How Bangladeshi Students Reacted to Online Education During the Covid-19 Pandemic to Adjust to a Post-Lockdown Period

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Abstract: Following an extraordinary condition of confinement due to the Covid-19 epidemic, academic institutions were urged to focus on supporting telecommunications technology. Higher education went entirely online for the first time. The authors of this study performed an online voluntary survey in which Greek students were asked questions regarding the distant education they had received during the Covid-19 shutdown, particularly the synchronous variety. The goal of this study was to look at the primary difficulties that hampered students' learning, both technological hurdles that made communication difficult and teaching/learning challenges that arose because of growing trends. Recognizing the major issues that occurred in the educational process during the lockdown period will lead to improved communication in the field of remote education in the future. The research was shared with the students not just through their institutions' Student Counseling Centers, but also through articles on well-known student content websites. According to the findings of the research, most students attended synchronous communication online classes (theoretical and practical) in place of their face-to-face sessions. Students raised concerns about synchronous communication instructional techniques, as well as how their lessons were arranged and presented. They alluded to the primary technical issues that happened - on the teacher's side -preventing appropriate communication, as well as the practices that stressed them or the lack of contact between students and instructors that they encountered during the lockdown. Despite these issues, most students are interested in furthering their education through online learning in addition to regular classroom courses. Overall, this survey offered valuable supplementary information about students' attitudes regarding online education during the first quarantine period.

Keywords: Covid-19, Pandemic, Higher education, Distance education, Pedagogy, Attitudes

1. Introduction

Because of the fast spread of a particularly dangerous virus, humanity is in an unprecedented predicament, marked by anxiety about the future. With no prior experience, all sections of society were challenged to cope in the best way possible with this unprecedented trauma. The academic sector, without exception, had to adjust to this new circumstance and begin its work immediately (Schleicher, 2020; Weeden & Cornwell, 2020).

Most nations quickly moved education online (UNESCO, 2020a; Weeden & Cornwell, 2020), and the Bangladeshi educational system was suddenly confronted with online education - but many instructors lacked the necessary abilities. This hurry was prompted, on the one hand, by the uncertainty of how the epidemic would unfold, and, on the other, by the desire to avoid having to redo a whole school year (IESALC, 2020; Ministry of Education in Bangladesh, 2020a).

Students and professors were also kept away from campus to complete their study through online education, just as they were in higher education. What does this signify in terms of both parties? This means that for the new educational process to be successful, pupils must adjust to new modalities of delivery, while teachers must assure the learning process.

During the lockdown period, students were more worried and agitated, on average sadder, and felt lonelier than half a year earlier in within-person comparisons (Cao et al, 2020; Elmer, 2019; Sundarasen et al., 2019; Killan, 2020). Other research' findings reveal that students were less sociable and less engaged in social activities (Means & Neisler, 2020; Quacquarelli Symonds, 2020).

Based on diverse empirical data, we studied students' experiences and perspectives about online education considering the pandemic crisis's consequences. According to a study given to a nationwide sample of undergraduate students by Means and Neisler (2020), despite a significant reduction in student satisfaction with their online courses, most students expressed some level of pleasure with the remote teaching. The number of obstacles and the frequency of technical problems were found to be related to online course satisfaction. Many students described the difficulties of remaining motivated to achieve well in the course as a challenge. As a result, to determine 'how' students experienced these new kinds of academic instruction during our country's lockdown era, we ran an online survey in which undergraduate students were invited to freely answer questions regarding the issues and obstacles they had faced.

Our research had a dual purpose: to emphasize not only the good and bad aspects that arose, but also the attitude of students toward online learning, with most of them admitting that it was something rather new to them.

2. Shifting Away from Face-To-Face Instruction and Toward Emergency Remote Learning

On April 10th, 2020, 194 nations closed all schools and academic institutions, excluding about 1.58 billion learners (90.1% of all learners globally) from any formal learning process (UNESCO, 2020b). The worldwide academic community had undertaken a quick shift from formal mode face-to-face to online learning to maintain its work.

In the case of higher education institutions, online teaching entailed specialized web communication tools, known as synchronous distance education platforms, which would collaborate with asynchronous communication platforms (course management systems – CMS or learning management systems – LMS). Numerous kids were forced to adjust to a whole new method of connecting with their instructors and classmates, and numerous teachers were asked to adapt to these communication tools while also transforming their lectures into an entirely online one. Nonetheless, despite assuring the continuance of face-to-face classes with online courses, no one could claim the same regarding equitable access for all users, much alone the efficacy of learning from the educational techniques employed by professors throughout the distant learning period.

