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Challenges in Online Teaching and Learning

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Abstract

Online teaching and learning create a broader dimension of education. Learner used the internet and connected their educational experiences to online learning. Online teaching and learning might be supportive of face-to-face classrooms in any aspect of learning. However, online sources could be used for other purposes of learning. The present study aimed to explore challenges in online teaching-learning at the postgraduate level of the University of Dhaka. Under a qualitative research design, a total of 27 students and 4 faculty members were selected by convenience sampling. Semi-structured interviews for 6 students and 4 faculty members and a Focus Group Discussion were organized for the other 21 students in three sessions. Interview schedules for students and faculty members and FGD guidelines for students were used to collect the data. The thematic data analysis method was used for data analysis. The study findings revealed that there was some disruption in teaching and learning, as well as a variety of issues that students and faculty members had experienced, including the inaccessibility of appropriate devices, a lack of wide-range web coverage, and a lack of consistency, all of which were major issues when it comes to collaborative categories. Eliminating distractions, keeping discipline, gaining technological skills, practicing time management, soliciting student feedback, and so on can all help to improve the effectiveness of online education. The government is making efforts and adopting measures to enhance digital infrastructure and offer fair access to online education, but much more has to be done in this area.

Introduction

Online education is where teachers and students utilize computers or smartphones to conduct teaching-learning activities while remaining remote from educational institutions connected via the internet. Since March 2020, the spread of deadly Covid-19 has disrupted people's everyday routines throughout the planet. Education is one of the most upsetting areas (Rahman, 2020). Bangladesh, a developing country, is an evident victim of such a calamity. The education sector suffered irreversible harm, but the economy and other sectors would have recovered quickly. Even though the government created an online education program in an attempt to address the issue, several problems soon began to arise. Article 17 of the Constitution of the People's Republic of Bangladesh states that all people are required to get free education up to a specific degree (Ministry of Law, n.d.).

The process of imparting information, values, techniques, abilities, and beliefs from one person to another is called education. Teachers and students at the University of Chicago, who were spread out across different regions, attempted to communicate through correspondence courses in the 1800s, which is when distance education first emerged in the United States. Several colleges and universities started offering online courses in the middle of the 1980s. The development of the Internet served as a driving force behind the advancement of distance learning online (Sun & Chen, 2016). These days, the Internet is influencing how we live, interact with others, educate, and learn. Online education gives both the teacher and the student access to a wealth of information as the Internet continues to grow as a primary educational tool. Over the past 10 years, online learning in all its forms—often referred to as web-based learning or distant learning—has become a standard component of many university curricula.

Modern learners may be reached and engaged one-on-one at any time and from any location with the help of online teaching and learning. One well-known example is Massive Open Online Courses (MOOC), which have expanded to include several scholars and research organizations (Sadiku *et al*, 2017). Higher degree completion rates, simple and accessible access for students, and the attraction of such courses to nontraditional students are the justifications for delivering online courses. Similarly, the high implementation and delivery costs of online courses and a lack of faculty engagement are obstacles to their adoption (Bollger & Wasilik, 2019).

Considering student characteristics is essential to the successful deployment of online teaching and learning. Adult learners who have full-time employment and family commitments may not benefit from the same strategies that work for traditional full-time students. These students have a strong interest in tools and technology and are mostly practical in their approach (Gudivada *et al*, 2013). Learning is a complicated process involving the auditory, visual, and tactile senses. The traditional model of learning at a campus institution is not for everyone. Online learning is ideal for students who want to get a degree while either working or having other responsibilities. Online learning is also known as remote education, web-based learning, e-learning, and digital learning. It is delivered via the Internet and includes web-based materials and activities. Students must be digitally competent to use any essential technology tools. Students in the digital era tend to be more autonomous, technologically disciplined, and knowledgeable, making them ideally adapted to the online world. Online studying at your speed is advantageous to obtaining a high-quality college degree.

To develop a nation and achieve human potential, the development of education is important according to the Campaign for Popular Education report (CAMPE, 2009). To continue education, a classroom and other physical settings are needed for face-to-face classes. However, online classes are somehow different from conventional classes. Online education, according to Ellis (2009), is an endeavor to develop an alternative to traditional educational environments. Online education and learning are relatively new. Most universities and colleges prioritize online education as a long-term plan. Online courses are most effectively taught when they are designed to make use of the learning opportunities provided by online technologies. As online education becomes increasingly popular among working adults, there is a growing expectation for effective teaching and learning systems.

Online education is considered a type of education in which students and faculty members use their own devices to access the internet instead of presenting physically in an institution. Students are increasingly enrolling in online semesters with greater retention rates, seeing the e-learning process as a greener choice, with learning and evaluation moving with fewer interruptions and a lower time commitment because transportation is not required. Although online learning faces various problems, researchers have conducted various studies on the subject. Problems of online education during COVID-19, problems of online education in Bangladesh, significance and importance of online education, ongoing processes and problems of online education in the world, etc., although these issues have been discussed (Kebritchi et al., 2017; Khan et al., 2021; Orr, 2024; Paudel, 2020; Pollard & Kumar, 2021; Shoaib et al., 2023; Svihus, 2024; Tareen & Tahir, 2020). However, there is not much research on the problems faced in online teaching and training in higher education at Dhaka University, so we discussed the challenges of online teaching and learning at the postgraduate level of the University of Dhaka.

