especially in the beginning of the process	7	27
	low quality interpersonal communication (switched-off cameras, eye-contact)	7	18
	too much control by administration / lack of trust	n/a	22

Practically all students and lecturers suffered from the lack of socialization. Many of them lacked emotional support in that situation. Interestingly, none of them mentioned lacking technical support, so it looks like universities did their best to provide technical support (trainings), however, not only did not provide the needed emotional support, but also required from the teachers to be available online almost 24/7 and asked to do additional paper work Most of them mentioned they were not trusted by the administration to hold the online lectures and were too much controlled (monitoring + paperwork). While for the students the period did not look too stressful, for the lecturers it was rather stressful. The challenges can be divided into three groups: technical (mentioned by the students 28 and by the lecturers 48 times), pedagogical (mentioned by the students 63 times and by the lecturers 148 times) and psychological (mentioned by the students 150 and by the lecturers 158 times). Although the lecturers were fewer in number, they complained more. However, the trend was the same with all the respondents: while the technical problems were least complained of, the psychological ones were the most complained of. Below see some interesting answers.

S1: As I was staying in the village with my family, there were electricity interruptions from time to time and I missed some classes, but it was good that I could watch the video-recordings, which, of course, could not substitute my engagement in the class, but it did help with understanding and not failing behind the group. And for a few first classes lecturers could not provide some educational resources, but with time this problem was solved. Some teachers were very nervous while using the software and sometimes we needed to help them, but finally it was all OK.

S21: All I did days long was study and sit at home, and that was stressful. I wanted to spend more time with friends. I even missed being in the university yard between the lectures. Frankly, I became a bit lazy – no need to wake up as early as usually, I had plenty of time to choose when to do homework…

L9: I do have some IT skills, but they were not enough to teach online efficiently. The first several lectures were extremely stressful. I couldn't even think of the content of the lecture to be delivered, so much I was concentrated on the technical issues. The university held an online meeting, after which it became easier. But I still believe that I could have taught much better had I known both the technologies and the online teaching pedagogy better.

L13: I spent nights scanning the books for students and making up my own e-materials. My eyes were sore. Some moments I thought I would have a nervous breakdown. I missed live communication so much – it energizes you so much, the student photos and even faces in the camera don't help much. Thanks god I knew some groups from the previous semester or year – then it was much easier to maintain the already established rapport.

L22: I didn't have a camera in my computer – I rushed for one – all were sold out! I borrowed one for a while, and finally I managed to buy my own. It was dreadful. No one, not even my family, understood the hard days I had. The lack of moral support and understanding was so devastating!

Q4. Now that there is no need in total online teaching / learning, would you like to go on teaching / learning totally online? Why (not)?

The majority (30) of the bachelor's students, all except the medical students (11), answered that they do not want to return to total online teaching, however, their answers were more related to the need to socialize with their peers than to the quality of teaching/learning. On the other hand, many (12) master's and almost all (7) doctorate students mentioned they would rather go on in the online regime – except the practical and laboratory classes.

S2: No, no way! I'd like to have some learning online, I've enjoyed having more freedom, more autonomy than before, but seeing your group mates in class and not only, spending time together, it's great fun! When face-to-face lectures were restored, many students who in the past missed many classes rushed to classes. The environment was so exciting! Really, we now value the cost of face-to-face learning!

S36: I'm a doctorate student and I combine work with study. The online regime made it much more feasible. I even attended some classes at my workplace, immediately after the work, not to be late to them. The online regime is very flexible. I realize lecturers' doubts about exams, but they may be held in class or computer lab, while the classes, even the seminars, can be very efficiently held in class.

L5: In the beginning it was somehow difficult to reorganize, but eventually I got used to it and evaluated its advantages. To my mind, the classes that are theoretical, whether lectures or seminars, can be better held online, while the practical classes need to be held face-to-face. That will balance the advantages and the drawbacks of online teaching. Hybrid mode is fine, especially for master's and doctorate students. Many of them not only work, but also have families, and the hybrid regime is optimal for them.

Q5. Now that there is no need in total online teaching / learning, would you like to teach / learn totally face-to-face? Why (not)?

Although the majority of the respondents (45) have realized the advantages of online learning / teaching and would like to benefit from them, however, they prefer some sort of hybrid regime: some classes from home online, some classes face-to-face, but with more application of the Internet and various software, while some classes totally offline. For the students, especially, for the bachelor's ones, face-to-face socialization at the university seems as important as the knowledge and skills gained there. As for homework, it can be delivered to lecturers completely online. No work will be lost or remain without feedback.

The teachers tend to think (27 of them) that bachelor's students should learn face-to-face, while master's and doctorate students can study in a hybrid regime. They believe that high quality of bachelor's study cannot be achieved only through online regime. And, of course, it depends on the specialty – for humanities online

education is more or less acceptable, while for medical and engineering and some other professions it's unacceptable.

Q6. Now that there is no need in total online teaching / learning, would you like to teach / learn in a way that benefits more from online education than before? Why (not)?

Almost no students and lecturers deny the eventual usefulness of the experience of total online teaching. Would it happen again, they would be much better prepared to it. They will apply the experience gained in this or that way – give more online homework, apply flipped and blended learning.

Discussion

It is essential that the attitude towards online teaching is not one-sided: we need to know the benefits and apply them, but we also need to foresee the possible challenges and to take maximum measures to avoid them (Can & Bardakci, 2022; Lavonen & Salmela-Aro, 2022; Maatuk et al., 2022). The obtained in the research conclusions dealing with the advantages (Goldenson et al., 2022; Punjani & Mahadevan, 2022; Stoian et al., 2022;) and challenges (Hensley et al., 2021; Tkacová et al, 2022; Vachkova et al., 2022) of total online education in Georgia were in line with numerous publications.