All academic institutions in Bangladesh, like those in the rest of the globe, were forced to close as of March 10th. On March 17th, the Bangladesh Ministry of Education issued an order requiring all university institutions in the nation to be ready for a complete transition from traditional face-to-face learning to online education within one week, until the 24th of the same month. (Ministry of Education in Bangladesh, 2020a).

The new criteria required an urgent response from all academic institutions. Academic institutions appeared to adjust to the processes of synchronous distant education by demonstrating quick reflexes (Raikou et al., 2020). Students and professors were able to continue their study, with the major consequence being the successful conclusion of the academic semester (Ministry of Education in Bangladesh, 2020b).

The term "modern communication" is used since the staff of all Bangladesh academic institutions has had access to asynchronous communication platforms for many years and understands how to utilize them in conjunction with face-to-face learning for many years (LMS such as Moodle and e-class, a free open-source asynchronous education platform being the most widespread in Bangladesh academic institutions).

Bangladeshi academics have expressed concerns and reservations regarding the practicality of substituting synchronous online teaching for synchronous teaching in online classrooms. Online classes include constraints such as scheduling flexibility, issues with internet access and connection quality, and a lack of digital skills (Bczek et al., 2020). Some of the issues discussed are instructors' readiness to use new technologies and adjust their teaching approaches, students' ability to cope with new communication formats, the availability of adequate equipment, and the overall impact of this new situation on their behavior.

3. Methods and Design of Research

To better understand and analyze the changing educational circumstances associated with the move from classroom to online learning, we developed an anonymous online survey in Google forms and distributed it to undergraduate students at Bangladeshi institutions. During the lockdown, students could comment willingly on both the potential and the challenges of online learning.

The Student Counseling Center of the School of Pedagogical and Technological Education (ASPETE) collaborated in this research, and the respective Counseling Centers of the country's other academic institutions were contacted. To educate students, some institutions included a question form on the Counseling Center websites as well as well-known student content websites.

While the academic institutions were shuttered on March 11, the study website was gathering responses from May 16 to June 18, only three weeks after the academic institutions were partially reopened on May 25. (Ministry of Education in Bangladesh, 2020b).

3.1 Instruments

The survey includes demographic questions such as gender, school, and year of study, as well as questions from two primary categories:

- Category 1: Issues that arose because of the usage of technology and communication tools during online education (computer/laptop, tablet, mobile phone, microphone, web camera, and network connection).
- Category 2: Online education's instructional process and pedagogical difficulties

Almost all the questions were closed-ended (see figure and table captions in the 'Findings and discussion' section), thus any answer was possible (Other). Among the open-ended questions were, 'What improvements should be done in the field of online education to assist you in effectively completing your studies?' and 'Would you like to continue taking online classes after the lockdown, and why?'.

4. Results

370 students from 25 academic institutions willingly participated, all at the undergraduate level (see Figure 1), with 235 being women (63.5%) and 135 being males (36.5%).

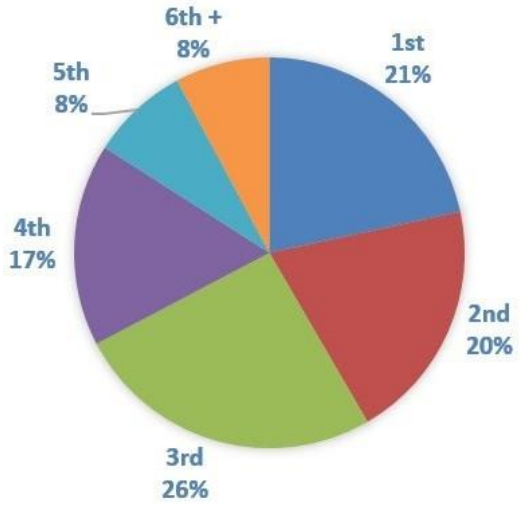

Figure 1: Depicts the Academic Year of the Undergraduate Students

341 (92.2%) of the 370 enrolled students responded affirmatively to the question of whether they agreed to continue or not, a number that represents the whole sample of the study.

Category 1 (questions): The instruments employed in information and communications technology (I.C.T.) and the issues that arose during distant education.

The students were required to state which I.C.T. technologies they used throughout online instruction. During the quarantine period, 98.2% of people had access to the internet at their place of residence, with 53% stating that their connection speed was satisfactory (42% good and 11% very good). Also, 96.8% said they had a personal computer or laptop, with 57.6% saying they didn't share it with anybody. In example, (see Table 1), a large proportion of students (73%) indicated that they used a laptop for their online lessons, and another substantial percentage claimed that they used their mobile phone (41.9%). A specific proportion of pupils (26.1%) utilized a computer, while others used a tablet (6.2%).