Research Methodology

Nature of the Study

we decided to conduct the research within a qualitative narrative research framework. As qualitative research seeks in depth findings. The method gives a bigger scope to describe own opinion broadly. Qualitative method is used to find expanded information of complex phenomena, explore unexpected events, and interpret the scenario experienced by actors. It also used to flash the rare opinion and views which hardly founds (Sofaer, 1999). Charles Ragin (1994) noted it as useful for, in-depth and multi-dimensional exploration of a limited number of complex total. It also useful in inquiries into developmental processes within an institution (Sofaer, 1999). As I intended to shed light on online class broadly, I went through on qualitative research design.

Sample of the Study

The source of data is to complement the study. A sample is a group of people, objects or items that are taken from a large population which represent the whole population so that the finding could be generalized (Bacon-Shone, 2015). As the research needed the qualitative data to find out the challenges and also find out the future evolution of the online study. The sample for the study was chosen from the target population through Non-Probability Sampling which involves a collection of feedback on the basis of a researcher's sample selection capability and not a fixed selection process. Regarding the issue of permission by institutional authorities, inaccessibility or unavailability of information I had followed convenience sampling method to overcome the limitations. Some of the information collected from key informant individuals and respondents answer. Along with that, there were semi structured questionnaire filled out and interviewed by the researcher. Lastly the FGD was conducted to find out inclusive opinion of students.

Sample Size

The number of subjects included in the sample size is referred to as the sample size in market research. When we talk about sample size, we're talking about a group of people who are chosen from the general population and are

deemed representative of the real population for that particular research (Bartlett *et al*, 2001). Multiple factors influence sample size in qualitative research, including the research topic, questions the study must answer, research complexity, theoretical framework, epistemological tradition, research type, used methods, research population structure, and access to it, resources and time available to complete the study (Flick *et al*, 2012).

Under a qualitative research design total of 27 students and 4 faculty members were selected by convenience sampling. Semi-structured interviews for 6 students and 4 faculty members and Focus Group Discussion were organized for the other 21 students in three sessions. Interview schedules for students and faculty members and FGD guidelines for students were used to collect the data. The thematic data analysis method was used for data analysis.

Methodology Matrix of the Study

Table 1. Sample Distribution of the Study

Objectives	Nature of Data	Sources of Data	Sample Size	Sampling Technique	Instrument/ Tools	Data analysis technique
To find out major challenges of online teaching learning program of post graduate level of University of Dhaka.	Qualitative	University of Dhaka	8 Students from IER 22nd (4M+4F)	Convenience sampling	FGD Guideline (FGD)	Thematic Analysis
			8 Male students from faculty of Arts, Law, IER			
			5 Female Students from IER, ISWR, faculty of Arts, Social Science			
			3 Male students from IER, Faculty of Social Science		Interview Schedule (Interview)	
			3 female students from IER, Faculty of Arts			
			2 male faculty members from IER and Faculty of Social Science		Interview Schedule (Interview/KII)	
			2 female faculty members from ISW&R and Faculty of Arts			

Data Analysis

Qualitative data analysis method had been used in the study. To analyze qualitative data students' and teachers' semi-structured interview and students' FGD thematic analysis had been adopted. Deductive thematic analysis had been employed to analyze the qualitative data, which were collected from students' and teachers' semi structured interview and students' FGD. Deductive thematic analysis is used to analyze the qualitative data. Boyatzis (1998) said that, a theme may be either generated from the raw data inductively or deductively from a theory and prior research.

Again, Braun & Clarke (2006) referred that, deductive analysis is conducted by the researcher's theoretical or analytical interest. It may produce a less rich description of the overall data providing a more detailed analysis in some aspect. This approach had been followed in the study because the research questions helped in identifying the main themes or categories which were used to group the collected qualitative data and then look for challenges and opportunities on online teaching learning.

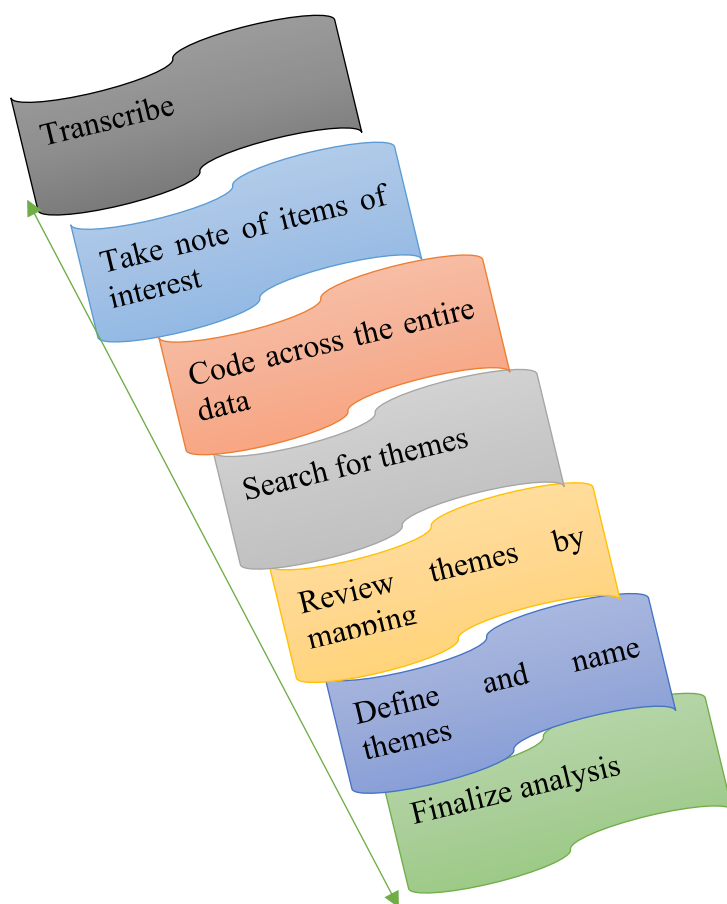


Figure 2. Thematic Data Analysis Steps by Braun & Clarke, 2013; 2006 (as cited Ngulube, 2015, P-1)

