

Challenges and Barriers to Online Learning: A Tertiary-level Study

By

Farha Mohiuddin

19163002

A thesis submitted to the Department of English and Humanities in partial fulfillment of
the requirements for the degree of
MA in English

Department of English and Humanities
BRAC University
January, 2022

© 2022. Farha Mohiuddin
All rights reserved.

Declaration

It is hereby declared that

1. The thesis submitted is my own original work while completing degree at BRAC University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

Student's Full Name & Signature:

Farha Mohiuddin

19163002

Approval

The thesis titled “Challenges and Barriers to Online Learning; A Tertiary-level Study” submitted by

Farha Mohiuddin (19163002)

of Fall, 2021 has been accepted as satisfactory in partial fulfillment of the requirement for the degree of MA in English on [Date-of-Defense].

Examining Committee:

Supervisor:
(Member)

Mohammad Mahmudul Haque
Assistant Professor, ENH Department
BRAC University

External Expert Examiner:
(Member)

Mr. Mohammad Elius Hossain
Assistant Professor, Department of English
Daffodil International University

Departmental Head:
(Chair)

Dr. Firdous Azim
Departmental Head, ENH Department
BRAC University

Ethics Statement

I testify that my thesis submitted to BRAC University- Department of English and Humanities titled “Challenges and Barriers to Online Learning; A Tertiary-level Study” is an original piece of work. There is no plagiarism involved in this paper and I have also fully acknowledged the work of others to which I have referred in my thesis. I have shown my findings honestly and truthfully. I consider this research worthwhile and of benefit to the online students of undergraduate level.

Abstract

This study aims to find out the main challenges of online learning and the barriers to using technology for online learning by Bangladeshi Undergraduate level students. Learners have beginner level experience in online learning; as a result, they faced challenges while interacting and utilizing technology in online classes. The participants are undergraduate students of six different private universities in Bangladesh. This is a mixed method with a survey of sixty-five participants as a primary instrument and an in-depth semi structured interview with twenty participants. Descriptive statistical for quantitative method and theme-based qualitative analysis was carried out for exploring the findings. This study finds that students struggle to participate in online classes due to lack of knowledge in educational technology and flexibility in using educational software. Moreover, the study reveals that they struggle to understand online lectures, adjust to a new environment, interact with teachers, and participate in online exams. Furthermore, the study documented undergraduate level learners' expectations and suggestions for making online pedagogy more efficient. In conclusion, it proposes recommendations for scholarly journal articles, experts, and stakeholders to improve online learning.

Keywords: challenges; online learning; technology; undergraduate students; private universities;

Acknowledgement

The Almighty Allah's enormous support and blessings helped the researcher to complete her thesis on time. She owes the most to the Almighty for showering His blessings upon her.

The researcher's supervisor, Mohammad Mahmudul Haque, deserves deepest gratitude for his unconditional support, insightful comments, and constructive feedback, which enabled the researcher to stay focused. The researcher expresses her gratitude to her supervisor for motivating her to complete this research.

In addition, the researcher expresses her gratitude to the faculty members of ENH department Prof. Firdous Azim, Dr. Asifa Sutana, Shenin Ziauddin, Dr. Sabreena Ahmed, Dr. Al Amin and the other Faculty Members of the department from whom she has acquired significant amount of theoretical and practical knowledge during her undergraduate and postgraduate studies.

The researcher be indebted to her parents and brother Mohammad Sajid Hasan a debt of gratitude for being there for her when she lost all hope of completion of the research due to some unanticipated events.

Last but not least, the researcher would like to express her gratitude to all of the Private University students who participated in this study. The researcher also expresses gratitude to all of her well-wishers who prayed for her success.

Table of Contents

Declaration.....	iii
Approval	iii
Ethics Statement.....	ivv
Abstract.....	Error! Bookmark not defined.
Acknowledgement.....	vi
Table of Contents	vii
List of Tables	x
Chapter 1 Introduction	Error! Bookmark not defined.
1.1 Introduction.....	1
1.2 The Problem Statement.....	2
1.3 Significance of the Study	3
1.4 Research Objectives and Questions	3
1.4.1 Research Questions.....	3
1.5 Limitations of the study.....	4
Chapter 2 Literature Review.....	5
2.1 Definition of Online Learning.....	5
2.2 Features of Online Classes.....	6
2.3 Effectiveness of Online Learning.....	7
2.4 Challenges of Online Classes.....	8
2.4.1 Lack of Interaction and Medium of Instruction.....	9

2.4.2 Lack of Real-Time Feedback	9
2.4.3 Infrastructural Barriers.....	10
2.4.4 Student's Lack of Motivation.....	11
2.5 Conclusion.....	13
Chapter 3 Research Methodology.....	14
3.1 Methods of Data Collection.....	14
3.2 Designing Instruments.....	14
3.3 Sampling of the Study.....	15
3.4 Description of the Questionnaire for Participants.....	16
3.5 Data collection procedure.....	16
3.6 Data Analysis Procedure.....	16
3.7 Ethical Consideration.....	18
Chapter 4 Findings and Analysis.....	19
4.1 Introduction	19
4.2 Data Collection and Findings Analysis from Students' Questionnaire	19
4.2.1 Findings from Part A (close-ended) Questions	19
4.2.2 Findings from Part B (open-ended) Questions.....	26
4.3 Summary of the Findings.....	45
Chapter 5 Conclusion.....	49
5.1 Conclusion	49
5.2 Recommendations.....	49

References.....	52
Appendix A.....	65
Appendix B.....	68

List of Tables

Table 1: Table 1: Samples for the survey.....	15
Table 2: Detailed Sampling Plan.....	15
Table 1 - Findings for students (close-ended questions).....	20

"Challenges and Barriers to Online Learning: A Tertiary-level Study "

Chapter 1

Introduction

1.1 Introduction

COVID-19 has brought many changes in a variety of industries, including education. One of the remarkable transformations is that traditional classrooms are converted into online learning premises and many countries worldwide are implementing such transformation by implementing technologies in online-based education to support their students. Regarding this, Nguyen (2015) stated that the internet technology has brought significant changes as a source of information and learning. To ensure physical distance, Bangladesh has suspended physical appearance in all educational institutions since March 17, 2020, in line with other countries (IEDCR,2020). Meanwhile, top private universities started online teaching soon after the pandemic outbreak in March 2020 (Wadud,2020). According to Ahmed (2020), there were four million students enrolled in public and private universities, professional and affiliated institutions in Bangladesh. The government has approved using the online learning strategy as a short-term solution for sustaining the teaching-learning process considering the health issues (Ahmed, 2020). Online learning methods adapted and implemented by the private universities of Bangladesh are in the initial stages, and they are insufficiently effective to allowing online learning to achieve its intended objectives as universities have shifted from face-to-face to online delivery mode (Wadud,2020). Therefore, this study will highlight the challenges of online learning on private university students of Bangladesh. It will also highlight the challenges and barriers in utilizing technologies in online-based education that undergraduate students of Bangladeshi Universities faced.

1.2 The Problem Statement

The world faced one of the most important catastrophes in 2020, especially the infectious COVID-19, which has affected all aspects of life; for example, global healthcare, economy, and the education system. Like many other countries, Bangladesh has taken preventive measures, for example; social distancing, border closure, restrictions on travelling, closure of offices, and educational institutions for reducing the spread of the infectious disease (Paschal & Mkulu, 2020, p.2). Academic institutions were declared close and the government suspended the operation of the educational institutions of Bangladesh on March 17, 2020, as the rate of infection was increasing and recognized as a serious worldwide public health concern (IEDCR, 2020) which had received considerable critical attention. According to UNESCO (2020), this issue had a negative impact on learning and communication as well as assessment in terms of learner's academic development, and mental health issues which were the causes of delay behind re-opening the educational institutions.

To tackle the disruption in education, rapid steps were taken by Ministry of Education of Bangladesh. There has been a considerable transition from mainstream face-to-face learning programs to online learning programs in many educational institutions during the COVID-19 situation which had severe impacts on the process of academic growth of the students. Adopting and implementing the concept of online learning in developing countries like Bangladesh is nevertheless in its embryonic stage (Shuchi, Tabassum & Toufique, 2021).

Generally, Information and Communication Technology (ICT) practice and online learning in Bangladeshi Universities are significantly less acknowledged in comparison to other developed nations. Therefore, this research aims to explore the challenges and impacts of online learning in Bangladeshi private universities during the COVID-19 pandemic, focusing on tertiary level learners and barriers to technology utilization

1.3 Significance of the Study

This research will discover how students respond to the impacts of online learning in Bangladesh and the challenges they faced in online classes. Several recent studies have been published on this aspect, the impacts and the significant challenges of online learning. However, the current study is intended to emphasize on the undergraduate level students of private universities in Bangladesh. Even though the study is set to focus on Bangladesh, findings will have a large impact on other similar settings.

1.4 Research Objectives and Questions

The main purpose of the research is to find out the challenges of online classes in private universities in Bangladesh.

1.4.1 Research Questions

1. What are the major challenges and barriers in utilizing technologies in online-based education that undergraduate students of Bangladeshi universities faced?
2. What are the major problems that the students faced during the online classes?

1.5 Limitations of the study

Primarily the topic of the research is about online learning and its challenges in Bangladesh. Thus, the researcher had to collect data by surveying and interviewing only the undergraduate students of Dhaka's few renowned private universities. Conducting the interview was an intensive method by using one-to-one interaction and online survey from individual to individual. This

research was limited to covering one significant education streams, i.e., undergraduate level students of private universities. The core limitations of this study that it was limited to only undergraduate students of private universities in Dhaka. The instructors could not be surveyed or conducted interview for this study. However, the data were analyzed carefully and extensively due to the limited sample size.

Chapter 2

Literature Review

This section will reflect on some reviews by scholars and the research conducted regarding online classes in different contexts. It will illustrate the practical issues focusing on the barriers and challenges of using technology in online classes. This paper also offers a thorough appraisal of the challenges of learning online and emphasize on the remedies by analyzing the previous literature on online learning.

2.1 Definition of Online Learning

Technology is a vital element in the 21st century, and regarding this, Sun & Chen (2016); Onyema & Deborah (2019) stated that the increasing practice of technology in teaching and learning has upgraded teaching methods ranging from the most conventional to the most flexible. Onyema (2019) mentioned that adopting technologies in education expands learning opportunities, such as online classes and other programs, are readily available to meet the necessity for distance education. Due to the pandemic, the integration of technological tools and systems in the educational sector is primarily referred to as *eLearning*, which is defined as information and communication technologies (ICTs) which are being used to assist students in improving their academic performance (Ellis, Ginns, & Piggott, 2009).