Table 1: Students' Usage of Computers and Mobile Devices During Online Classes

PC Tool	Total (N)	Percentage (%)
Personal Computer	89	26.1
Laptop	249	73
Tablet	21	6.2
Mobile Phone	143	41.9

At the end of this category, students were asked to identify any technological difficulties they faced while communicating with their professors in real time (see Table 2). The most prevalent problems, as shown in the table below, were network and connectivity issues (51.3%), followed by insufficient acoustics (52.8%), specifically 14.9% incapacity of voice communication on the part of the student and 37.9% bad acoustics on the part of the instructor. In terms of image transmission weakness or quality, the proportion is 38%, with 9.6% due to the student's incapacity to communicate through the picture and 28.4% due to the teacher's poor image quality. Finally, 22.1% reported no technical difficulties.

Table 2: Technical Difficulties Faced Throughout Synchronous Online Lessons

Technical Problems	Total (N)	Percentage (%)
Frequent connection problems	172	51.3
Inability of voice communication on the part of the student	50	14.9
Poor acoustics	127	37.9
Inability of the student to communicate on screen	32	9.6
Poor image	95	28.4
I had no problem	74	22.1

Indicative responses submitted in the area "Other" are also noted, which we believe are significant for understanding communication difficulties, such as:

- “Inadequate infrastructure for exercises-based learning (lighting, cameras with 240p-480p resolutions) If 720 is not HD, I believe it is a significant disadvantage since we will be unable to take clear notes”
- “We were kicked out of the system if there were too many individuals online”
- “Because of the small size of my phone's screen, my eyes became fatigued whenever I had to view the lesson. Furthermore, the professors did not put the following lesson's content in the e-class, so we could have accessed it from there and listened to it on our mobile phones”
- “I'd exhaust my Megabytes”.

Category 2 (questions): Online education's instructional process and pedagogical difficulties

To begin, students were asked how frequently they had attended synchronous online theoretical and practical (laboratory) courses (if the schedule planned any). In terms of theoretical courses, 72.4% of students responded, "very often" to "always," while 14.1% responded "moderately frequently". 71.6% of all students were required to attend practical (laboratory) courses, with 89.5% attending "often" to "always" and 5.1% going "moderately".

The following questions show the students' attitudes regarding synchronous online education while they were experiencing it for the first time. As a result, we asked them to score the entire procedure on a scale of 1 (I don't like it at all) to 5 (I really enjoy it) (see Figure 2). The majority of students gave it an average rating of 3 (35.2%), while 41.6% picked the highest positive ratings, ranging from 4 (26.9%) to 5 (14.7%). On the other hand, 23.2% believe distant education is subpar (7.9% for 1 and 15.3% for 2).

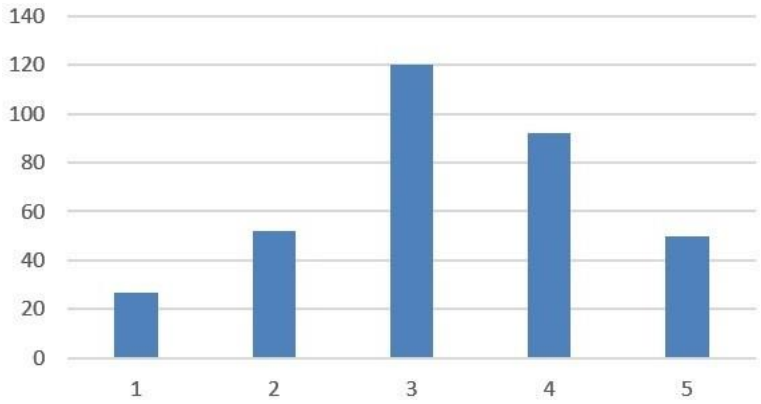

Figure 2: From 1 (I don't like it at all) to 5 (I really like it), how would you rate your experience with online classes thus far?

After that, students were asked to report instances in which remote learning communication strategies caused unpleasant feelings (see Table 3). In the case of synchronous communication, negative feelings were elicited by "tired and long lectures" (47.5%), "lack of contact" (39.6%), "lack of communication with the teacher" (35.5%), and lastly "exclusive use of slides" (33.7%). In the event of asynchronous communication, the choice "lack of feedback" (15.8%) and the option "poor class material organization" show at a lower proportion (15.2%). Finally, 13.5% of those polled had no complaints.