Results

Network and Internet Problem

Bangladesh with a vast amount of people, mobile internet is very slow still now. It ranked 135th among 138 based

on the speed of mobile internet (Dhaka Tribune, 8 July 2021). Internet network were devastating in village. All the teachers and students undergo with this problem except who had cable connection. It was a great problem to them. Student did not connect to class and attend class smoothly. 3G and 4G network are still unavailable in many area of Bangladesh. Video were blurred and stuck many times.

One of the interviewee said that, "Sometimes video was not moving and we thought we were disconnected but sound was coming. We then understand that it caused for internet coverage" (IF4). Students were unable to connect properly. Disconnecting from class and joining class again and again were annoying. When it happens, attention was lost, felt disappointed as students' lost the track (FM2). Regarding the cost of the data it was not cheap. A student said that, "We were given a data cost effective SIM by our faculty. Therefore, experience was same to normal SIM and for this reason I offed the SIM" (FM2).

The problem was felt in all data operator of BD. An interviewee said that,

I have used all the SIM available in our country and all were not providing continuous good services. I changed SIM for joining class. It was not required to open our camera all the time. Thus I did not felt difficulty all the time (IM3).

Students had to join from ceiling of their house or outside of the room to join the class."Most of the time I had to join classes from ceiling for better internet connection. When sun goes up and heating, it was also a problem to me. "(FF3)

May be it sounds funny but it is true that some students joined form branches of a big tree for joining online classes with a strong internet connection (KF3). As a faculty member said, "I had a female student from Lalmonirhat district. She did not find internet coverage in her village, she had to go 2 miles far from her home near village market for joining in class" (KF4).

One respondent had to go about 4 kilometers far from her home near of a market and joined on online class (IF6). However, network coverage was not the only problem. There was a question about the quality of cable connection also. Cable connection was also fluctuating and disturbing. Faculty members' embraced inconvenience when electricity failure occurred and network were down by authority. A faculty member said:

I live in an aristocrat area of Segunbagicha, Dhaka and had a strong cable network of 8 MBPS. Why I sometimes felt unstable internet connection? One day I had disconnected three times in a class and left class for that day (KM1).

Considering the issue another key informant said that,

Youth are a great number in Bangladesh. If we want to take demographic advantages from them, we have to reduce internet cost and need to create strong internet basement which is necessary. (KM2)

Lack of Interest

Students showed interest at the beginning period. After starting online class and lengthening duration of University closure they frustrated and felt lack of interest. They had to join online class only and for many reason most of the time class was messy and noisy. Students were bored when teacher had to repeat his lecture. Students lost his/her attraction on class. As they said

Most of the time on online class we did not feel attraction or fondness as lecture delivery method were conventional. Sometimes our faculty expressed his/her disinterest with us (FM2).

Another group of student exceeded that,

Teacher also uninterested in online class, so in some cases their motive also like us. Many times our camera was switched off. Teacher's camera also was off also. That time class was happening for the sake of law and order (FF3).

On the other hand, teacher also expressed disinterest when student was not responding to teacher. It happened because somehow the students did not feel comfort on online class to respond spontaneously with the teacher. As a result, the faculty felt alone in the class which made him/her bored.

Lack of Motivation

Students were inspired by teacher all the time. They joined online classes with their own choice. Some were absent with their own choice. There were no obligations for online class. However, device problem and some artificial problem made unhappy and abolish their courage to join in online class.

Faculty members also realized the lack of motivation within the students. They had to motivate student all the time and tried their best to know student's problem. However, they did not help all students which made them dissatisfied (KM1).

Some of them were tried hard to adjust with the situation and encourage him/herself with intrinsic motivation along with his/her students describing his/her real life tough experiences. Teacher also had to maintain a family and during COVID-19 pandemic some teachers also affected by this. Some teachers faced challenges to take online class from home for family works.

One day we had presentation on online and we were suggested to on our camera. One of our friends was lying on the bed of a hospital. She didn't tell about that. After seeing her, course teacher offered him/her to leave the class for illness. But s/he expressed that, s/he wanted to do the class because it felt well to him/her. Then teacher gave permission after repeatedly asking on his/her problem (FF3).

Low Attendance

Attendance is an important part of a class. Students' have to attend minimum 60% of total class or dropped out according to law of DU. Most of the department allotted some number/mark on student's attendance. However, in DU online class was not mandatory and obliged by that rule. University authority told teachers to conduct class for the wellbeing of students. Many students of this level did not take online classes seriously. Many of them had some hindrances to join online class and students' attendance on online class was relatively low. All interviewee except one are agreed that students' attendance was up to 60%. Surprisingly one faculty member (KF3) told that her students of post-graduation course were fully present on most of the classes. However, students' attendance relatively high when notice of online exam spreads. Students joined on classes to appear online examination. Study found that about to all students were present in online examination.