Additionally, *Online learning* has been defined as a wide range of curriculums that practice utilizing the internet to assist with instructions, materials, and instructor-student interactions among the group of students (Nguyen, 2015). There are numerous platforms and tools such as *Edx*, *LMS*, *Zoom*, *Google Meet*, *WhatsApp*, *Skype*, *YouTube*, *Google classroom* adaptation by educators,

learners in online learning and the success rate of learning online constructs on digital literacy, instructional technologies, and adequate internet networks in the educational environment (Paschal & Mkulu, 2020, p.3). According to Sun & Chen (2016), education institutions are influenced by a number of elements when it comes to offering online teaching and learning, such as encountering the necessity of students aimed at the alterable curriculum, shortages of instructors, and increasing student enrollment. In addition, the outbreak of diseases such as Covid-19 can be considered as a substance intended to expand online courses in education institutions all over the world (Paschal & Mkulu, 2020, p.3).

2.2 Features of Online Classes

In a recent study by Wadhwa, Khatak & Poonam (2020) mentioned the concept of online education and stated that online courses are offered in asynchronous mode, allowing learners through the autonomy of both in terms of time and space through technical skills (p. 406) and they had less pressure in online classes (Leo et al., 2009). However, "Self-discipline" is required for online courses, which is an essential component for successful learning, and learners can remain associated with learning and access to classes from their own space, which is easily accessible due to flexible class schedule rather than not being exposed to health risks (Karkar-Esperat, 2018, p.1730; Shuchi, Tabassum, & Toufique, 2021). It has indicated that the design of online learning should be considered as learners' needs and obstacles and it is not only for expense purposes, but also for access to technology and computer literacy where it also requires strong teaching presence and timely feedback (Queiros & de Villiers, 2016). It has been suggested from a constructivist approach, highly interactive environments are needed to allow positive and corrective feedback in online collaborative learning (Çakiroğlu, 2014; Muuro et al., 2014).

Cole, Shelley and Swartz's (2014) study have explored the issues regarding student's satisfaction with online learning and found that instructor's competence in technology, readiness for the class, clarity of guidance, as well as the flexibility to provide online courses using technology effectively are the significant features of online classes which affect student experiences positively in online classes (p.1730). Moreover, learners also stated that online classes are easy to understand, less stressful, cost minimizer, reduce the possibility of semester loss, emphasize learning new technologies (Shuchi, Tabassum, & Toufique, 2021). It has been suggested that the material and content of the lectures has exciting features such as video lectures, consisting of auditory, visual media, animations, video illustrations in online classrooms which makes the courses, lectures interactive and generates positive impacts in terms of learners' engagement (Sharma & Bumb, 2021; Mayer, 2014; Junco, 2011). AlHajri's surveys (2017) showed that the prime purpose of continuation of online learning occurred due to the accessibility of computers, laptops, mobile phones amongst the learners (p.373).

2.3 Ineffectiveness of Online Learning

A study by Aljaraideh & Al. (2019) stated that learners have less acceptability in *E-learning* in universities in Jordan, although they are aware of the advantages and effectiveness of online learning (p. 104). To assess the respondents' awareness and demand for online learning, Anshari et al. (2016) study findings revealed that 64% of respondents were familiar with online learning in terms of "degree, certification, and training programs", as these were the highest widespread online learning components. On the contrary, 93% of the participants claimed that face-to-face interaction made them content with instructors, fellow students as well. Interaction is a significant component missing throughout online-based education as it was in the early stages of implementation and

utilization of the educational technology (p.130). A recent survey by Pandit & Agrawal (2021) mentioned that online learning involves learners using "digital devices" to communicate to an instructor whereas face-to-face interaction is unapproachable in an online session that a traditional classroom usually offers (p.3).

It was indicating the necessity for initial orientation and training, as a large percentage (74.6 percent) have never taken an online course previously (Queiros & de Villiers's, 2016, p. 175) and the most influential point is that instructor's enthusiasm had a significant role in student engagement in online classes, however, learners were looking to have more interaction, reinforcement, adequate material provided online and they need to participate actively in the discussion forum to promote interaction (Karkar-Esperat, 2018, p.1724-1731). Online classes were appropriately experienced for both learners and instructors by following a particular schedule, utilizing resources alike the traditional classes (Sharma & Bump, p.67, 2021). In very recent studies revealed that instructors were also eager to conduct lectures in online classes and learners were enthusiastic about enrolling in online classes as they were very much concerned about the study gap due to the pandemic situation (Shama & Ikbali, 2020; Biswas, 2020).

2.4 Challenges of Online Classes

Students are encountered with obstacles in online learning while shifting from face-to-face to online classes, as learners had no existing knowledge about online classroom learning.

2.4.1 Lack of Interaction and Medium of Instruction

Shedding lights on the challenges of online classes, Karkar-Esperat's study (2018) revealed that learners struggled to accessing the course, and the course objectives were not clearly explained (p. 1724). It also emphasizes on the features of language proficiency and it has shown that even if learners fulfill the minimum competency requirements, international students encountered with language obstacles, isolation due to a lack of communication and lack of connection with their peers and instructors. Moreover, apprentices were nervous and concerned by the online learning technique because they had difficulty switching to online lectures, altering in a new online assessment method, workloads, communicating with teachers (Karkar-Esperat, 2018, pp. 1729-30). In addition to that, learners were perceiving to be poorly prepared, boring and unengaging due to a lack of two-way interaction for more than a few e-learning competencies, academic-type competencies (Dhawan, 2020). Adnan & Anwar (2020) surveys have shown that learners faced problems in digital communication as online learning is unlike from "conventional learning mode" and they were recognized in opposition to the idea that online learning is more engaging than traditional learning (p. 48). Recent evidence of Panday (2020) reported that lack of interaction between learners and instructors is one of the significant challenges in online classes and it is recognized that online classes incorporate a smaller amount of social interaction, creating complications due to questionable assessments procedures (Kumar,2010).

2.4.2 Lack of Real-Time Feedback

In addition, one of the most difficult aspects of online courses is not getting immediate feedback from the instructors, which allows to rectify the errors, improved the comprehensible of the concepts and the learning outcomes of the learners (Sharma & Bumb, 2021). However, online

classes have different features than traditional ones; the assessment of non-verbal gestures are absent, leading to postponement of doubt clarification in online courses caused by absence of personal appearance (Sharma & Bumb, 2021). Past studies of Cheung & Kan (2002) suggested that successful learners do not have as much flexibility in online classrooms regarding getting higher grades, upgraded feedback, better retention as well as clarify their doubts immediately as they do in traditional classes. Mauro et al., study (2014) revealed that 47% and 43% of the participants, respectively, stated that the absence of feedback from instructors and fellow students was also alleged as disadvantages in terms of collaborative online learning (p.147). This indicated that online teachers in blended e-learning programs were not actively engaged with participants in collaborative learning (Mauro et al., 2014, p.147).

2.4.3 Infrastructural Barriers

About the technical aspects of online classes, the most frequently faced obstacles by learners were less amount of digital literacy, coping up to the adaptability to online classes, endless signals through a high internet price, continuing interaction, late acceptance of learners' online education, absent of adequate resources, insufficient access to technology, lack of access to study material, lack of technical facilities in countryside areas for taking online classes (Dubey & Pandey, 2020, p.44; Alam,2020; Pandit and Agrawal, 2021, p.3). It was inadequate as a "learning platform" as 58% of the participants stated that "technological complications" creates barriers and they were less focused and deprived of elementary learning tools, such as computers, laptops (Yusuf & Ahmad, 2020, p.209; Baticulon et al.,2020, p.10; Song et al.,2003, p.67). Wadhwa, Khatak & Poonam's study (2020) revealed that, 82% of the participants responded that internet connectivity is another element that

influences productivity when it comes to implementing online learning, even though 70% of the participants responded that they faced difficulties while downloading videos (p.409).

Furthermore, Adnan & Anwar's study (2020) revealed that 51.6% of the participants have no proper access to the internet, limited access to the internet due to "signals availability or strength" and the internet services were too expensive for regular online connectivity which are the major problems behind limited internet access (p.47). In addition to that, Tariq & Fami's survey (2020) has reported that, for attending online classes, learners need to have no less than a smartphone as well as a stable internet connection, whereas about 12.70% of the underprivileged families cannot afford to have a mobile phone which creates obstacle for online learning. Apart from the lack of technical resources, some of the leading obstacles and complications of online learning consist of the high cost of internet along with the consistency of the connectivity, poor technical support, network problems, financial limitation, issues regarding usage of device, power outages, unfamiliarity with digital technology, internet problem (Ramij & Sultana, 2020; Shuchi, Tabassum, & Toufique, 2021). In addition to that, due to lack of digital resources and device availability learners cannot submit the pending assignments in online classes (Wadhwa, Khatak & Poonam, 2020, p.408) and they also recommended it is less extent of practicality and effectiveness in terms of online learning (Islam, 2020).

2.4.4 Student's Lack of Motivation

Several studies mentioned that, it was a challenging issue to "stay motivated" due to a lack of engagement with students, the instructor's unavailability, and lack of timely feedback from peers and the course instructor creates obstacle such as triggering anxiety, reducing enthusiasm and

engagement in learners (Karkar-Esperat, 2018; Çakiroglu, 2014; Mbat, 2012; Zhang et al., 2009). In a similar case identified, 71.4% of undergraduates informed that the traditional classroom was more motivating (Adnan & Anwar, 2020, p.49) as learners discovered themselves altogether unaccompanied in terms of the learning process, which causes feeling of loneliness, frustration and loss of motivation; as a result, it brings out the high drop-out rate of online learning (Leo et al., 2009). Additionally, majority of students were challenged by mental stress and anxiety due to the workload at home, the family financial crisis and they also suffer from tiredness, loss of attention as they have to take part in online classes for an extended period, as well as accountability of other academic activities (Pandey, 2020; Ramij & Sultana, 2020).

In addition to that, one of the significant challenges is lack of motivation and procrastination in attending, which causes a lack of push factor in online classes.; however, it also suggested that learners should be highly motivated to achieve their desired learning outcomes (Sharma & Bumb, 2021, p.69). Irawan, Dwisona, & Lestari's study (2020) findings revealed that learners started to get bored initially after two weeks of learning online as there is no interpersonal communication and it also showed that learners faced considerable anxiety on research subjects and emotional disorders, characterized by "moods and mood swings" that occur due to too many assignments (p. 55-57). In similar research presented that 10.41 % of Bangladeshi students are suffering from mental health issues because of family members who have been infected with the Coronavirus, financial insecurity, extensive use of social media, and an increase in smoking habits, students' mental health has deteriorated throughout the lockdown time. (The Financial Express, 2021).

2.5 Conclusion

According to the data offered in this part, there are significant number of research articles on online learning related with academic research, highlighting the researchers' experience and scholars' expertise. These issues reflected in this chapter provide the basis for the survey questions for the participants. The questions will be applied to evaluate the empirical facts of the challenges and barriers to online learning among undergraduate students of private universities in Bangladesh.

Chapter 3

Research Methodology

This section illustrates how this research was carried out, which methods have been used, who the participants were, and the data were collected and analyzed.