Table 3: When Taking Online Lessons Causes Unpleasant Feelings

Negative emotions	Total (N)	Percentage (%)
Lack of communication with the teacher	121	35.5
Frequent use of slides	115	33.7
Lack of interaction	135	39.6
Boring and long lectures	162	47.5
Lack of feedback	54	28.4
Poor class material organization	52	15.2
Nothing negative to report	46	13.5

When asked what stressed them out when taking online classes during the quarantine period (see Table 4), most students said, "had to spend hours in front of a computer screen" (73%). "Fatigue/difficulty to focus" is ranked second (46.9%), followed by "Feeling lonely or alienated" (30.8%).

12.9% of those polled also mentioned "disruption to family life," while 16.4% said they had had no impact.

Table 4: What caused tension among students when they were enrolled in online classes?

Triggering fact	Total (N)	Percentage (%)
Long hours in front of a screen	249	73
Feeling of fatigue or inability to concentrate	160	46.9
Feeling of loneliness or isolation	105	30.8
None	56	16.4
Disruption to family life	44	12.9

In response to the question, "What do you miss the most during your online study period?" (See Figure 3), the students chose “Face-to-face and interactive contact communication with their fellow students” (74.5%), “Possibility of direct connection with the teacher” (57.5%), and “Physical presence in class” (51%).

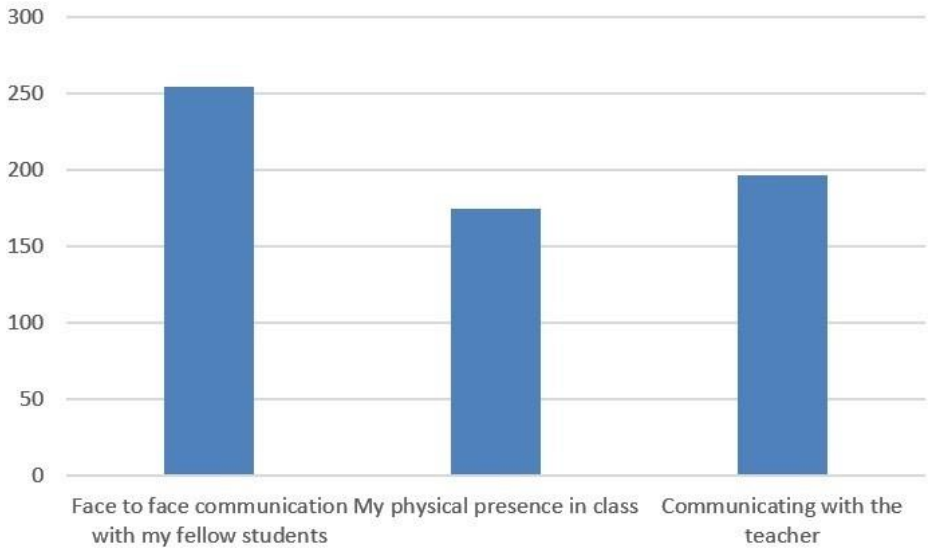

Figure 3: What do you miss the most about your online learning experience?

In the following question, we asked the students to tell us what improvements they thought should be done in the field of online education so that they could finish their studies effectively. We received a total of 166 responses to the open-ended question. We established six subject categories to comprehend the students' responses (see Figure 4).

Category 1 (answers): Technical issues (3%)

The students recommended that a better speed and reliability of broadband connections, as well as the usage of specific online apps in conjunction with the synchronous distance education platform, would improve the communication process.

Category 2 (answers): Back to the classroom (8.4%)

As seen above, a large proportion of students choose to attend traditional classrooms and participate in face-to-face instruction.

Category 3 (answers): Organization (32.5%)

A better arrangement of instructional materials and any other type of content supplied via asynchronous education systems (for instance e-class or Moodle). A teacher's rapid response to any change, as well as a better preparation of the lesson by the instructor during synchronous communication and understanding of the use of technological tools by the teacher.

"All I would say is that maybe some individuals should be better organized, (teachers did not always send email with the link enabling us to participate in the course, they just forgot), but I understand that they are somewhat bewildered because there are so many new things to handle," a student says.

Category 4 (answers): Educational practices (56.6%)

Most responses were regarding concerns relating to their instructors' instructional practices during synchronous contact. There are references to a lack of engagement and communication, lengthy lectures, insufficient breaks, and a lack of options for alternative means and ways of delivering knowledge during class.