Conclusion

Numerous advantages of total online education experience were made by the respondents: Resource (time, space, materials, finances) management, pedagogical (holding / attending all classes, flexible regime, development of IT skills, comfort, adjustable rate, variety, discipline) and psychological (reduced stress, increased safety and autonomy, positive attitude towards IT in education) benefits. Certain challenges, however, were named too: technical (lack of IT skills, internet access and quality, availability and quality of the needed hardware and software), pedagogical (lack of educational e-materials, insufficient knowledge about how to teach / learn online efficiently, lack of feedback, difficulties of self-organization, urgent changes to syllabi, cheating problems) and psychological (lack of socialization and emotional support, demotivation, distractions, abnormal work/study/life balance, stress, quality of interpersonal communication, humiliation due to the lack of trust from administration) challenges. It was mentioned, that many challenges were overcome with time. Therefore, the conclusion was made that, depending on the majors and the level of studies, the experience of total online teaching, with all its challenges, was a useful one, and its lessons should be further studied and their advantages go on being used.

Recommendations

It can be recommended that the aftermath of total online learning is studies deeper and on a larger scale should be analyzed, to be better prepared for further analogous situations and to improve the quality of the traditional,

face-to-face education. To express gratitude to teachers and students for their insistence to teach and learn is essential, and, if not expressed so far, it is never too late. To apply the benefits of e-learning more actively in face-to-face education is a must, probably, the most important lesson learned from the education in the time of the COVID-19 pandemic.

References

Agenda.ge. (2022). Education Ministry: All public, private schools ready to resume in-person studies on January 17. Retrieved from https://agenda.ge/en/news/2022/102

Can, Y., & Bardakci, S. (2022). Teachers' opinions on (urgent) distance education activities during the pandemic period. *Advances in Mobile Learning Educational Research*, *2*(2), 351-374. https://doi.org/10.25082/AMLER.2022.02.005

Goldenson, R.P., Avery, L.L., Gill, R.R., & Durfee, S.M. (2022). The virtual homeroom: Utility and benefits of small group online learning in the COVID-19. *Current Problems in Diagnostic Radiology, 51,* 152-154. https://doi.org/10.1067/j.cpradiol.2021.06.012

Hensley, L.C., Iaconelly, R. & Wolters, C.A. (2021). "This weird time we're in": How a sudden change to remote education impacted college students' self-regulated learning. *Journal of Research on Technology in Education, 54*(1), 203-218. https://doi.org/10.1080/15391523.2021.1916414

Jung, S., Shin, H.W., Gohary, A. & Chan, E.Y. (2022) Benefits and challenges of online collaborative learning from the perspectives of non-traditional event management students: a comparison between asynchronous and synchronous learning, *Journal of Teaching in Travel & Tourism*, 1-21. DOI: 10.1080/15313220.2022.2109553

Lavonen, J., & Salmela-Aro, K. (2022). Experiences of moving quickly to distance teaching and learning at all levels of education in Finland. pp. 105-123. In F.M. Reimers (ed.), Primary and Secondary Education During Covid-19. Springer. https://doi.org/10.1007/978-3-030-81500-4_4.

Learning Portal. (2020). *Spotlight: Quality education for all during COVID-19 crisis*. Retrieved January 8, 2023   from https://learningportal.iiep.unesco.org/fr/node/73778

Maatuk, A.M., Elberkawi, E.K., Aljawarneh, S., Rashaideh, H., & Alharbi, H. The COVID-19 pandemic and E-learning: challenges and opportunities from the perspective of students and instructors. *Journal of Computing in Higher Education, 34*, 21–38 (2022). https://doi.org/10.1007/s12528-021-09274-2

Ng, C.K.C. (2022). A review of the impact of the COVID-19 pandemic on pre-registration medical radiation science education. *Radiography*, 28(1), 222-231. http://doi.org/10.1016/j.radi.2021.07.026.

Punjani, K.K., & Mahadevan, K. Transitioning to online learning in higher education: Influence of awareness of COVID-19 and self-efficacy on perceived net benefits and intention. *Education and Information Technologie,* 27, 291–320. https://doi.org/10.1007/s10639-021-10665-2

Stoian, C.I., Fărcașiu, M.A., Dragomir, G.-M., & Gherheș, V. (2022). Transition from online to face-to-face education after COVID-19: The benefits of online education from students' perspective. *Sustainability, 14*(19), 12812; https://doi.org/10.3390/su141912812

Tkacová, H., Králik, R., Tvrdoň, M., Jenisová, Z., & Martin, J.G. (2022). Credibility and involvement of social media in education - Recommendations for mitigating the negative effects of the pandemic among high school students. International Journal of Environmental Research and Public Health, 19, article 2767. https://doi.org/10.3390/ijerph19052767

United Nations Educational, Scientific and Cultural Organization (UNESCO) (2020a). Adverse effects of school closures. Paris: UNESCO.

United Nations Educational, Scientific and Cultural Organization (UNESCO) (2020b). COVID-19 educational disruption and response. 2020. Paris: UNESCO.

Vachkova, S.N., Vachkov, I.V., Klimov, I.A., Petryaeva, E.Y., & Salakhova, V.B. (2022). Lessons of the pandemic for family and school - The challenges and prospects of network education. Sustainability, 14(4), article 2087; https://doi.org/10.3390/su14042087