3.1 Methods of Data Collection

Mixed methods research design was used for this study which is an approach to collecting and analyzing both qualitative and quantitative data in a single study. This study includes:

- Students' survey questionnaire
- Students' interview questionnaire

3.2 Designing Instruments

The researcher carried out a survey as a primary instrument of this study. Statistics are used to present the results of the survey's calculations by following "Likert Scale" (1932). For this research, the survey questionnaire helped to assemble information, primary data. For analysis, the responses were converted into mathematical figures as follows:

Interpretation Keys:

Strongly Agree= (4.50-5.00); Agree = (3.50-4.49); Neutral = (2.50-3.49); Disagree = (1.50-2.49); Strongly Disagree= (1.00-1.49).

The researcher has also designed a set of 15 open-ended questions and conducted intensive interviews of tertiary level learners. It helped to understand participants' views of the situation, interpreted the findings, and the interpretations were shaped by the experiences and background of the research. It emphasizes on "the larger meaning, text analysis, and interpretation by analyzing the

data for description and themes" (Creswell, 2012, p.16). The research approach can be described as mixed method because equally quantitative and qualitative data were implemented in this research.

3.3 Sampling of the Study

The survey was carried out by the researcher in 6 different private universities in Dhaka, Bangladesh. Students were undergraduate students from different disciplines of various universities. The researcher conducted a survey of 65 students and an interview of 20 students. Participants have enrolled in an undergraduate program and the number of subjects was 85 undergraduate students.

Table 1: Samples for the survey

Type	Number of Participants
1. Students' Survey Questionnaire	65
2. Students' Interview Questionnaire	20

The table below shows the number of participants from six universities.

Table 2: Detailed Sampling Plan

Name of the Universities	Student's Number
A	15
B	18
C	12
D	14
E	16
F	10
Total Number of Participants: 85	

3.4 Description of the Questionnaire for Participants

The researcher constructed two questionnaires (Questionnaire A and Questionnaire B) for collecting data. Questionnaire A is for survey questionnaire. The participants will be asked 14 closed-ended questions in this set. On the other hand, Questionnaire B is designed for interview questionnaire. This set was designed for Questionnaire B's 15 open-ended questions.

3.5 Data collection procedure

As this study followed mixed method, the researcher took the survey of the participants as primary data collection procedure through Google form and email, in an informal setting due to this pandemic situation. She has also chosen to conduct individual interviews as a part of secondary data collection procedure and observed all the participants. The interview was conducted through face-to-face interview and the format of the interview questionnaires were 15 open-ended questions. The length of the interview was about approximately 30-40 minutes. Here, the researcher had regard to the plan, conducted the interview and evaluated the collected data for the qualitative data collection (Creswell, 2012, p.205). She has designed the questions to facilitate the participants to discuss the open-ended issues. Thus, she has been very mindful in setting a questioner, crisscrossing the questioners to follow the purpose of the research topic. The respondents' responses were in good length and sharing their point of view differently throughout the interviews.

3.6 Data Analysis Procedure

The researcher implemented a mixed method approach that included both quantitative and qualitative methods. Here, for the evaluation of the primary data i.e. survey questionnaire; the "Likert Scale" (1932) method was using for finding the answer to the research. This scale is

broadly used in the case of empirical studies where five different options are provided for each item on a survey questionnaire. The researcher used Microsoft Excel 2019 to calculate the final result and determine the mean score of all individuals. Subsequently, the data were evaluated and interpreted through the interpretive scale by Likert (1932).

To analyze the data of this study, the researcher has also implemented qualitative thematic data analysis and analyzed the information i.e. interview questionnaires by following "six measures to analyze information" introduced by Creswell (2011, p. 261). In addition to that, assembled data were first transcribed for investigation of data and the transcriptions were thoroughly preserved while conducting the interviews. Regarding this, Creswell (2012) recommended that it "represent preparing and organizing the data for analysis; engaging in an initial exploration of the data through the process of coding it" (p.237). Therefore, the data were transcribed to interpret, cross-examined and analysis of the data; to familiarize with the information. It also emphasized on "analyze their data by reading it several times and conducting an analysis each time" (Creswell, 2012, p.238) to generate the original codes by emphasizing the themes. The researcher focused to choose the themes based on the participants' responses. She evaluated the obtained data or raw data first individually, then preferred to transform them into themes and points, keeping the general theme of the analysis process in mind. These subthemes were connected with the central theme, which was the challenges and barriers to online learning. As a result, this study addressed the research questions by using a theme-based discussion of the participants' comments. The concluding step was to validate the results and define topics, remaining analysis to enhance the theme's characteristics, and develop extensive definitions and terms for each theme.

3.7 Ethical Consideration

The ethical issues of conducting this study were ensured with the methods for data collection. Before conducting the interviews, participants were explained the research topic, objectives, and participants' roles while participating. The participants were informed that their replies would be recorded in the interviewing process. They were confirmed that their identity would remain in privacy. As a result, the researcher used pseudonyms for each individual who participated in the research. To ensure the external validity, the result was published by following all the means for ethical evolution as well as avoidance of generalizations of data. For confidentiality, pseudonyms were used to protect participants' identities. In terms of ethical consideration, this research will not publish the names of individual participants or the university, educational institution's identity.

Chapter 4

Findings and Analysis

4.1 Introduction

This section will emphasize the responses of the participants from the survey and interview.

4.2 Data Collection and Findings Analysis from Questionnaire for Students

The respondents were requested to respond to the list of survey questionnaire and open-ended questions which were the major challenges for them during online classes.

4.2.1 Findings from Part A (Close-ended Questions):

As reported, the survey form (Questionnaire A) was conducted on 75 students and there are 14 close-ended questions in Part A.

Table 1 shows the results of section A of the students' questionnaire. For analysis, the responses were converted into mean scores. The larger the mean score, the more acceptance there seems to be, and the lesser the mean score, the less acceptance there seems to be. In order to show learners' levels of challenges and barriers of using technology in an online learning environment, the researcher has created an interpretation key by following Likert Scale (1932).

Interpretation Keys:

Strongly Agree= (4.50-5.00)

Agree = (3.50-4.49)

Neutral = (2.50-3.49)

Disagree = (1.50-2.49)

Strongly Disagree= (1.00-1.49)

Table 1- Findings for students (close-ended questions)

No.	Statements	Mean score (Students' questionnaire results)
1.	I have been attending online classes as online classes are easier to arrange and attend.	3.56
2.	The tools and technologies required for online classes affordable for me (Computer, Laptop, Smartphones, Internet Connections).	1.26
3.	I can use the Internet to attain online classes and get the ideas for academic purposes.	3.45
4.	In my area, I have adequate facilities, including electricity, a network, and computers, to undertake online learning. (Computer, Internet Access, Uninterrupted Electricity).	1.21
5.	My university provide support(s) for online-based education/ classes. I get sufficient financial support to help for data.	1.27
6.	Online education can be an effective alternative to face-to-face classes / traditional education in Bangladesh.	1.10
7.	One of the issues raised when I'm in an online class with others, I don't feel like I have any connections with anyone.	4.56

8.	I feel isolated in the online classes due to the procedure of interaction and do not understand the instructions.	4.78
9.	I feel anxious when try to use unfamiliar technology in online classes.	4.67
10.	I feel anxious and hesitate to use unfamiliar technology in online classes for fear of making mistakes you cannot correct.	4.59
11.	I think that integration of technology is creating barriers as a learning tool.	4.15
12.	Online classes are creating barriers to understand the course expectations and learning objectives.	3.85
13.	I am more likely to share responsibility for learning and self-assessment when technology is used.	1.32
14.	I consider online classes are in both lack of time management and motivation.	4.55

These findings reveal that, while students have different views regarding online learning, the majority believes that it increases their challenges and barriers in terms of using technology in online classes.

In the statement 1, “I have been attending online classes as online classes are easier to arrange and attend”, here the mean score is= 3.56. It reflects that participants “Agree” with the statement as the key interpretation is within 3.50-4.49 (Agree). Participants revealed that online classes are convenient, no commute to class and it fits their schedule better.

Again, in the statement 2, “The tools and technologies required for online classes such as computer, laptop, smartphones, internet connections are affordable for me”, here the mean score is= 1.26. It reflected that participants stated “Strongly Disagree” with the statement as the key interpretation is within 1.00-1.49 (Strongly Disagree). Participants reveal that most of them have no personal computer or laptop, share their laptop with their siblings, no proper internet connections, cost of over-priced mobile data. They stated that they cannot afford the required tools and technologies for online classes.

Statement 3, “I can use the Internet to attain online classes and get the ideas for academic purposes”, represents “Neutral” as the mean score is 3.45 and the key interpretation is within 2.50-3.49 (Neutral). They open up by saying that they enjoy learning throughout the usage of new technologies and get knowledges and ideas regarded the subject related tools.

Furthermore, in the statement 4, “In my area, I have adequate facilities, including electricity, a network, and computers, to undertake online learning. (Computer, Internet Access, Uninterrupted Electricity)”, the participants responded “Strongly Disagree” (mean score is 1.21) and the key interpretation is within 1.00-1.49 (Strongly Disagree). Participants disclosed that most of them are facing barriers due to the uninterrupted internet access and constant electricity in their area.

In the statement 5, “My university provide support(s) for online-based education/ classes. I get sufficient financial support to help for data”, represents strongly disagreement (1.00-1.49=Strongly Disagree) as the mean score is 1.27. Participants disclosed that they have to bear their own expenses for online classes including the high range of tuition fees and they do not get sufficient financial support from their institutions.

Moreover, in the statement 6, “Online education can be an effective alternative to face-to-face classes / traditional education in Bangladesh”, the participants responded “Strongly Disagree”

as the mean score is 1.10 and the key interpretation for Strongly Disagree is (1.00-1.49). Participants disclosed that, they experienced difficulties in concentrating online classes and prepare them better for the future.

In the statement 7, “One of the issues raised when I'm in an online class with others, I don't feel like I have any connections with anyone.”, the participants responded “Strongly Agree” (mean score is 4.56) and the key interpretation for Strongly Agree is (3.50-4.49). Participants disclosed that, they experienced lack of interaction and collaborating with peers, group works, class discussions in online classes. Again, in the statement 8, “I feel isolated in the online classes due to the procedure of interaction and do not understand the instructions”, participants responded “Strongly Agree” (mean score is 4.78) and the key interpretation is for Strongly Agree is (4.50-5.00). Participants disclosed that they have lack of communication with instructors and lack of timely feedback which make them unable to understand the instructions.

Again, in the statement 9, “I feel anxious while trying to use unfamiliar technology in online classes”, participants responded “Strongly Agree” (mean score is 4.67) and the key interpretation is for Strongly Agree is (4.50-5.00). They stated that, in a technology-enhanced classroom, the instructor is no longer the only information source but also learners have to be equally and actively engaged in classroom situations and learning activities. In the statement 10, “I feel anxious and hesitate to use unfamiliar technology in online classes for fear of making mistakes you cannot correct”, participants responded respectively “Strongly Agree” (mean score is 4.59) and the key interpretation is for Strongly Agree is (4.50-5.00). They disclosed that internet technologies such as e-mail, online forums, discussions board and chat rooms delivered more opportunities for learners to have authentic live conversations but do not give approval of making any mistakes.