The following are some of the demands from students:

- "A more positive relationship with the professors. Students should not be passive recipients of knowledge who are unable to contribute"
- "Without more explanation and discussion, the pdf files in the e-class have no value for me. It takes me a long time to figure things out, and I eventually give up"
- "More engagement, rather than a slew of boring lectures"
- "Teachers should be more concerned with the quality of their lessons than with the quantity of content they are teaching. They must be willing to modify their teaching methods"
- "Teachers should strive to address the pupils as much as possible for a conversation and utilize other ways to transfer knowledge, such as movies and articles"
- "I'm very bored and having to sit in a chair all day is driving me insane".

Category 5 (answers): Inclusive education (3.6%)

This proportion of replies included a wide range of topics, including the teacher's worry, the Faculty's concern, and the Bangladeshi government's concern. They relate to the absence of adequate support for students with learning disabilities, as well as the lack of the bare minimum of electronic materials required for online communication. The following responses are hypothetical:

- "Providing support and advice on how to deal with remote learning for students with learning disabilities"
- "Students who do not have access to a computer or the internet can benefit from your assistance"

Category 6 (answers): I do not want any change – No changes (6.6%)

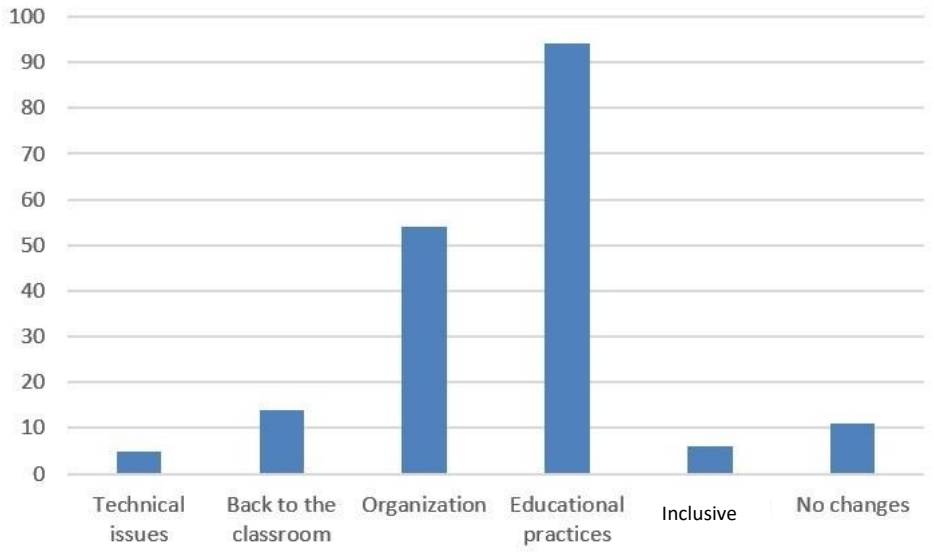

Figure 4: What improvements should be done in the realm of online education to assist you in effectively completing your studies?

Finally, students were asked if they wanted to continue taking online classes beyond the lockdown time, and why. There were 197 favorable responses (57.8%), and 166 students defended their position.

Because the topic was open-ended, we proceeded to categorize the responses into three broad groups based on the responses we got (see Figure 5).

Category 1 (answers): Special conditions (33.1%)

We considered responses that mentioned a specific or personal situation, such as the occurrence of financial troubles, as well as concerns involving members of vulnerable groups or those with family issues. We are quoting the following responses to demonstrate our point:

- "This was a great circumstance for me because I am a mother with a newborn and have no one to assist me. This was the only way I could go to class"
- "I belong to a vulnerable population. As a result, online education aided me in avoiding exposure"
- "Because I couldn't afford to attend classes, online learning came in handy (rent, travel expenses)"

Category 2 (answers): A different educational practice (14.5%)

This category contains responses to questions on the educational methods that pupils encountered during the lockdown. Information to consider:

- "In the present scenario, some teachers provide us the materials they want to teach in class ahead of time so that we know what we'll be talking about in class. This is really beneficial because I have previously studied the subject and am able to pose questions (when this does not happen and we are being sent the material later, eventual questions are being rejected because they tell us that they have already explained them in previous lessons)"
- "It was really beneficial since I was able to watch the videos that the teacher had supplied whenever and as many times as I needed in order to fully comprehend the lesson"

Category 3 (answers): Time saving (59.6%)

Some students believed that continuing their education online would be beneficial since it would save them time, particularly for those who had to travel considerable distances to attend class. The following are some examples of appropriate responses:

- "Because I do not have the chance to come home and leave again, I travel large distances to go to my faculty, spending money on food and beverages all day. If the following class is running late, I usually skip it"
- "Because it will take me two and a half hours to go to and from the institution"
- "I am one of those students that must work to continue their education. As a result of remote learning, I have more free time to study"

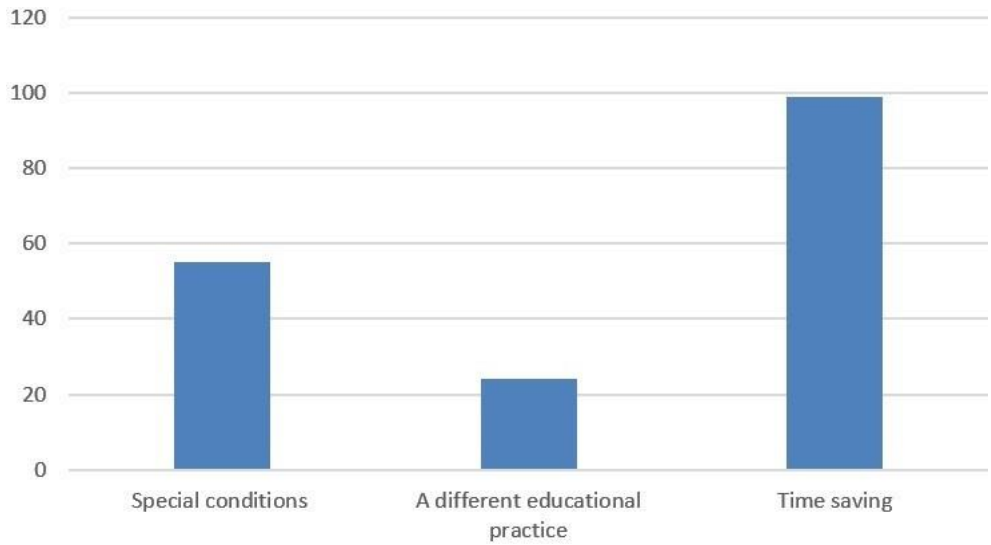

Figure 5: Why do you want to keep studying online?

5. Discussion

The current nationwide study, which took place during the first quarantine period, sought to identify the major issues that hampered students' learning processes of online education and their attitudes toward it, as well as to investigate changes that could be implemented to improve the online academic services provided.

It is encouraging to note that virtually all the students (98.2%) had access to the internet at their dormitory throughout the lockdown, as well as access to a PC or a laptop (99.1%) (Table 1).

Furthermore, it is heartening for the whole academic community to notice that the attendance frequency of online lessons spans from "Very often" to "Continuously" (72.4%). The attendance percentage for online practical courses (laboratory) was very high, reaching 89.5%. It should be noted that the discrepancy might be related to the required attendance that several Departments need for their laboratory courses.

It is worth noting that a large proportion of pupils utilized their mobile phones to access online classes (41.9%, Table 1). It has been demonstrated that the usage of mobile phones for educational purposes in conjunction with classroom instruction benefits the teaching and learning processes (Mileva, 2011; Draves, 2013, p.257). However, we cannot infer that it has a beneficial impact in the case of pure online learning, such as the delivery of exercises or practical courses, or even the reading and analyzing of digital content, because alternative designs for mobile devices are required (Ozdamli & Cavus, 2011).

Certainly, many difficulties with oral or visual communication may be readily remedied, either with the assistance of experts or by replacing specific communication instruments (for example camera, microphone, etc.). The fact that a large percentage of students (51.3%, Table 2) stated that they did not have a reliable connection during their online education can only be concerning, not only in terms of the online courses they took during the lockdown, but also in the event of a similar situation during the new academic year.

Most of them say they miss communicating with their classmates (74.5%, Figure 3), but also with their professors (57.5%). Although the frequency of communication is increased, research has shown that technology and mobile communication devices diminish the quality of interactions (Przybylski & Weinstein, 2012; Misraet et al, 2014; Drago, 2015). It is worth noting that 30.8% of the students who took part in this poll indicated that this was one of the reasons they felt lonelier or more alienated (Table 4). Similarly, Karalis and Raikou (2020) discovered that most students perceive online education to be deficient in cooperation, social contact, and socialization when compared to face-to-face education.

Furthermore, 47.5% of students rated the lengthy lectures during online classes negatively (Table 3). Even though the combination of course material – students – teacher interactions has been proven to be one of the most important factors in a successful online course (Swan, 2003), 39.6 % of students reported missing the interaction and participation between students as well as between students and the teacher that existed prior to the lockdown.