Fail to Ensure Class Environment

Most of the students was joined from their home where it was impossible to maintain an environment of class. Concentration was broken very easily. Students' class environment is so much important. Traditional class environment or face-to-face class environment is quiet effective. Here students and outer environment are education friendly. Students can share their thought and discuss about their opinion with friends, seniors, juniors and experts which is not possible by sitting on the bed of a room and student did not feel the classroom environment.

Human brain has two types of storage. One type is for permanent knowledge and another is for surface level learning. When we teach our student physically outsider environment helps them to shift that knowledge in permanent storage. I felt that this opportunity was missing on online class. Many times students learning were repetitive and could not go to deep of that learning for some reason (KF4).

Sometimes students' had to join class from a place near a market. Then s/he did not reply to teacher due to noise of the market. When rain falls cats and dogs in a tin made home it was quiet impossible to keep attention in online class. However, network disturbance and electricity failure also cuts attention.

Family member were here and there in home. Sometimes managing a room could not be very easy in joined family. Many students had children and parents near them.

Face to face class and online class's environment is totally different. We have to prepare to go institute and classroom attire, maintain some etiquette but in online classes we were in home with our family member. It was so tough to arrange a calm environment for class. During online class family members came to me and asked some sort of question like, "why you are not talking? Why your teacher doesn't say anything? Is there any problem? Is it your teacher? Your teacher is smart" and so on. Sometimes I felt ashamed/discomfort to answer teachers in front of our family members. (FF3)

Another respondent said, *"My mother were hearing my class and she was more attentive than me. It was so interesting"* (FF3). Most of the faculty members tried to take online class from a calm place and they arranged it from their home. As they had to do it for maintaining professionalism. Whether students' who were from lower income family, they had lost their part time earnings and it was difficult for them to prepare a calm and quiet place.

I think most of the students didn't avail noise free place or proper facility as classroom. Most of the students are from rural area. They had to join from field, near village market, from outdoor and so on. Noise proof place was not quite possible to them except few students (KF3)

Device Problem

Most of the students had own device and they joined with that (FM2). But some students needed smart devices though they had some low variations of phone set. They needed high configurations of phone. So, they needed money to arrange the smart phone for online class. However, they arranged the money from their family or by own. Besides, some department gave loan to the student to buy devices.

Students needed economical support for attending online class, to buy devices in many cases. University could allot some fund for welfare of students' academic progress. As described before, some department and institution gave one-time fund to students to buy devices or to bear cost of internet as needed. A student told she found 600 takas to continue data cost (IF5). One respondent of FGD 2 informed that he bought a device after founding soft loan from department. However, students did not found any fund from University authority except Alumni association or departmental fund most of the cases. (FB1)

However, some faculty members were also need of fund as they did not take online class before. They had to create a classroom environment which created difficulties upon them. One key informant said that, "All the service person are found device from their service provider, university teacher is only exception. Authority preconsumed that every teacher has a laptop or device" (KM2).

I found a laptop given from my departmental fund and it was ruined during COVID. After considering emerging need to continue of online class I managed money and bought a laptop by my own (KF4)

Newly appointed faculty members had device problem also. They needed high configured devices specially a laptop but they did not find any support from DU authority. Some department sponsored the teacher to buy a laptop but its maintenance conducted by teachers own.

Funding

Funding and sponsoring is a form of helping economically. Many students did not have devices. Most of the students were arranged their device personally. DU authority collected information of students who needed help

and prepared to give a soft loan to students. The procedure of soft loan was very slow and most of the student who applied for soft loan was unable to collect the fund. Some departments gave fund from their departmental fund as many students were in unstable position after gone home.

From our institution, we found 600 takas' for buying data packs for joining the online class. We did not get any funds to buy a device. Alumni Association of our institution helped emergency to our needy students. Our institute tried to know the student's problems by sending SMS and mail. (FB1)

Some students did not know about the opportunity as one of the respondents said "I did not get any information and notices about funding and helping students" (FB1).

In my department honorable chairman declared who had crying need of economic issues were trying to be helped from our departmental fund. One Professor said she heard that who lost earning issues for the closure of COVID-19 and lived measurably in the beginning of this situation got 6000-taka fund from department. From this help, some students bought smart phone, data pack and so on (FF3).

Students do not need any incentives. If teachers' pay full attention and their ability to take class more interestingly, students will automatically incentivize. It is mandatory to do research on teacher's mentality and facility for getting information. (IM1)

Newly appointed teachers and many senior teachers felt problem to connect with devices and take over online class.

Cost of the internet packages were so high and difficult to bear for online classes. Some departments gave one-time data fund to students. IER gave 600 taka from own institutional fund to students for joining online class.

Socio-Economic Pressure

Statistics showed economic condition go downward of all the citizen of Bangladesh respectively. Students of post graduate level were waiting for entering job sector. Students had a pressure from family to take responsibilities. Many students were bearing their education cost along with living cost on Dhaka city by part time job and tuition. Students lost their job and tuition most of the cases. Student undergo with the matter.

Along with the pressure of entering the job sector we were thinking about how to finish our courses. As early as our course is finished, we will get rid of academic pressure. That's why we weren't too much fond of online classes. (FB1)

Another key informant said that,

I think students didn't give attention properly on online class. During online class I ask some question

mentioning their names to examine students' attention, many times they failed to understand me and answer to me. I didn't know about his/her situation but it was happening for some reason. That's why it was unclear to understand about students' attention on online class. (KF3)

Though Dhaka University authority tried to realize the condition but somehow they failed to give effective response. As during this pandemic period online teaching learning was the only way to continue our learning process and we were not used to with it. So it was a matter of quiet discomfort to continue our study through internet. On the other hand, various types of hindrance, we faced in this time by the consideration of our geographical context, our life style, and many other issues that we have already discussed in our previous section can also be the reasons of failure of gaining attention from the learners for online learning as an education method.