In the statement 11, “I think that integration of technology is creating barriers as a learning tool”, participants responded “Agree” (mean score is 4.15). They agreed by saying that lack of directions could not enrich their learning experiences. Majorities agreed in the statement 12, “Online classes are creating barriers to understand the course expectations and learning objectives” as the mean score is 3.85. This indicates that they supported this statement and disclosed that it did not contribute to the successful completion of the courses, and did not help them to understand fundamental concepts of the courses.

On the contrary, in the statement 13, “I am more likely to share responsibility for learning and self-assessment when technology is used”, participants responded “Strongly Disagree” (mean score is 1.32). They disclosed that they built relevant skills that were useful outside courses but they were not relevant to their achievement of course learning objectives and it did not help them focus on self-assessment, own learning activities or course materials.

Lastly, in the statement 14, “I consider online classes are in both lack of time management and motivation”, indicates their strong acceptance as the mean score is 4.55 (key interpretation is 4.50-5.00=Strongly Agree). The participants revealed that online classes are lack of time management, for research and assignments with computing devices, streaming too long for the videos, working for a long hour, too much workload followed by family health issues. In addition to that, participants’ also faced distractions such as sleeping too much, playing online games, watching *Netflix*, *YouTube*, chatting in *Facebook*, *Instagram* and other apps.

4.2.2 Findings from Part B (Open-ended Questions):

This chapter will discuss the evaluation part after that conducting the interviews. Questionnaire B was administered to a total of 10 students from six private universities. There are 15 open-ended questions in Part B.

- **Perception of Learners Towards the Challenges of Online Classes**

1. What do you think about the impacts of online-based education that have been adapted?

How practical are the online classes in terms of the medium of interaction?

- **The Impact of Online Education**

Research question 1 inquired into what the students think about the impacts of online-based education that has been adapted. Eight of the participants admitted that the online classes format is less efficient and less productive than the traditional classes. It illustrated the numerous negative implications of teaching and learning procedures in private universities of Bangladesh. One of the participants stated that they are in the beginner level in this system. As a result, they could not find it as a productive way of learning. However, they like the previous learning model (traditional classroom), which requires giving pen and paper-based exams, quizzes, assignments, presentations as they were very much habituated to that system.

Seven out of the ten participants stated that online classes are not satisfactory as a medium of learning, and they were less attentive to online learning. They were deprived of elementary learning tools, such as subject related tools, adequate internet connections, laptops, computers which showed that the learners of online classes could not find it a fruitful way of learning. In addition to that, it seems to be a one-way communication due to disruption of adequate internet connection and

incomprehensible concept about the learning objectives. As a result, the medium of interaction had negative impacts in terms of online-based education.

2. Can you describe some of the strengths and weaknesses of online classes? Discuss the significant changes that have taken place in online classes.

▪ **Strengths of Online Classes**

Regarding the strengths of online classes, the majority of respondents mentioned that it is an alternative approach of learning through various new technologies such as *Zoom, Google Meet, Skype, Slack, Plan board, Quizlet, Padlet* and various software that can be used in online teaching and learning. They can attend classes from home, and there is no need to go to classes. It also highlighted from their responses that online classes are convenient, no commute to class, and it fits their schedule better. It is also stated that it is possible to attend classes from anywhere if they have an adequate internet connection. One of the most prominent factors of online classes is that learners have the ability to be accessed whenever and wherever as it has both the asynchronous and synchronous modes of learning. However, there are also the drawbacks at the same time as there will be no proper immediate response from instructors, no connections with instructors, classmates, fellow mates, peers and others.

▪ **Weaknesses of Online Classes**

In order to respond to the weaknesses of online classes, participants mentioned that they faced obstacles to attending the online lectures regularly as internet access was not satisfactory and it seems like an inadequate medium as a learning platform. Most participants stated that the significant challenges of online classes are the inadequate quality of internet connections which is a must to attend the class lectures, quizzes, viva, presentations, and exams. Furthermore, they cannot

find it more accessible, the use of internet technology for academic purposes, as a result, they cannot attend online classes regularly. In addition to that, most of them revealed that they have to have backup mobile data as they have to use the mobile data if there is no internet connections or weak internet connections, which seems very expensive for them.

Furthermore, most of the participants revealed that the form of implementation of online classes in Bangladesh has not been very effective due to issues with academic performance, user strategy, evaluation characteristics, and program development. Though educational institutions and universities are offering online education, there aren't enough qualified academics or educators to offer online classes as well as the learners are not tending to be appeared in online classes as they are not proficient enough in this new adaptation of education policies. These issues appear to be the major obstacles to the development of online education in Bangladesh's private universities.

3. What are the differences between traditional classes and online classes, when you're taking part in an online course?

▪ Medium of Instruction and Lack of Interaction

In order to obtain information about the response to the effectiveness of the online classes, the majority of those who took part in the interview responded that they did not attend the online lectures regularly as the internet access was not satisfactory as well as the inadequate medium of the learning platform. They considered it "one way of communication" and perceived lack of instructor's response, which is a significant challenge. It indicated that in terms of engagement, online teachers in online learning programs were not constantly involved with students. Moreover, it was also stated that it was not possible to take part in the online classes and interact with the instructors in the online classes simultaneously, particularly in the live classes. Moreover, the group discussions with

classmates in the online classes were not the same as the traditional classroom situations. Learners suggested that they find it challenging to participate through advanced educational software and digital devices. Some of the participants were from outside of Dhaka and faced difficulties in online classes when it came to interaction. He mentioned that students with different cultural backgrounds had limitations in common understanding due adopting the English language and communicating in online classes. By supporting this, most of the participants stated that they did not like online classes as most of them did not participate in group discussions and remained silent in classroom interaction which seems to be a failure for successful online classes.

- **Lack of Timely Feedback from Instructors**

In addition to that, it is also revealed that some of the instructors could not respond to the learner's mail on time, making it difficult for learners to had enough clarifications about the subject matter and course learning objectives. It is mentioned that online courses were flexible, accessible and characterized as convenient. However, learners were expected to have more interaction and support, adequate online material, and participated actively in the discussion board to encourage engagement. Regarding this fact that learners had no connections with others in online classes, participants stated that it is one of the essential aspects and a significant drawback of online classes. It seems that there were no connections with no one, attending classes and talking in "isolated" situations, which seems no groups or classroom environment were present. Additionally, the online format of interaction seems to be more forceful because of the instructor's no responses to posts or emails and unanswered as well as course mates' responses in a negative manner. Participants also mentioned that there were no connections in online classes. Nevertheless, they could join classes anywhere which requires proper internet connections.

4. How often you can use the internet to attend online classes and get the ideas for academic purposes?

- **Internet as a Medium of Pedagogical Knowledge and Development of Personal and Technological Skills**

In response to the internet as a medium of pedagogical knowledge and usage of the internet, the majority of the participants responded by saying that they had to use the internet as a medium of pedagogical knowledge for understanding the theory, different concepts, complex mathematics as it was not possible to understand them individually and independently by only attending online classes. In addition to that, they had to attend quizzes, examinations, viva, presentations, doing assignments for which the internet was a must and essential for them. Referring to this, one of the participants stated that as an Economics major student, he had to use the internet to comprehend the major terms of Economics, Statistics, and mathematics. In addition, other participants stated that they had to opt the practice internet to prepare for quizzes, assignments, exams and unquestionably for research papers.

However, from the interview, it is clearly stated that male participants had more access to technology options than female participants, and there was a noticeable difference in how males and girls adapted to online learning to overcome the barriers. On the contrary, it also develops the learner's skills. One of the participants suggested that the practice of the internet as academic purposes had developed their skills. In responses to developing personal and technological skills, one of them mentioned that, although it was a new form of learning method for the learners, it was helpful for the growth of their technological skills. It reflects and indicates that many of the students had never attended an online course before, they need immediate orientation and instruction. In

addition to that, it also develops their personal and technological skills, but they also believed social skills will not develop because of online interaction.

Furthermore, it is also mentioned that online lectures cannot be used to finish entire university programs., and participants were struggling in terms of using technology successfully in online classes when working on collaborative projects or tasks, individuals often encountered obstacles with the interactive *Whiteboard*, *Blackboard*, *Slack*, or any other educational software. It shows that learners had insufficient technical support and a lack of pedagogical models for using ICT in online education.

5. What are the most significant challenges you face while implementing eLearning in the classroom? Please provide details about your experience.

▪ **Self -assessment and Performance Accountability**

One of the significant challenges of online classes is that it increases self-assessment and personal responsibilities of learners and they need to be accountable for their education. In contrast, they cannot interact face-to-face and cannot make networks or connections with other students, classmates' and faculties. One of the participants mentioned that it is not always possible to inform about their problems to the instructors, and sometimes not possible to ask about some clarifications, queries or solve some of the problems regarding the courses.

There were also some other challenges in online classes concerning students' behaviour, such as domination of individuals in the discussion board regardless of the turn-taking and individual responses. It causes a personal feeling of being eliminated from a group, which is very frustrating. One of the participants stated that the text-based characteristics of the online medium of communication creates misinterpretations, left to the assumption, confusion of meanings, and

limitations in terms of interaction. For example; in online classes, learners are required to reply to someone else's comment, read the replies of others, post a comment in a recorded lecture on a particular topic, in a recorded live class or in a discussion board. As a result, it has a communication gap and real-life interaction between instructors and classmates due to the absence of gestures, tone, and facial expressions, which characterizes the limitations of text-only communications. In addition to that, it creates immense pressure on the learners in terms of self-assessment and performance accountability. It was found out that the traditional classrooms were more motivating than online learning as students generally play an active role in academic activities due to their facial expressions, interaction with instructors and classmates in conventional classroom scenarios.

In online classes of private universities, the missing element is face-to-face interaction, which causes major communication problems such as self-assessment and performance accountability because of misperceptions. It has been considered as one limited partial by text-only communication. Although students are receiving all materials; nevertheless, communication difficulties may exist with instructors and peers due to time limitations and communication interruptions. It is one of the significant problematic issues as it is not managed effectively in interacting, communicating and learning situations.

6. Are online classes improving the students' level of education and development potential? To what extent do you have adequate facilities, such as electricity, a network, and computers, in your location to implement online education?

- **Poor Internet Infrastructure and Lack of Constant Power Supply**

In response to this question, majority of participants agreed that online programs are beneficial to increasing educational outcomes because it is helping the learners to develop their

technical skills and how to integrate the technologies in education purposes. So, they think it is positively helping them. On the contrary, participants also revealed that uninterrupted internet access and power supply were fundamental requirements for joining and communication in online classes. In contrast, lack of technological devices such as a scarcity of devices, limited access to gadgets sharing, and a scarcity of advanced technological skill, issues with power supply, no access to the internet are the significant barriers for the unequal distribution of learning activities. Additionally, the lack of a nonstop power supply in the online classes seems a significant challenge for the learners. The majority of the participants supported this statement. As a result, they have to use mobile data for attending online classes. Moreover, signal availability and the main reasons for limited internet access are network strength issues. Moreover, the limited internet access including the regular internet connectivity is costly due to the high cost of internet services.