Other unfavorable elements mentioned by students include the frequent usage of slides in classes (33.7%), poor arrangement of the learning content (15.2%), and a lack of feedback (28.4%). (Table 3). In a few words, we might note the structure of the courses, which is also highlighted by the responses to the question "What would you like to alter about the education you are receiving?" They also mentioned the need to modify the organization and presentation of the content, as well as concerns connected to how teachers prepare their lessons, in the category "Organization" (32.5%, Figure 4). It would be more beneficial if the course information was divided and given in modules (Clark & Mayer, 2011; Draves, 2013).

The foregoing findings, together with the technical issues raised in the students' responses (see Table 2), highlight the need for a deeper understanding of communication applications, both synchronous and asynchronous.

Schleicher (2020) mentions a substantial number of instructors who are untrained in ICT remote education. This deficiency is likely to have an impact on the teaching techniques that instructors choose in their communication, as well as the way they develop, distribute, and display their instructional content.

Furthermore, 3.6% mentioned the need to improve learning possibilities through assisting students who are in need, either due to learning challenges or financial concerns (Figure 4).

Previous results help us better understand students' attitudes about online education, which 41,2% of them assessed as "Good" or "Very Good" (see Figure 2), while the remainder ranked it as "Average."

Finally, we should not ignore the students' responses to the question of why they wish to continue their studies partially online in the post-pandemic period (Figure 5). Moreover, half of the men responded favorably to the question, which is amazing (57.8%). At a rate of 33.1%, the majority refers to factors such as conserving time (mostly the time required to travel to and from their Faculty), but also

to personal circumstances (health, financial reasons, social commitments, etc.). This finding is consistent with Karalis and Raikou (2020), who found that students preferred online instruction since it was simpler to participate in class and the change from the traditional approach was interesting. Furthermore, Baczek et al. (2020) discovered that medical students saw e-learning as an excellent technique of gaining knowledge and a beneficial teaching approach.

6. Conclusion

This study focuses on the perspectives of undergraduate students on online education during the lockdown. It is true that prior to the Covid-19 shutdown, most students and teachers had not accepted online education as the formal teaching and learning approach, and that this style of education is clearly distinct from face-to-face courses in a classroom.

With numerous limitations still in place for the upcoming academic year, the academic community is acutely aware of the need of being as prepared as possible. Online learning has unquestionably established itself as a viable option. It is undeniable that the usage of internet communication may aid in the access to education of a larger variety of pupils. However, this does not rule out the possibility of traditional face-to-face schooling. Similarly, students from two Bangladeshi institutions in Raikou et al., (2020) rated online education favorably on the basis of the development of new abilities, the ease of attending classes in their own surroundings, time and speed, and the advancement of ICT skills.

Whatever steps are implemented, a portion of education will remain online, implying that the academic community should address any difficulties, inadequacies, or inequities that may have emerged during the lockdown period in the first post-lockdown era.

7. References

Bączek, M., Zagańczyk-Bączek, M., Szpringer, M., Jaroszyński, A. and Wożakowska-Kapłon, B.,2020. Students' perception of online learning during the Covid-19 pandemic: a survey study of Polish medical students. Research Square, 1-14.

Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J. and Zheng, J., 2020. The psychological impact of the Covid-19 epidemic on college students in China. Psychiatry Research, 287:12934.

Clark, R. C., and Mayer, R. E., 2011. E-learning and the science of instruction: proven guidelines for consumers and designers of multimedia learning. San Francisco: Pfeiffer.

Drago, E., 2015. The effect of technology on face-to-face communication.The Elon Journal of Undergraduate Research in Communications, 6(1), pp.13-19.

Draves, W., 2013. Advanced teaching online. River Falls: Learning Resources Network. Elmer, T., Mepham, K. and Stadtfeld, C., 2020. Students under lockdown: comparisons of students' social networks and mental health before and during the Covid-19 crisis in Switzerland. PLOS ONE, 15(7), p.e0236337.

IESALC, 2020.Covid-19 andhigher education: today andtomorrow:impact analysis, policy responses andrecommendations. [ebook] Available at: <http://www.iesalc.unesco.org/en/wp-content/uploads/2020/04/COVID-19-EN-090420-2.pdf> [Accessed 2 November 2020].

Karalis, T.andRaikou, N., 2020. Teaching at the times of Covid-19: inferences and implications for higher education pedagogy. International Journal of Academic Research in Business and Social Sciences, 10(5), 479–493.