Lack of Proper Planning

After closing decision of university, the authority was waiting for opening the campus and going through offline activity. University authority failed to understand the real situation. Many developed countries fallen down from previous position during COVID periods. South Asia was relatively less affected in first wave of COVID attack. Government of Bangladesh took some plan and imposed it among mass people. Wearing mask and securing hygiene issues were first priority of government and then after invention of vaccine in Oxford, students were one of the top categories of priority level to take vaccine.

Though COVID situation in India was devastating in third wave they continue their higher education on online. After a long break of four to five months' university declared direction about taking class on online. Many teachers did not feel urge to take online class and they were refrain from it. Student also did not know whether the class was the wastage of time or not. Students were informed that they would be able to join class physically after opening campus. An interviewer said,

Policymakers were not connected with us. They decided by their own and didn't give any clear direction to us also (FB1).

One key informant informed that,

I didn't know about policy about taking online class before COVID. Now university authority declares that teachers would take up to 40% of their class on online along with physical class (KF3).

With this direction most of the teacher continued their class and finished their credit hour. There were still some students who did not attend a single class.

Some departments were going to class of next semester after completing class of a semester. On that point student felt dissatisfied for their incomplete previous semester. Some faculty members wanted to take in course examination on online and faced barrier by the absence of university's direction and

postponed examination on online (IM2).

After that university went with the decision of conducting exam on online and it was not obligatory to all the faculty and institutions. Some department and institutions went through that way and some were waiting for physical examination. Study found that, some institution/department was taken decision to take exam offline on COVID situation and they retreated from their decision by the denial of students. After few months they finally took examination on online and most of the students had taken part on this examination. Few departments took exam physically ensuring hygiene of exam room though university dormitory were remain closed for students. This type of changing circumstance created a great trouble for students and faculty. Students of post-graduation level were under pressure and feel oppressed by university authority. It is the reflection of proper inefficiency of university authority. Some students angrily condemned to university authority for late response relatively from private universities named NSU, AIUB, BRAC University, BUET, BUP.

Among public universities BUP started online class as they had a plan. They sponsored little money to all students and opened the medical advantages in CMH of Dhaka Cantonment (KM1).

A participant had said about insincerity of authority that,

I think our authority member and key person of educational policy members have lack of vision and courage. They are such type of lazy (FF3).

Inefficiency in Proper Use of Online Activity

TPACK (Technological Pedagogical Content Knowledge) shows the teacher of 21st century that now we need technological pedagogical content knowledge for providing quality education (Niess, 2011). Study finds mix feedback about technological pedagogical skill of university faculty member. Most of the cases young teachers are highly skilled on online activity where senior teachers were faced difficulties and complexity on online class comparatively. However, some young teachers were still lagging behind in skill for their impassivity (KM2).

I think many teachers were unable to perform online classes thus they denied taking online classes. Other department teachers who were totally out of touch with his/her students during COVID-19 period failed to perform online classes (FB1).

Faculty members did not try all the opportunity on online. Most of the cases lecture method and showing some slides were the only medium for conducting a class. Other online quiz software and puzzle website were unused by them. Many teachers had lack of readiness. Those teachers who taught savvy children were efficient comfortably (FF3). One Interviewee proposed for starting teachers' evaluation on DU (IM1). He also opined that, newly appointed teachers and many senior teachers felt problem to connect with devices and carried on online class without proper technological skill, knowledge and experience.

University does not have any Learning Management System (LMS). Faculty members found training from DU authority on how to maintain Google classroom facility where very few of them were used the service. University authority failed to disseminate online skill to teachers properly.

CETL trained young faculty members of DU how to use Google classroom and taught about its processes. In reality most of the faculty member did not use Google classroom feature and some of them were totally unaware about that. Internationally Google classroom feature is relatively preferred to maintain such systematic way (KM2).

Class recording facility were unused due to lack of proper training. One key informant said that, "Sometimes students suggest me to record the class but I couldn't. I didn't inform about it or missed it. I tried to send PowerPoint slide to student's mail" (KF3). Some private universities used online education successfully and they adapt it on COVID situation as they were familiar with blended learning. Along with online skill famous private institution had own online management system named University Resource Management System. They took advantages of online more than public universities. An interviewee discussed about it and expressed his dissatisfaction on Dhaka University authority. He stated,

I feel ashamed when some private universities use online resources and doing well. They develop their education system in a systematic way. They have own websites, URMS, they use online quiz website and many platform including zoom. Students have access on this and they are far better disciplined than any other public universities.....There is no LMS in our institution. we haven't any data center also. Recently university ICT cell try to maintain it as far as they can (IM1).

URMS was used by private universities such as AIUB. Almost all private universities were using their own Resource Management System. They use different server for teaching and learning except zoom. As an interviewee said about proper use of online facilities in private universities of Bangladesh,

They used Moodle, google workspace. In moodle all study materials are kept where students have to join with their own id and avail their resources. They have online library which they call remote learning system, it gives access to all the students all over the country to download it. They publish their result on online, online teacher evaluation, academic bill payment receipt also keeps and show on online. They use various servers and website to serve different subject. They are updating their websites and fix their bugs and problems in regular basis. Some of the universities have 24×7 hours' online customer care service; many of them take up to 30 minutes to respond the queries. NSU, BRAC, AIUB, ULAB are moving in this way (IM1).