All participants said they could operate a computer with ease and considered themselves excellent or advanced computer users when it came to computer access and the skills needed for online learning. In contrast, some of them had no personal computers with no internet, and some of them had internet connectivity for a limited number of hours. In response to sufficient facilities and equipment, the majority of the participants suggested that the infrastructure is a significant barrier, including poor setup of internet connections, cost of internet, lack of adequate power supply that hampers the procedures of online learning. One of the most significant barriers is limited access to the internet and the technological skills that they face in online classes. However, the mobile operator companies are offering 3G/4G internet data connections that are not effective enough for high-speed data transmissions for online classes. In addition to that, the internet broadband connections seem to have weak signals, which causes buffering of videos, mechanical, inaccurate and blurred audio. It causes difficulty in sharing screens, and learners remain incomprehensible regarding what is

happening in the live classes. One of the participants stated that he does not have proper broadband internet connections in his area. As a result, he has to use mobile data. The cost of mobile data is 649 Bangladeshi takas for 25GB for two days/48 hours which is very high for a student.

About the technical aspects of online classes, participants also responded that another element that influences productivity when using online education is internet connectivity, including insufficient internet bandwidth or speed and the number of internet-connected computers. As a result, they faced difficulties while downloading videos. Consequently, lack of access to the internet, technological barriers such as inconsistent, slow, either no internet accesses, as well as a deficiency of technical abilities are the main barriers to utilizing technology in online learning. Participants also described that they may not have good internet connectivity, while others have limited internet service via mobile phones or portable devices. The participants' opinions revealed that students' ability to contribute to online learning was hampered by a lack of resources and social disregard for learners as a result of inadequate networks and internet access. It is a vital challenge to ensure the digital resources, particularly the proper internet connections with a less amount of internet cost, mobile data cost as they lack good internet connections for attending online classes.

7. How anxious do you feel when using unfamiliar technology in online classes? Do you have adequate funding for assistance you with data?

- **Lack of Knowledge in Educational Technology and Flexibility in using Educational Software**

It is stated earlier that one of the significant issues that the participants faced was poor internet infrastructure and a lack of constant power supply. Most of the learners believe that they are highly qualified to make advantage of computers/laptops for online learning and they are comfortable

communicating digitally, whereas some of them faced problems in digital communication as online learning is not the same as traditional learning. Some participants stated that they find it challenging to open ID, install applications like "*Google Meet, Zoom, Slack, Plan Board, Quizlet*", function different educational software for attending online classes, and share screens simultaneously. One of the participants mentioned that one of the topmost private universities has a built-in discussion forum in the *Learning Management System (LMS)* for students. However, they infrequently used it and no synchronic chat facilities and formal scaffolding for combined work due to lack of flexibility in using educational software. He also opted not to be an updated and tech-savvy person which creates difficulty using unknown technologies like live classes in *Zoom, Google Classroom, Slack, Blackboard*, and others.

From the responses of the participants, the amount of collaboration among learners involved in collaborative work in online learning was found to be lacking, as most of them accessed the discussion group fewer than two or three times per week due to a lack of information about how to use new technologies in terms of learnings. One of the participants opted that she had to use technology for academic reasons in online classes, which was difficult for her and she could not cope up with this new system. Moreover, the results showed that learners feel frustrated and panicked in using new technologies in learning and face more significant barriers in using online learning. From the perspective of the student, they only use e-learning platforms to download lectures, submit assignments, take part in the viva, and examination which show that they are overloaded with some other responsibilities and lack of e-pedagogy competence. Furthermore, learner's interaction followed by peer contact showed extremely high ratings whereas to a lack of prior experience in an online setting, collaborative activities or contributions to group activities were lacking which indicates lack of confidence and inexperience.

- **Insufficient Financial Support**

From one of the participant's experiences, it is stated that it seems one of the significant issues that create barriers in terms of attaining online classes because of the price of internet.

Referring to this, one of the participations mentioned that they do not have any financial support from the university authorities, and it is an extra burden for them to pay an excessive amount of money for buying broadband internet connections and mobile data, including the costly tuition fees. To prevent problems such as attending quizzes, examinations, and presentations without interruptions, they are sometimes asked to buy mobile data as a backup plan. It is a big hassle for the learners to find ways of increasing internet bandwidth and less the mobile data cost to avail more bandwidth for studying online uninterruptedly.

8. How anxious do you feel when you hesitate to use technology in online classes for fear of making mistakes you cannot correct?

- **Unable to Correct Mistakes in Exam Scripts**

When asked about the rectification of the mistakes in exam scripts, most of the participants encountered obstacles in online learning as there was no knowledge or experience with e-learning among the participants. It is pointed out that the shift from face-to-face instruction to an online delivery method has had a considerable influence on the learning process of learners. It became a considerable challenge for the learners regarding assessments and evaluation due to technological advancement, less access to technological devices and interrupted internet connectivity. It creates mental struggles among them. One of the participants stated that it was very frustrating to make

mistakes in online exam scripts and could not change them because of using new educational tools in online classes.

It is also identified that using new technology in online classes seems challenging for learners as they have to use various applications such as *Zoom, Blackboard, Slack, Google Classroom, Padlet, Quizlet, Google Meet* for various online courses to attend online classes. It also reflects that the technological complications create confusion, barriers and these technical difficulties were more significant for the participants identified from the interviews. About the technological challenges in online classes, one of the participants commented that they should be aware that technical glitches will arise from time to time like an application is not responding on time, having pauses in the meantime of attending viva and presentations, not submitting assignments before deadlines. They cannot do anything about that. As a result, these technical issues, affordability of learning tools, and adapting the unfamiliar tools become a vital challenge for the learners of online classes.

9. Please describe how online classes create barriers to understanding the course expectations and subject matter related tools?

▪ **Lack of Pedagogical Knowledge and Detailed Clarifications of Course Expectations**

In response to creating barriers to understanding the course expectations and subject matter related tools, the majority of everyone who participated claimed that they could not comprehend the significant concepts and theories, explanations of Mathematical terms such as *Algebra, Linear Equation, Calculus, Statistics* in online classes. These courses always required details and comprehensive clarification, whereas the online learning platform provides materials such as PDF of a problem solved Math in *Whiteboard*; and these do not fulfill the requirements of the students. Referring to this problem, one of the participants also reported that he always needed precise,

detailed descriptions of the significant Economics courses such as *Diminution of Marginal Equity*. It does not fulfil the requirements in the online classes due to restrictions in time management and limitations in theoretical explanations. Here, no one is accountable for individual studies of the learners, which causes a lack of understanding of subject matter in both practical and theoretical courses.

One of the striking findings was that most students had a negative acknowledgement of the theoretical and mathematical courses in online learning due to lack of engagement, trouble in concentrating and comprehending concepts in online learning situation. One of the participants stated that the *Engineering Mathematical* courses were challenging to comprehend as one of the requirements were face-to-face lectures and practical lab classes, which was not achievable in online classes. The *Engineering* courses, which includes the Lab classes, do not seem to be that practical in online classes as it needs to be face to face interactions with lots of queries from the learners. This evidence from the participants shows that they cannot concentrate strictly in online classes. As a result, learners cannot have explicit pedagogical knowledge in their disciplines, cannot submit the pending assignments before deadlines in online classes, which causes negative impacts on their grades sheets.

Furthermore, most participants revealed that beginner level of learners faces unpreparedness and struggles in online classes due to this innovative dimension of the education system. In terms of responses from the participants regarding their unpreparedness, they illustrated that they struggled in different issues such as attending various courses in terms of structure, content download, assignment submission deadlines, and a lack of experience organizing the framework of their online courses which are creating barriers in online classes.

10. To what extent do you think technology integration is creating barriers as a learning tool?**▪ Integration of Technology for Academic Purposes**

The integration of technology is creating barriers as an instrument for learning which was revealed by the participants of this study. The primary striking reason behind these are lack of facilities and interpersonal indifference for learners which is a result of insufficient networks and internet access. It has an impact on students' ability to participate in online educational platforms as they are not that skilled in using technology but used to practice the pen and paper-based examinations, taking notes in class, doing the math, and giving quizzes and examinations in the traditional classroom. In addition to that, in online classes, learners have to integrate technology for academic purposes, which seems difficult for them as they have to attend classes and take notes, take part in peer work, and do group work simultaneously.

Additionally, most of the faculties are now taking the live class as mandatory, which increases the on-screen time more than double as it was in previous days. Moreover, there are too many assessments and assignments that learners have to do every week though they are short in length; nevertheless, they are considering extensive marks. That is why learners cannot do anything but have to practice submitting after completion of assignments in a short time period. Furthermore, learners cannot focus on a single course as there are too many activities in a single week, sometimes in a single day. Each week they have to spend an average of 8-11 hours per day watching lecture videos and recorded sessions, including the preparations for quizzes, assignments, practice sheets and others which is almost 92-132 hours per week. This rigorous, extensive period of sitting in front of digital devices which endangers their physical health badly.

- **Communication Method**

In terms of communication methods, participants of this study revealed that "*different departments have their own preferred method of communication*". The idea of an independent decision-making process for each department and it authorizes to each department; makes the learners' lives complicated. As a result, learners have to use *Messenger, WhatsApp, Slack, Google Classroom, Hangout, Discord, Email* as methods of communication. For example, if a learner has five courses and five of them all use different communication methods and they need to check five applications to stay updated on their courses. In addition to that, one of the biggest problems with email is figuring out email is from which course. Generally, all the learners get at least 5-6 emails every day. So, it is problematic to notice the course emails from other things without a proper email subject and course code.

- **Grading Policy and Plagiarism Issues**

From the participants' experiences, it is found out that, they are very much concerned about the examination procedures, grading policy, plagiarism issues as well. For example; it is found that there is no separate window for midterm/final examination week. It is not unusual for having two mid-terms on the same day, even same time, hence having at least a one-hour window is a bare minimum. Moreover, there is an issue of plagiarism or cheating in the examination. Here, learners have to answer the questions in the *Microsoft Word Documents*, convert them into *PDF* files and submit them in *PDF* format due to plagiarism issues. They also have to attend viva for the same examination, which cannot easily be countered. In addition to that, 10 minutes of a window for having the question paper in the online exams is not flexible, especially when learners are having

risk of two back-to-back examinations. If both examinations at least keep a 2 hours window for a 1hour exam, in any case, learners can take a 1hour break before sitting for the next examination.

Additionally, the time duration for an examination is short in comparison to the questions given. Moreover, more than a few complaints have been made against the quality of the questions. They revealed that they do not match what is given in the recorded lectures and the live classes and several courses need to be addressed precisely. Additionally, one of the significant issues that the participants have emphasized is the drastic modification and the fluctuations of the grading system in every semester. A lenient system is necessary for an online semester as Learning Management System (LMS) and online consultation cannot substitute face-to-face classes. Moreover, learners also revealed that sometimes quizzes and scheduled classes collides which results in missing a few live classes. In addition to that, there are tons of assignments making it difficult for the learners to attend them. Hence, participants also stated that they end up watching the recording of the lectures after midnight that is when the deadline is over, which is faced by every participant of online classes. As the COVID-19 situation worsens, it makes the learning situation more difficult. Moreover, despite of being sick, learners have to focus on deadlines, have to attend quizzes, and submit assignments on time as well. So, it is very stressful and challenging for the learners at the same time to get high marks with this amount of workload.