Killian, J., 2020. College students, professors adjust to Covid-19 life. [online] NC Policy Watch. Available at: <http://www.ncpolicywatch.com/2020/04/01/college-students-professors-adjust-to-covid-19-life/> [Accessed 30August2020].

Marinoni, G., van't Land, H. and Jensen, T., 2020. The impact of Covid-19 on higher education around the world: IAU global survey report.[ebook] Paris: International Association of Universities. Available at: <https://www.iau-aiu.net/IMG/pdf/iau_covid19_and_he_survey_report_final_may_2020.pdf> [Accessed 28 January 2021].

Means, B. and Neisler, J., 2020. Suddenly online: anational survey ofundergraduates during the Covid-19 pandemic. [online] Digitalpromise.org. Available at: <https://digitalpromise.org/wp-content/uploads/2020/07/ELE_CoBrand_DP_FINAL_3.pdf> [Accessed 7 September 2020].

Mileva, N., 2011. The effectiveness of mobile learning in the form of performance support system in higher education. International Journal of Interactive Mobile Technologies (iJIM), 5(4), pp.17-21.

Ministry of Education in Bangladesh, 2020a. Briefing of the deputy Minister of education on distance education in universities. [online] Available at: <https://www.minedu.gov.gr/news/44365-17-03-20-enimerosi-tou-yfypourgoy-paideias-thriskevmaton-gia-tin-eks-apostaseos-ekpaidefsi-sta-aei-2> [Accessed 29 August 2020].

Ministry of Education in Bangladesh, 2020b.Gradual reopening of structures of education. [ebook] Athens. Available at: <https://mathainoumestospiti.gov.gr/wp-content/uploads/2020/04/minedu-covid19-mathainoumestospiti-nea-metra290420.pdf> [Accessed 29 August 2020].

Misra, S., Cheng, L., Genevie, J. and Yuan, M., 2014. The iPhone effect. Environment and Behavior, 48(2), pp.275-298.

Ozdamli, F. and Cavus, N., 2011. Basic elements and characteristics of mobile learning. Procedia -Social and Behavioral Sciences, 28, pp.937-942.

Przybylski, A. and Weinstein, N., 2012. Can you connect with me now? How the presence of mobile communication technology influences face-to-face conversation quality.Journal of Social and Personal Relationships, 30(3), pp.237-246.

Quacquarelli, Symonds, 2020. The Impact ofthecoronavirus onglobal higher education: exclusive QS survey data reveals how prospective international students andhigher education institutions are responding to this global health emergency. [ebook] Available at: <https://info.qs.com/rs/335-VIN-535/images/The-Impact-of-the-Coronavirus-on-Global-Higher-Education.pdf> [Accessed 2 September 2020].

Raikou, N., Kaltsidis, C., Kedraka, K. andKaralis, T., 2020. Teaching in times of Covid-19 pandemic in two peripheral Bangladeshi universities: lessons learned from students' experiences and opinions. Research Journal of Education, 6(8), 135-143.

Raza, S., Khan, K. and Rafi, S., 2020. Online education & MOOCs: teacher self-disclosure in online education and a mediating role of social presence. South Asian Journal of Management Sciences, 14(1), pp.142-158.

Schleicher, A., 2020.The impact ofCovid-19 oneducation -insights fromeducation ataglance 2020. [ebook] OECD. Available at: <https://www.oecd.org/education/the-impact-of-covid-19-on-education-insights-education-at-a-glance-2020.pdf> [Accessed 27 October 2020].

Sundarasen, S., Chinna, K., Kamaludin, K., Nurunnabi, M., Baloch, G., Khoshaim, H., Hossain, S. and Sukayt, A., 2020. Psychological impact of Covid-19 and lockdown among university students in Malaysia: implications and policy recommendations.International Journal of Environmental Research and Public Health, 17(17), p.6206.

Swan, K., 2003. Learning effectiveness online: what the research tells us. Elements of quality online education. Practice and Direction, 4, pp.13-47.

UNESCO, 2020a.National learning platforms andtools. [online] Available at: <https://en.unesco.org/covid19/educationresponse/nationalresponses> [Accessed 18 September 2020].

UNESCO, 2020b.Education: from disruption torecovery. [online] Available at: <https://en.unesco.org/covid19/educationresponse> [Accessed 2 November 2020].

Weeden, K. and Cornwell, B., 2020. The small-world network of college classes: implications for epidemic spread on a university campus.Sociological Science, 7, pp.222-241.