Online library facilities were not available in DU. A group of students said that,

In many countries most of the famous universities have online libraries but we haven't. It is necessary to establish an online one at first. Even when we were trying to search academic books in Bengali we

didn't find anything. It is a crucial need to us (FB1).

Many faculty members of public universities take part on private universities and do well. Surprisingly after coming back to public universities they do not take any initiative to develop the process. As he stated,

I know some university teacher of us who teaches in private universities also. Why they did not take any initiative? They are the system. As a part of system they have to find out our problem and should improve it. However, I do not as much as hopeful about them as I expect from myself (IM1).

Online library access is absent in DU. Students felt need for education materials during COVID situation, they did not found. One respondent of FM3 said, it should be in DU. Many University in developed countries have online library. Even some private universities also create online library which have student access (KM1).

Along with that class recording system is needed for many students. As a large number of students faced difficulties in joining online classes, the authorities need to consider their situation. Their difficulties of joining online classes can be a great reason of creating obstacles in their learning. So, a recorded class can help them to minimize the difficulties.

Liaison with Government

University of Dhaka and all other public university governed by self-governance according to University Ordinance-1973. University Grants Commission (UGC) maintains coordination with government. However, University takes decisions according to the will of government. Most of the cases government officials are alumni of University of Dhaka. They had to take systematic initiative of online learning and proper learning management system. In some cases, interviewee condemned to the IER, DU of their silent role. However, one interviewee argued that students were given up their attention on DU and waited for the direction of government (KM1).

During pandemic, University authority did not take any initiative to vaccinate student where it was urgent from the beginning. They had not the ability to give proper medical support to student.

Authority of DU failed to maintain proper liaison with government where BUP was successful and they took online class, gave health support to their student comparatively all other public university (KM1).

It is very necessary to take proper steps for improving online facilities and other facilities by university authority with the help of government.

Discussion

Mix Reaction on Online Class

Receiving any method positively is very important in applying new technology in education. Students were not habituated with it. The term 'Blended Learning' are famous in education sector though many students of higher

education level did not attend any blended learning class. In the event of a long academic shutdown due to an emergency, online learning can assist students establish a pattern, which can have psychological advantages, as well as prevent learning loss from interrupted instruction (Schwartz *et al.*, 2020). University authority went through that situation and took decision about online class.

However, the large percentage of the institutions have gone through COVID-19. DU did not want to establish an online course. Interviewees also agreed with the statement (IM1, FF3). Most of the public university moved to academic activity on the internet after a few days when the COVID effect was demonstrated and universities remained close (Nahreen *et al.* 2020; Mollah & Parvin, 2020). With an online class, both the student and the faculty were shifted from their previous belief. They immediately accepted it as a means of improving retention rates, as they found the e-learning process to be both comfortable and beneficial to learners (Mollah & Parvin, 2020).

In the sense that they can be synchronous, internet-based distance learning techniques were seen as more closely matching face-to-face classroom learning; although, participants highlighted that online strategies require different aspects to be successful. An institution must have a proper learning management system (LMS), high-quality online course material, policies that cover student access to devices and the Internet, content adaptation to student learning requirements, and teacher training and support to offer an effective online education over time (Schwartz *et al.*, 2020).

Opens a Door of Possibilities on Online Teaching-Learning

Online classes are new to the students and faculty members of Dhaka University. Students' believed that online higher education has somehow potential, but that it will not be advantageous in the long run (Mollah & Parvin, 2020). They have gained the experience of online classes which could be proven helpful. It is possible to attend online classes from anywhere in the globe even when they are attached to any other organizations (KM1). As the world is gradually moving towards online classes the students as well as the faculty of Dhaka University would be benefitted from this endeavor on online class. A new dimension of teaching-learning with the use of technology has opened various opportunities. Lewis (2005) claimed that online learning has become one of the most popular means of acquiring access to an education since it is similar to and meets the students' attitudes.

Different departments as well as institutions have arranged online classes and semester final examinations for their students which has lessened the burden of session jam (FM2, IM2). Educational institutions need to improve their curriculum and design appropriate content for online lectures. (Adnan & Anwar, 2020). This study shows some students were very much happy about the online classes as they could communicate with their teachers and friends. In addition to that completing online examinations has proven to be fruitful in completing their degrees (FF3).

I significantly found that motivation and eagerness on online class was not same all the time. One of the less discussed areas of online education is the need of motivation for online learning. (Adnan & Anwar, 2020).

Students were active and attracted on online learning in the beginning and they lost their motivation after some days. To ensure an effective and productive online program, students must not only know how to cope up with the fast-paced online classes but they also need to have a sound computer and technological skills to learn from online lectures. (Adnan & Anwar, 2020).

Challenges on Infrastructural and Technical Ability of Bangladesh

Online class comes with different challenges. For example- online infrastructure of Bangladesh is not student friendly as well as costly. Mobile devices and the cost of data package is too high to ignore. Due to the scarcity of gadgets and internet issues, learning research-based higher education was not feasible, and the majority of students were missing from class (Mollah & Parvin, 2020). However, research says the solvent students can afford the mobile device as well as internet packages. In addition to that Oakla speed test shows that internet speed of this country is not very online class friendly.