11. One of the issues highlighted in the surveys was the sense of community or feeling as if you have no connections with the other students in an online class. Do you believe this is an important feature of an online course?

- **Learning in an Isolation Situation**

In response to common learning goals among students in online classes, even when students achieve the minimum level of competency, they still encountered with language difficulties, isolation due to a lack of interaction, and lack of connection with their peers and instructors. Students had difficulty accessing the course and course objectives in online classes since they were not explained clearly and lack of confidence regarding the use of ICT. As per regards, instructor's custom the form of instructional technology in their classes. Universities are transitioning to online learning and offering only online learning courses, as evidenced by computer-mediated communication. It created barriers for students to networking prospects for understanding the subject-related concepts and communication. Participants disclosed that they experienced, it is not easier to concentrate in online classes and prepare them better for the future. They detect a lack of interaction and collaboration with peers, group works, class discussions in online classes. It was also revealed that they lack communication with instructors and lack timely feedback, making them unable to understand the instructions. Additionally, in a technology-enhanced classroom, the instructor is no longer the only information source, but also learners have to be equally and actively engaged in classroom situations and learning activities.

12. Can you describe how technology encourages students to share the responsibility for their learning and self-assessment?

- **Individual Accountability**

One of the significant challenges of online classes is that it increases personal responsibilities as learners need to account for their own learning. In contrast, they cannot interact face to face and can make networks and connections with other students and faculties. It is not constantly possible to

inform about the problems to their instructors, and sometimes not possible to ask about some clarifications or solve some of their problems. Most of the participants are from outside of Dhaka and facing challenges in individual accountability of learning in online classes. They mentioned that it is not that encouraging and often feel demotivated because of the responsibility of their learnings. The majority of the participants stated that learners with different cultural backgrounds faced problems in communicating online and limitations in common understanding due to using the English language in online courses. By supporting this, one of the learners revealed that the online courses take much time to watch recorded lectures, do all the assignments, attend the live classes, viva which was time consuming. It makes the learners get distracted and do other kinds of stuff like using *Facebook*, *Instagram*. It killed their time and made the learners distracted. As a result, learners do not like online classes and the in-class discussions, classroom communications seem to fail the achievement of online classes.

13. To what extent do you consider online classes lacking time management and motivation?

▪ Lack of Time Management and Motivation

Questioning this issue, most of the participants stated that online learning is in the requirement of motivation as learners lack of flexibility due to time constraints and work overload. One of the participants mentioned that she feels demotivated and full of stress and anxiety. It is not encouraging them as a learning method and they lose track of learning and evaluation of their achievement. It is pointed out that the destructive course load obstructed their learning efficiency which resulting in copying-pasting the assignments and the habit of cheating and plagiarism in online assignments. The devastating growth of workload and long working hours are one of the characteristics that triggers the plagiarism and digital form of cheating.

Online learning has disadvantages regarding the workload, interpersonal involvement and engagement with classmates, peers, lecturers, facilitators and even in discussion forums, collaborative work. Because of the lack of engagement with peers, the instructor's unavailability, and the lack of fast feedback from peers and the course instructor, learners found it is hard to remain motivated in some online programs. Participants also mentioned such challenges and stated that it requires learners to be self-responsible and self-motivated in communicating with tutors, peers, and other fellow mates throughout the internet with the proper funding of the communication technologies. Moreover, it is very monotonous as doing the classes at home, watching many lectures, attending the classes, which kills much time including the extra stress and anxiety. The participants recognized to the idea that online learning is much stressful than traditional learning. Although, incorporating e-learning in the teaching and learning method may be advantageous but it is pointed out that there are challenges. It requires additional support as relevant support is essential for successful learning.

14. Apart from the technical and flexibility issues, what are the other factors that create barriers in the development procedure of online classes?

- **Health Issues in Online Classes**

In response to other issues that create barriers in the development procedure of online classes, participants mentioned that physical and health issues arise, such as causing a lot of eye strain, experiencing corneal redness, excessive watering and dryness of eyes, and light sensitivity, insomnia due to online classes. One of them stated that the health issues are prominent because working for a long hour creates problems like eyes strains, redness of eyes, backbones pains, stress, and frustrations. They also responded that they were concerned about the increasing eyes issues,

including the other major health issues such as high blood pressure, diabetes, vision loss, joint issues like backbone, backaches. It linked to excessive screen time, and spending long periods working with computers. One of them stated that mobile addiction is become another major problem due to these online classes.

Regarding interaction with lecturers on an individual basis, participants mentioned that lack of timely feedback is initiating frustration, anxiety, reducing enthusiasm and engagement in learning procedures. Inadequate feedback from instructors and peer pressure was also viewed as a barrier that was a significant hindrance to online learning. Participants mentioned that the online classes are not motivating them as they often found that instructors are very biased. Moreover, they also stated that it is dull as the cycle of learning is repetitive, and it causes feel them very stressed.

Furthermore, psychological issues also occur in online learning due to the time assured assignments marked with a brief presentation. It became a source of stress and anxiety since the deadlines of numerous courses. In addition to that, one of the disadvantages of online classes is that it causes mental health problems such as stress and mental pressures due to the short time given for the exams and quizzes. Moreover, it also causes negative annoyance and lack of sufficient motivation because of technology boosted learning. It demoralizes the capability to form workload and learning autonomy of the learners. It was found out that the online classes appeared to be less encouraging than traditional classroom as students generally actively take part in academic activities due to the nature of face-to-face interaction among instructors, class fellows in conventional classroom situations.

4.3 Summary of the Findings

After analyzing the primary data, the following findings can be stated. First of all, this study highlighted the most significant challenges in terms of integrating of technology in online classes. The tools and technologies such as computers, laptops, smartphones, internet connections required for online classes, the largest portion of fellow students cannot easily manage it. It is an interesting note that participants supported the conventions of online classes. They have been attending online classes as online classes were easier to arrange, attend, convenient for them, no commute to class, and fit their schedule better. Secondly, they enjoyed learning through the usage of new technologies and get knowledge; ideas regarded the subject-related tools by the practice of internet whereas they also get affected due to the cost of internet, mobile data as well. In addition to that, most of the participants revealed that most of them have no personal computers or laptop, share their laptop with their siblings, have no proper internet connections, and the cost of over-priced mobile data creates barriers in attending online classes. The insufficient financial support from the university authority, including inadequate broadband bandwidth or speed as well as a limitation of internet-connected computers, were some of the significant problems in a developing country like Bangladesh for conducting online classes.

In addition to that, students experienced extreme technological difficulties and online class difficulties, according to this study. The majority of the participants had no access to internet and adequate technological equipment that were required to participate in online classes. As a result, they did not prefer online education can be an effective alternative to face-to-face classes traditional education in Bangladesh. Moreover, in terms of interaction in online classes, one of the issues raised that they may lack a sense of community or believed that they were isolated from others when they attend online classes together. Furthermore, insufficient time to complete the tasks, as well as

misinterpretation of instructions, came out as a significant challenge. The lack of real-life interaction and communication gap made them feel isolated in the online classes due to the interaction procedure and not understanding the instructions. It is acknowledged that instructors' videos, live classes, and *YouTube* videos as the preferred media for online classes, while PDF instructions were the least preferred method among them. Additionally, the learners' anxiety and reluctance to use new technology in online classrooms, as well as their fear of making mistakes that cannot be fixed, were also caused by a lack of pedagogical approaches on the use of ICT for learning and a lack of confidence when using ICT.

Furthermore, the participants think that technology integration was creating barriers as a learning tool because of the Inadequate number of interactive *Whiteboards* and other educational software. The lack of flexibility due to time constraints and work overload followed by family health creates stress among the learners. It is one of the primary reasons it discourages students as individuals were accountable for their own learning and self-assessment. Moreover, learners also considered online classes lack of time management and motivation as it increases their mental health issues like frustrations and anxiety. Those online classes were also responsible for time management because it is found that inadequate time to complete their tasks, online videos also take too much time to load. In addition to that, mobile and laptops were not working fast and the internet was not going too smooth. These creates obstacles, as a result they played online games, chatting with friends, watching *Netflix* and *YouTube* videos which made them distracted, killed their time as well.

Although the new adaptation of technology in online learning has provided a new experience for the students, however it has also created major health issues that the participants had stated in the interview. They had opted that physical and health issues occur, such as causing a lot of eye strain,

suffering from eyelid redness, extreme watering and dryness of eyes, and light sensitivity, insomnia due to online classes. The participants responded that they were concerned about their increasing eyes issues, including mental health issues. The health issues included high blood pressure, diabetes, vision loss, joint issues like the backbone, backaches, which were associated with extreme screen usage, and spending long periods occupied with computers. In addition to that, the respondent believed social skills would not develop, and mobile addiction had become another major problem because of online interaction. It was also stated that the time assured assignments were marked with the brief presentation, but it develops a source of stress since the deadlines of numerous courses. Moreover, the lack of timely feedback was an obstruction and instigating anxiety, reducing enthusiasm and engagement in learners. Additionally, whereas technology facilitates learning, it can also discourage the capacity to develop workload and learn independently, which leads to negative discomfort and a lack of motivation.

However, the primary data reflects that due to Covid-19 emergencies, most of the private universities tried to adapt online learning method in our country which itself was a challenge. In some cases, the students got benefitted from it, tried to adapt with it with their limited resources but it was never a successful method in a country like Bangladesh where internet bandwidth cost is very high, devices are not cheap to purchase and technological knowledge is very poor in every aspect.

Chapter 5

Conclusion

5.1 Conclusion

The study emphasizes the difficulties of online education in Bangladesh and the transition from traditional in-person instruction to online learning. Due to uninterrupted internet connections and ambiguous learning objectives, learners suffer from a lack of contact, teamwork, and access to necessary resources, as well as one-way communication. Lack of timely instructor response, real-time chats, and internet technologies are some of the drawbacks of online learning. In addition, participants mentioned problems with workload, family health, streaming, and time management. Oversleeping, playing video games online, watching Netflix, and conversing on social media platforms like Facebook and Instagram are all examples of distractions. These elements make it more difficult to learn basic ideas and finish the course successfully. Because websites and internet connections are required, online learning is beneficial but not very effective. In conclusion, online learning is convenient since it can be started at any time and from any location with a mouse click or finger tap, but it is not a particularly effective as a learning tool.

5.2 Recommendations for Online Classes

From the researcher point of view –

1. To inaugurate online learning in a developing country like Bangladesh, the technology and poor broadband connection must be upgraded primarily because the scarcity of technological and networking difficulties occur severely in Bangladesh. Acceptance of the innovative method of learning system is a philosophy that both teachers and students must have acceptance as they are

used to practicing the existing system of teaching techniques. They also have to eradicate the miscommunication between the learners and instructors.

2. Authority of an educational organization must assemble expert and professional training sessions to accomplish the comprehensible knowledge about the concept of *E-learning*. Instructors can also organize a consultation with learners as they have nervousness and low confidence level about using unfamiliar technology. They can also discuss about the collaboration and modifications in the teaching and learning method.

3. Digital resources and numerous technologies used for learning, such as *Zoom*, *Google Meet*, *Google Classroom*, *Slack*, *Padlet*, *Learning Moodle System (LMS)*, must be familiarized in higher educational institutions to create the learning system faster. It is suggested to allowing only one or two methods of communication officially. Email for each assignment and examination should be mandatory for each course. Each email subject should start with the course code followed by a section by the purpose of the email.

4. The contents in LMS for course videos are very poor audio and video quality. Learners had to edit some videos to make them watchable. Additionally, audio quality is vital for each of the courses. Moreover, some of the lecture notes are inadequate regarding the course objectives. Furthermore, all courses should have two segments for each chapter. For example, the first segment for video lectures and the second for written notes and it should be sufficient to study them without attending online classes.

5. Moreover, the department submission rules should be equivalent for all. Some departments require handwritten submission, and some require word file submission. It creates more problems for learners. There should be the only method to use, and everything should be digital.

6.There should be a clear guideline for determining exam duration, such as quiz and exam timing.

In some course's learners get 12 hours to do an assignment, and in another course, they get two days. For example; in one course, a 20-mark quiz is taken in 30 minutes, whereas a 20-mark quiz is taken in 3 hours in another course.

7.In addition to that, learners do not get proper feedback for assignments in terms of assignment feedback. It can be helpful if they get feedback on each assignment. At least, it would be enough for them to know which part they should be improved to get better marks.

8.Lastly, learners should be informed about the justification of the offline grading system when the country's situation is worsening. They should also be concerned about the efficacies of the viva policy, plagiarism, and its effectiveness in judging who has plagiarized and who has not.

Therefore, online learning can be practiced in educational institutions designed for a practical learning experiences and pursuing some strategies, online learning can be successfully executed in the Bangladeshi education system.

References

- Adnan, M., & Anwar, K. (2020). Online Learning amid the COVID-19 Pandemic: Students' Perspectives. *Online Submission*, 2(1), 45-51.
https://www.researchgate.net/publication/342371575_Online_learning_amid_the_COVID-19_pandemic_Students_perspectives
- Ahmed, M. (2020). Tertiary Education during Covid-19 and Beyond. The Daily Star.
<https://www.thedailystar.net/opinion/news/tertiary-education-during-covid-19-and-beyond-1897321>
- Alam, M.A., 2020. Challenges and possibilities of online education during Covid-19. *Preprints* 1 (6), 1–4.doi: 10.20944/preprints202006.0013.v1
- AlHajri, R., Al-Sharhan, S., Al-Hunaiyyan, A., 2017. Students' perceptions of Mobile learning: case study of Kuwait. *Int. Sch. Sci. Res. Innov.* 11 (2), 371–374.
<https://doi.org/10.5281/zenodo.1339998>
- Alonso, F., López, G., Manrique, D., & Viñes, J. M. (2005). An instructional model for web-based e-learning education with a blended learning process approach. *British Journal of Educational Technology*, 36(2), 217-235.
<https://doi.org/10.1111/j.1467-8535.2005.00454.x>
- Aljaraideh, Y., & Al Bataineh, K. (2019). Jordanian Students' Barriers of Utilizing Online Learning: A Survey Study. *International Education Studies*, 12(5), 99-108.

<https://eric.ed.gov/?id=EJ1214274>

Al-Tammemi, A. B., Akour, A., & Alfalah, L. (2020). Is It Just About Physical Health? An Internet-Based Cross-Sectional Study Exploring the Psychological Impacts of COVID-19 Pandemic on University Students in Jordan Using Kessler Psychological Distress Scale.

<https://doi.org/10.1101/2020.05.14.20102343>

Anshari, M., Alas, Y., Hj Mohd Yunus, N., Pg Hj Sabtu, N. I., & Sheikh Abdul Hamid, M. H. (2016).

Online Learning: trends, issues and challenges in the Big Data Era. *Journal of E-Learning and Knowledge Society*, 12(1).

<https://doi.org/10.20368/1971-8829/1003>

Arbaugh, J. (2000). Virtual Classroom Characteristics and Student Satisfaction with Internet -Based MBA Courses. *Journal of Management Education*, 24(1), 32-54.

<https://doi.org/10.1177%2F105256290002400104>

Baticulon, R. E., Alberto, N. R. I., Baron, M. B. C., Mabulay, R. E. C., Rizada, L. G. T., Sy, J. J., ...

&Reyes, J. C. B. (2020). Barriers to online learning in the time of COVID-19: A national survey of medical students in the Philippines. *medRxiv*.

<https://doi.org/10.1101/2020.07.16.20155747>

Bharuthram, S., & Kies, C. (2013). Introducing e-learning in a South African Higher Education Institution: Challenges arising from an intervention and possible responses. *British Journal of Educational Technology*, 44(3), 410-420.

<https://doi.org/10.1111/j.1467-8535.2012.01307.x>

Biswas, B., Roy, S.K., Roy, F., 2020. Students perception of Mobile learning during Covid-19 in Bangladesh: university student perspective. *Aquademia* 4 (2), ep20023.

https://www.researchgate.net/publication/343357959_Students_Perception_of_Mobile_Learning_during_COVID-19_in_Bangladesh_University_Student_Perspective

Çakýroglu, Ü. (2014). Evaluating students' perspectives about virtual classrooms with regard to Seven Principles of Good Practice. *South African Journal of Education*, 34(2).

https://www.researchgate.net/publication/284466790_Evaluating_students'_perspectives_about_virtual_classrooms_with_regard_to_Seven_Principles_of_Good_Practice

Chahrour M, Assi S, Bejjani M, Nasrallah AA, Salhab H, Fares MY, Khachfe HH: A bibliometric analysis of COVID-19 research activity: a call for increased output. *Cureus*. 2020, 12: e7357.

<https://dx.doi.org/10.7759%2Fcureus.7357>

Cheung, L. L., & Kan, A. C. (2002). Evaluation of factors related to student performance in a distance learning business communication course. *Journal of Education for Business*, 77(5), 257–263.

<https://eric.ed.gov/?id=EJ653166>

Cole, M. T., Shelley, D. J., & Swartz, L. B. (2014). Online instruction, e-learning, and student satisfaction: A three-year study. *The International Review of Research in Open and Distributed Learning*, 15(6).

<https://doi.org/10.19173/irrodl.v15i6.1748>

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Boston: Edwards Brothers.

Creswell, JW, & Poth, CN (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications, Inc., Thousand Oaks.

Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5-22.

<https://journals.sagepub.com/doi/full/10.1177/0047239520934018>

Denzin, N. K., & Lincoln, Y. S. (2008). *Introduction: The discipline and practice of qualitative research*. In N. K. Denzin & Y. S. Lincoln (Eds.), *Strategies of qualitative inquiry* (p. 1–43). Sage Publications, Inc.

Dubey, P., Pandey, D., 2020. Distance learning in higher education during pandemic: challenges and opportunities. *Int. J. Ind. Psychol.* 8 (2), 43–46.

https://www.researchgate.net/publication/341641775_Distance_Learning_in_Higher_Education_during_Pandemic_Challenges_and_Opportunities/link/5eccc85ba6fdcc90d699ad9a/download

Dutta, A., 2020. Impact of digital social media on Indian higher education: alternative approaches of online learning during Covid-19 pandemic crisis. *Int. J. Sci. Res. Publ.* 10 (5), 604–611.

https://www.researchgate.net/publication/341606651_Impact_of_Digital_Social_Media_on_Indian_Higher_Education_Alternative_Approaches_of_Online_Learning_during_COVID-19_Pandemic_Crisis

Ellis, R. A., Ginns, P., & Piggott, L. (2009). E-learning in higher education: Some key aspects and their relationship to approaches to study. *Higher Education Research & Development*, 28(3), 303.

<http://www.informaworld.com/10.1080/07294360902839909>.

Institute of Epidemiology, Disease Control and Research (IEDCR) (2020). Covid-19 VitalStatistics. IEDCR.

<https://iedcr.gov.bd>

Irawan, A. W., Dwisona, D., & Lestari, M. (2020). Psychological impacts of students on online learning during the pandemic COVID-19. *KONSELI: Jurnal Bimbingan dan Konseling (E-Journal)*, 7(1), 53-60.

https://www.researchgate.net/publication/341826008_Psychological_Impacts_of_Students_on_Online_Learning_During_the_Pandemic_COVID-19

Islam, M.S., Tanvir, K.M., Amin, M., Salman, M., 2020. Online Classes for university Students in Bangladesh during the Covid-19 Pandemic- Is it Feasible? Retrieved 20 August, 2020

<https://tbsnews.net/thoughts/online-classes-university-students-bangladesh-during-covid-19-pandemic-it-feasible-87454>.

Isman, A., Gazi, Z. A., & Aksal, F. A. (2010). Students' Perceptions of Online Learning. *Educational Technology*, 50(3), 53-54.

<https://eric.ed.gov/?id=EJ890790><https://eric.ed.gov/?id=EJ890790>

Jereb, E., & Šmitek, B. (2006). Applying multimedia instruction in e-learning. *Innovations in Education & Teaching International*, 43(1), 15-27.

<https://doi.org/10.1080/14703290500467335>

Karkar-Esperat, T. M. (2018). International graduate students' challenges and learning experiences in online classes. *Journal of International Students*, 8(4), 1722-1735.

<https://www.ojed.org/index.php/jis/article/view/227>

Leo, T., Manganello, F., Pennacchiotti, M., Pistoia, A., & Chen, N. S. (2009). Online synchronous instruction: Challenges and solutions. In *2009 ninth IEEE international conference on advanced learning technologies* (pp. 489-491). IEEE.

https://www.academia.edu/916997/Online_Synchronous_Instruction_Challenges_and_Solutions

Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology*, 22 140, 55.

Makokha, L., & Mutisya D. N. (2016). *Status of E- learning in Public Universities in Kenya*. Kenyatta University, Southern Eastern Kenya.

<https://doi.org/10.19173/irrodl.v17i3.2235>

Mayer, R. E. (2014). Multimedia instruction. In *Handbook of research on educational communications and technology*. Springer.

Mbati, L. (2012). Online learning for social constructivism: Creating a conducive environment. *Huria: Journal of the Open University of Tanzania*, 13(2), 197-210.

More than 10pc university students suffer from mental health issues: Study. (2021, June 19). *The Financial Express*.