According to some research and data I found the following are the major issues: managing the schedule for all of the courses is remarkably difficult because it requires the use of a specific online system such as Zoom or Google Classroom, and due to a lack of strong network and internet speed, only a few faculty members can participate throughout this system at the same time. Similarly, due to a shortage of and weak broadband internet, most students were unable to stay connected and listen to the entire session, and faculty members were also disconnected multiple times throughout class (Mollah & Parvin, 2020; FGD's; KM2)

Other aspect of the challenge comes from the psychological perspective. The mental readiness for the online classes cannot be achieved through cheap online packages as well as worthy devices. Students confront extra difficulties such as a lack of campus interaction, group study difficulty, and teacher response time (2020, Adnan & Anwar). The environment of the teachers and students should also be kept in mind. However theoretical lessons and course completion can be conducted while sustaining social and physical distance, but practical classes, field trips, written examinations, and face-to-face interaction between faculty members are not possible. As a result, effective education is impeded, and session jams occur. In addition, this investigation discovered a number of crises and difficulties, including an internet problem, a shortage of ICT-based devices, a weak network, and a lack of skills and facilities for online medical education (Mollah & Parvin, 2020). Taking and attending online classes are not easy. Different ICT skills needed to attend and arrange online classes. Though the authority has implemented different ICT trainings for the teachers to make them skilled in arranging and taking online classes.

Some health issues also related with online class. According to the Washington Post, excessive computer or smartphone use is harmful, and is linked to an increased risk of heart disease, diabetes, obesity, cancer, and depression, as well as muscle and joint troubles (The Dhaka Tribune, 2020; Mollah & Parvin, 2020). This problem did not found as online class of DU ran for a short period of time. The lack of a physical place and a time constraint is the first benefit I have discussed. Traditional educational environments will provide students access to courses and resources for a specified length of time. In online platforms it is true for getting most of the resources when need even the institution's building closes.

Major Findings

- Most of the local area had severe network problems. There was no proper online access. Rural areas are free from 3G and 4G network coverage. Students had to join online classes from outside of their houses in the village just for a better network. Along with data cost, it is not student-friendly. High-data packages could not be afforded by most of the students (FGDs).
- Many teachers were unfamiliar with online classes, and they could not improve their skills as they did not have any clear direction. Teachers were appearing with the same conventional lecture method, and other means of digital instruments were missing. Class materials were up to PowerPoint slides. One key informant argued that YouTube video was better than the model of the online class of DU (KM1).
- Attendance rates were very low. All students were not urged to join all the classes. One key interviewee also acknowledged that students of DU have to be busy with humanitarian work during national disaster circumstances. (KM2) However, students responding to the online exams were 100%. It reflects students wanted to complete their academic sessions on time.
- The university authority failed to understand the situation properly. It had a lack of proper planning. The university authority did not clear their direction properly. In most cases, the university authority failed to address its students' health and economic conditions. Funding for online class-related issues was also a long process, and many students did not avail of the soft loan. (KM1)
- Group work and practical work did not happen properly. Our online capability is not resourceful and enhanced with upgraded technology as long as a skilled people. (FM2)

Conclusion

The introduction of Covid-19 demonstrated the value of technology in all sectors, including education. When educational facilities were closed as a precautionary step to prevent the spread of the coronavirus, online education allowed the teaching-learning process to continue. The transition from traditional to virtual classrooms was tough due to the unorthodox nature of conducting and attending lessons from home using computers or cell phones. Internet connectivity concerns, unequal access to digital infrastructure, a lack of technological skills, a lack of support and motivation, physical and mental health issues, as well as data privacy and security, are all significant challenges in online education.

Eliminating distractions, keeping discipline, gaining technological skills, practicing time management, soliciting student feedback, and so on can all help to improve the effectiveness of online education. Students want personalized involvement and assistance, and classrooms lack a variable learning pace. While peers might influence one other in the crisis of attempting to reach both bodily and emotional stability. The government is making efforts and adopting measures to enhance digital infrastructure and offer fair access to online education, but much more has to be done in this area.

To summarize, online education can address flaws with traditional Bangladeshi education. However, the country's lack of infrastructure, limited access to technology, and linguistic barriers make the implementation of E-learning

challenging. Addressing these difficulties and grasping opportunities presented by developing technologies are critical if online learning is to attain its full potential. Learning, or the transmission of education and training via technology means, has grown in popularity across the world. E-learning has the potential to revolutionize Bangladesh's educational system, which now faces several challenges. It permits students from all around the country to acquire a high-quality education. However, limited access to technology, linguistic barriers, and a lack of facilities have made e-learning challenging to deploy in Bangladesh. This study aims to examine the issues surrounding present-day e-learning and its prospects in Bangladesh to highlight the potential of e-learning to transform the educational system.

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Availability of Data and Materials

The authors declared that the collected data are original and all the data were collected by the authors. Data is included in the article/supp. Material referenced in the article.

Consent to Participate

Informed consent was obtained from all individual participants included in this study.

Ethics Statement

The research project does not include any animal experiments or human drug experiments. It is a public welfare project, and the informed consent is obtained before the research.

Declaration of Interest Statement

The authors declared that there is no competing interest associated with this Publication.