<https://thefinancialexpress.com.bd/health/more-than-10pc-university-students-suffer-from-mental-health-issues-study->

Murphy, E., & Coleman, E. (2004). Graduate students' experiences of challenges in online asynchronous discussions. *Canadian Journal of Learning and Technology/La revue canadienne de l'apprentissage et de la technologie*, 30(2).

https://www.researchgate.net/publication/277053721_Graduate_Students'_Experiences_of_Challenges_in_Online_Asynchronous_Discussions

Muuro, M. E., Wagacha, W. P., Kihoro, J., & Oboko, R. (2014). Students' perceived challenges in an online collaborative learning environment: A case of higher learning institutions in Nairobi, Kenya. *International Review of Research in Open and Distributed Learning*, 15(6), 132-161.

<https://doi.org/10.19173/irrodl.v15i6.1768>

Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., Agha, M., & Agha, R. (2020).

The Socio-Economic Implications of the Coronavirus Pandemic (COVID-19): A Review.

International Journal of Surgery, 78, 185-193.

<https://doi.org/10.1016/j.ijss.2020.04.018>

Nguyen, T. (2015). The effectiveness of online learning: Beyond no significant difference and future horizons. *MERLOT Journal of Online Learning and Teaching*, 11(2), 309-319.

http://jolt.merlot.org/Vol11no2/Nguyen_0615.pdf

Onyemo, E. M., & Deborah, E. C. (2019). Potential of mobile technologies in enhancing the effectiveness of inquiry-based learning. *International journal of Education IJE*, 2019(2), 1-25.

<http://www.scholink.org/ojs/index.php/grhe/article/download/3151/3178>

Paschal, Mahona & Mkulu, Demetria. (2020). Online Classes during COVID-19 Pandemic in Higher Learning Institutions in Africa. *Global Research in Higher Education*. 3. p1.

10.22158/grhe.v3n3p1.

https://www.researchgate.net/publication/343698531_Online_Classes_during_COVID-19_Pandemic_in_Higher_Learning_Institutions_in_Africa/citation/download

Panday, P.K., 2020. Online Classes and Lack of Interactiveness. Retrieved 20 August,2020

<https://www.daily-sun.com/printversion/details/502935>.

Pandit, D., & Agrawal, S. (2021). Exploring challenges of online education in COVID times. *FIIB Business Review*, 2319714520986254.

<https://doi.org/10.1177/2319714520986254>

Panigrahi, R., Srivastava, P. R., & Sharma, D. (2018). Online learning: Adoption, continuance, and learning outcome—A review of literature. *International Journal of Information Management*, 43, 1–14.

https://www.researchgate.net/publication/325673867_Online_learning_Adoption_continuance_and_learning_outcome-A_review_of_literature

Peel, K. L. (2020). A Beginner's Guide to Applied Educational Research using Thematic Analysis. *Practical Assessment, Research, and Evaluation*, 25(1), 2.

<https://doi.org/10.7275/ryr5-k983>

Picciano, A. G. (2017). Theories and frameworks for online education: Seeking an integrated model. *Online Learning*, 21(3), 166-190.

<https://eric.ed.gov/?id=EJ1154117>

Queiros, D., & de Villiers, M. (2016). Online learning in a South African higher education institution: Determining the right connections for the student. *International Review of Research in Open and Distributed Learning: IRRODL*, 17(5), 165-185.

<https://doi.org/10.19173/irrodl.v17i5.2552>

Ramij, M.G., Sultana, A., 2020. Preparedness of online classes in developing countries amid Covid-19 outbreak: a perspective from Bangladesh. SSRN Electr. J.

https://www.researchgate.net/publication/344103553_The_Impact_of_COVID-19_Pandemic_on_Tertiary_Education_in_Bangladesh_Students'_Perspectives

Seliger, H. W. & Shohamy, E. (1989). *Second Language Research Methods*. Oxford: Oxford University Press.

Shama, S., Ikbal, J., 2020. Education during a Pandemic: A Feasibility Study of Online Classes in Bangladesh to Counteract Potential Study Gaps Caused by Covid-19 Related Lockdowns.

https://www.researchgate.net/publication/342641129_EDUCATION_DURING_A_PANDEMIC_A_feasibility_study_of_online_classes_in_Bangladesh_to_counteract_potential_study_gaps_caused_by_COVID-19_related_lockdowns

Smith, J. S. (2004). The effects of student receptivity on college achievement and retention. *Journal of College Student Retention: Research, Theory & Practice*, 6(3), 273-288.

<https://doi.org/10.2190%2FG6K9-YT1V-GCXW-UTUK>

Smith, J. A., & Shinebourne, P. (2012). *Interpretative phenomenological analysis*. American Psychological Association.

https://research.familymed.ubc.ca/files/2012/03/IPA_Smith_Osborne21632.pdf

Song, L., Singleton, E. S., Hill, J. R., & Koh, M. H. (2004). Improving online learning: Student perceptions of useful and challenging characteristics. *The internet and higher education*, 7(1), 59-70.

<https://www.sciencedirect.com/science/article/abs/pii/S1096751603000885>

Spina S, Marrazzo F, Migliari M, Stucchi R, Sforza A, Fumagalli R: The response of Milan's emergency medical system to the COVID-19 outbreak in Italy. *Lancet*. 2020, 395:49-50.

[https://doi.org/10.1016/S0140-6736\(20\)30493-1](https://doi.org/10.1016/S0140-6736(20)30493-1)

Shuchi, M., Tabassum, S., & Toufique, M. M. K. (2021). A Year of Online Classes Amid COVID-19 Pandemic: Advantages, Problems, and Suggestions of Economics Students at a Bangladeshi Public University. *Problems, and Suggestions of Economics Students at a Bangladeshi Public University* (June 6, 2021).

<http://doi: 10.20944/preprints202106. 0298.v1>

Sun, A., & Chen, X. (2016). Online Education and its effective practice: A research review. *Journal of Information Technology Education Research*, 15, 157-190. <https://doi.org/10.28945/3502>

Stover, C. (2005). Measuring and understanding student retention. *Distance Education Report*, 9(16), 17.

Tariq, S.B., Fami, T., 2020. Is Online Education System Suitable for Bangladesh? Retrieved 20 August, 2020

<https://tbsnews.net/thoughts/online-education-system-suitable-bangladesh-112546>.

Tientcheu, V. T. L., & Lambert, C. D. E. Challenges of Online Classes due to COVID-19.

https://www.researchgate.net/publication/350089987_Challenges_of_Online_Classes_due_to_COVID-19

Thomas, G. (2011). A Typology for the Case Study in Social Science Following a Review of Definition, Discourse, and Structure. *Qualitative Inquiry*, 17(6), 511–521.

<https://doi.org/10.1177/1077800411409884>

Wadhwa, N., & Khatak, S. (2020). Online versus Offline Mode of Education–Is India ready to meet the challenges of Online Education in lockdown? *Journal of the Social Sciences*, 48(3).

https://www.researchgate.net/publication/342946003_Online_versus_Offline_Mode_of_Education_-Is_India_ready_to_meet_the_challenges_of_Online_Education_in_lockdown

Wadud, M. (2020, 22 July). Delayed online teaching in pandemic widens education gap. University World News.

<https://www.universityworldnews.com/post.php?story=20200722154017758>

Yusuf, B. N. & Ahmad, J. (2020). Are we Prepared Enough? A Case Study of Challenges in Online Learning in A Private Higher Learning Institution During the Covid-19 Outbreaks. *Advances in Social Sciences Research Journal*, 7(5), 205-212.

<https://doi.org/10.14738/assrj.75.8211>

Zhang, K., Peng, S. W., & Hung, J. L. (2009). Online collaborative learning in a project-based learning environment in Taiwan: a case study on undergraduate students' perspectives. *Educational Media International*, 46(2), 123-135.

<https://doi.org/10.1080/09523980902933425>

Zhang, Z., & Kenny, R. (2010). Learning in an online distance education course: Experiences of three international students. *The International Review of Research in Open and Distributed Learning*, 11(1), 17-36.

<https://doi.org/10.19173/irrodl.v11i1.775>

Appendix A

▪ Personal Information

- Name:
- Age:
- Gender:
- Academic Degrees:
- Institutions and department, they have enrolled in:

▪ Questionnaire A

Part A (Close-ended Questions):

Directions: Put a check mark (✓) in the column according to your immediate Online Learning experiences.

Strongly Disagree=1	Disagree=2	Neutral=3	Agree=4	Strongly Agree=5
------------------------	------------	-----------	---------	---------------------

Survey Questionnaire	1	2	3	4	5
1.I have been attending online classes as online classes are easier to arrange and attend.					

2.The tools and technologies required for online classes affordable for me (Computer, Laptop, Smartphones, Internet Connections).					
3.I can use the Internet to attain online classes and get the ideas for academic purposes.					
4.I have sufficient facilities, electricity, network and computers for implementing online education in my area (Computer, Internet Access, Uninterrupted Electricity).					
5.My university provide support(s) for online-based education/ classes. I get sufficient financial support to help for data.					
6.Online education can be an effective alternative to face-to-face classes / traditional education in Bangladesh.					
7.One of the issues raised related to the notion of community or feeling like I have no connections with others when I am attending in online class together.					
8.I feel isolated in the online classes due to the procedure of interaction and do not understand the instructions.					
9.I feel anxious when try to use unfamiliar technology in online classes.					
10.I feel anxious and hesitate to use unfamiliar technology in online classes for fear of making mistakes you cannot correct.					
11. I think that integration of technology is creating barriers as a learning tool.					

12. Online classes are creating barriers to understand the course expectations and learning objectives.					
13. I am more likely to share responsibility for learning and self-assessment when technology is used.					
14.I consider online classes are in both lack of time management and motivation.					

Appendix B

▪ Questionnaire B

Part B (Open-ended Questions):

1. What do you think about the impacts of online-based learning that have been adapted?

How practical are the online classes in terms of the medium of interaction?

.....

2. Can you describe some of the strengths and weaknesses of online courses? Discuss the major changes that have taken place in online classes.

.....

3. What are the differences between traditional classes and online classes, when you're taking part in an online course?

.....

4. How often can you use the Internet to attain online classes and get the ideas for academic purposes?

.....

5. What are the most significant challenges you face while implementing eLearning in the classroom? Please provide details about your experience.

.....

6. Are online classes improving the students' level of education and development potential? To what extent do you have adequate facilities, such as electricity, a network, and computers, in your location to implement online education?

-
7. How anxious do you feel when using unfamiliar technology in online classes? Do you have adequate funding for assistance you with data?
-
8. How anxious do you feel when you hesitate to use technology in online classes for fear of making mistakes you cannot correct?
-
9. Please describe, how online classes are creating barriers as to understand the course expectations and subject matter related tools?
-
10. To what extent do you think that the integration of technology is creating barriers as a learning tool?
-
-
11. One of the issues highlighted in the surveys was the sense of community or feeling as if you have no connections with the other students in an online class. Do you believe this is an important feature of an online course?
-
12. Can you describe how technology encourages students to share the responsibility for their learning and self-assessment?
-
13. To what extent do you consider online classes in both lack of time management and motivation?

.....

14. Apart from the technical and flexibility issues, what are the other factors that create barriers in the development procedure of online classes?

.....

15. What is your recommendation regarding development of an online learning environment? What features do you prefer in designing and delivering an online class pedagogy and asynchronous class environment?

.....

.....