References


- Adnan, M., & Anwar, K. (2020). Online learning amid the COVID-19 pandemic: Students perspectives. *Journal of Pedagogical Sociology and Psychology*, 1(2), 45–51. <https://doi.org/10.33902/JPSP.2020261309>,
Bacon-Shone, J. (2015). *Introduction to Quantitative Research Methods*. 10.13140/2.1.4466.30.
Bollger D. U. & Wasilik, O. (2019) “Factors influencing faculty satisfaction with online teaching and learning in

- higher education,” *Distance Education*, 30, 103-116.
- Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. sage.
- Braun, V.; Clarke, V (2006). Using thematic analysis in psychology. *Qual. Res. Psychol.*, 3, 77–101. [CrossRef]
- CAMPE (2009). *State of Primary Education in Bangladesh: Progress Made, Challenges Remained*.
- Ellis, R. (2009). Task-Based Language Teaching: Sorting out the Misunderstandings. *International Journal of Applied Linguistics*, 19, 221-246. <http://dx.doi.org/10.1111/j.1473-4192.2009.00231>.
- Gudivada V. N., Agrawal, R. & Chu, C. (2013), Online teaching and learning strategies for programming-intensive courses. Proceedings of the 10th *International Conference on Information Technology: New Generations*, pp. 781-782.
- Kebritchi, M., Lipschuetz, A., & Santiago, L. (2017). Issues and Challenges for Teaching Successful Online Courses in Higher Education: A Literature Review. *Journal of Educational Technology Systems*, 46(1), 4–29. <https://doi.org/10.1177/0047239516661713>
- Khan, M. M., Rahman, S. M. T., & Islam, S. T. A. (2021). Online Education System in Bangladesh during COVID-19 Pandemic. *Creative Education*, 12(02), 441–452. <https://doi.org/10.4236/ce.2021.122031>
- Lewis, M. (2005) Incorporating Strategic Consumer Behavior into Customer Valuation. *Journal of Marketing*, 69, 230-238. <https://doi.org/10.1509/jmkg.2005.69.4.230>
- Mollah, Md. A. H., & Parvin, Dr. Mst. S. (2020). Online Higher Education during Covid19 Pandemic in Bangladesh. *International Politics*, 2(4), 23–28.
- Nahreen M. G.R.; Ahmed J.; and Kabir M.R. (2020), Online Education: Bangladesh Perspective, Challenges and Way Forward. *The Daily Star*, 28 July 2020. <https://www.the-dailystar.net/online/news/online-education-bangladeshperspective-challenges-and-way-forward-1937625>.
- Ngulube, P. (2015). Qualitative data analysis and interpretation: systematic search for meaning. *Addressing research challenges: making headway for developing researchers*, 131-156
- Orr, L. (2024). Educational Technology in Higher Education: Online Teaching and Learning. In M. Khosrow-Pour, D.B.A. (Ed.), *Advances in Information Quality and Management* (pp. 1–21). IGI Global. <https://doi.org/10.4018/978-1-6684-7366-5.ch083>
- Paudel, P. (2020). Online Education: Benefits, Challenges and Strategies During and After COVID-19 in Higher Education. *International Journal on Studies in Education*, 3(2), 70–85. <https://doi.org/10.46328/ijonse.32>
- Pollard, R., & Kumar, S. (2021). Mentoring Graduate Students Online: Strategies and Challenges. *The International Review of Research in Open and Distributed Learning*, 22(2), 267–284. <https://doi.org/10.19173/irrodl.v22i2.5093>
- Ragin, C. C. (1994). Some observations on formal methods of qualitative analysis. *Sociological Methods & Research*, 23(1), 4-21.
- Rahman, N. E. (2020). *Online education during Covid-19: Prospects, challenges and way forward*. The Independent. Retrieved from The Independent: <https://www.theindependentbd.com/post/254623>
- Sadiku M. N.O, Musa, S.M., & Nelatury, S. R. (2017). Massive open online courses. *International Journal of Engineering Research and Allied Sciences*, 2, 1-3.
- Schwartz, H., Ahmed, F., Leschitz, J., Uzicanin, A., & Uscher-Pines, L. (2020). *Opportunities and Challenges in Using Online Learning to Maintain Continuity of Instruction in K-12 Schools in Emergencies* RAND

- Education and Labor Opportunities and Challenges in Using Online Learning to Maintain Continuity of Instruction in K-12 Schools in Emergencies.* Retrieved from https://www.rand.org/content/dam/rand/pubs/working_papers/WRA200/WRA235-1/RAND_WRA235-1.pdf
- Shoaib, M. H., Sikandar, M., Yousuf, R. I., Parkash, M., Kazmi, S. J. H., Ahmed, F. R., Ahmed, K., Saleem, M. T., & Zaidi, S. H. (2023). Graduate and postgraduate educational challenges during the COVID-19 pandemic period: Its impact and innovations—a scoping review. *Systematic Reviews*, 12(1), 195. <https://doi.org/10.1186/s13643-023-02359-2>
- Sofaer S. (1999). Qualitative methods: what are they and why use them? *Health services research*, 34(5 Pt 2), 1101–1118.
- Sun, A. & Chen, X. (2016). Online education and its effective practice: a research review. *Journal of Information Technology Education: Research*, 15, 157-190.
- Svihus, C. L. (2024). Online teaching in higher education during the COVID-19 pandemic. *Education and Information Technologies*, 29(3), 3175–3193. <https://doi.org/10.1007/s10639-023-11971-7>
- Tareen, H., & Haand, M. T. (2020). A case study of UiTM post-graduate students' perceptions on online learning: Benefits & challenges. *International Journal of Advanced Research and Publications*, 4(6), 86-94.
- TheDailyStar (2020). *The Daily Star*. Retrieved from <https://www.thedailystar.net/online/news/online-education-bangladesh-perspective-challenges-and-way-forward-1937625>.

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