

**A STUDY ON THE EFFECTIVENES AND CHALLENGES OF E -
LEARNING ON THE UNDERGRADUATE STUDENT DURING COVID –
19 IN BANGLADESH**

BY

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of
Masters of Science in Management Information System

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APPROVAL

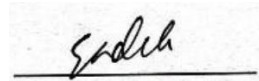
This Project titled “A study on the effectiveness and the challenges of E- learning on undergraduate student during Covid-19 in Bangladesh”, submitted by Ramisa Tabassum to the Department of Computer Information System, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of MS in Management Information System and approved as to its style and contents. The presentation has been held on January 2023.

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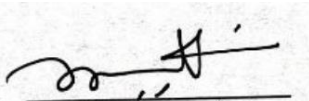
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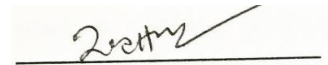
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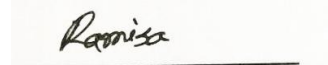
I hereby declare that, this project has been done by me under the supervision of **Md Zahid Hasan, Assistant professor, Department of CSE**, Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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ABSTRACT

The worldwide educational systems and public health and safety were harmed by the COVID-19 epidemic. Most educational institutions, including Bangladesh, have delayed their face-to-face instruction out of concern about the continued spread of diseases. However, little is known regarding its efficacy and the difficulties that the pupils confront. This study aims to investigate the efficiency of online learning and the difficulties it poses for students' learning. The secondary data from 46 pupils was descriptively examined, the data from 20 teachers was gathered by survey questionnaire, and a Google meet interview was also conducted. The findings generally indicated that the students' homes had internet access, smartphones, and computers. In addition, it was discovered that computer use was highly capable and comfortable. However, their enthusiasm for online learning was low and their capacity for teamwork was average. Moreover, they said that face-to-face training or traditional instruction was essential for their learning. The government, parents, teachers and school administrators may use this information to their advantage. It shows how crucial it is to have well-equipped facilities and a dependable internet connection for the best possible learning. Future researchers are urged to use a greater number of participants and students from varied backgrounds in order to better grasp this problem.

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CHAPTER - 1

Introduction

1.1 Introduction

A technique of teaching and learning known as online education uses internet connections between students and teachers on different electronic devices such as mobile devices or computers to take place outside of traditional educational institutions. End of December 2019 saw the discovery of the novel coronavirus disease (COVID-19) in Wuhan, the Chinese province of Hebei's capital. After that, it began to spread across the entire planet. On March 11, 2020, the World Health Organization (WHO) declared the COVID-19 pandemic [1]. Numerous countries' economies have suffered as a result of COVID-19. In addition to having a negative effect on the economy, the COVID-19 pandemic has also had a negative effect on the education sector, as it has prevented nearly more than 1.5 billion students from participating in face-to-face instruction and has made them automatically switch to an online learning environment. Different new platform such as Zoom, Google Meet, Microsoft Teams and others are introduced to both students and teachers. [2]

The government of Bangladesh decided to close all educational institutions from primary to higher levels until March 31, 2020 [3] in order to stop the sickness from spreading. Later, the closure was prolonged a number of times, most notably until January 16, 2021, in order to contain another round of the coronavirus outbreak. When closures will completely stop occurring seems to be difficult to estimate at this time. From primary to tertiary level, the epidemic has touched 36 million students and a million teachers in Bangladesh. To combat the virus, the WHO has advised social distancing measures, which have been implemented in their homes [2]. Online education has changed pedagogically as a result of the COVID-19 issue, moving from offline to online modes of teaching and learning, from physical classrooms to Google classrooms, from private to public, and from conferences to webinars [4].

It is true that higher education institutions (HEIs) were required to switch from face-to-face to online learning, but few HEIs offered online delivery prior to COVID-19, and many were unprepared for the change. Therefore, because of the abrupt transition from offline to online, professors who are not tech knowledgeable have been struggling owing to a lack of understanding,

primary preparation, or IT team support for online education [5]. At the same time, students are dealing with issues such as a slow Internet connection, the cost of technological gear and Internet connections, and a lack of preparation. Based on a research survey with 2,138 samples from Bangladeshi private and public universities, 55% of the students were unable to enroll in online classes due to inadequate Internet connections, and 44.7% were unable to do so due to a lack of available equipment. Additionally, 87% of students think that online assessments are less helpful than assessments done in-person, and 82% think that online classrooms are less effective than in-person ones. An effective and efficient online class requires a number of criteria, but it is unclear which is most important [2].

In an effort to address these problems, the research examines the efficiency of online learning and takes into account the difficulties that online learning in higher education faces during the COVID-19 epidemic.

1.2 Objectives

- to measure the quality of utility services related to online education and their affordability;
- to research how students and instructors view online teaching and learning in the COVID-19 program.
- to investigate the difficulties teachers and students had in adjusting to the online teaching and learning environment during the COVID-19 epidemic.
- to find out whether teachers and students have any practical knowledge about online education;
- to defend the efficacy of the online examination and assignment system that was used during the period of Covid-19;

1.3 Research Question

The purpose of this study is to examine the efficiency the effectiveness of online learning and the challenges that it presents to pupils' abilities to learn during the Covid-19 Pandemic in Bangladesh. Three research questions served as the study's direction:

1. How efficient was online education during the Covid 19 Pandemic based on students' perception?
2. What challenges did students have while learning online during the Covid-19 Pandemic?
3. Which platform did the teachers prefer for online class and the challenges they faced while assessing students in online courses during the Covid-19 Pandemic?

1.4 Problem Statement

The coronavirus, which has spread to almost every region of the planet in the first three months of 2020, is being fought by the entire world. The death toll had reached 369,124 as of the end of May, and there were more than 6 million infected people worldwide.

Many nations were prosecuted for lockdown, which had a tremendous influence on all facets of our everyday lives, in order to stop this rapid spread. Bangladesh saw general lockdowns starting on March 26 after the first Covid-19 patients were located on March 8 in the nation's capital [6]. Since then, the majority of businesses, including educational institutions, have closed, and people are staying at home until an emergency arises.

After a few days, the government introduced the online education program to continue the process without even considering the stakeholders' capabilities (teachers, students & others related to the educational sector). Everyone believed that, in contrast to other industries, the education sector was unaffected by online learning during the Corona pandemic. Both students and teachers in Bangladesh were using innovative online learning techniques. As a result, it was extremely difficult for both teachers and students to adjust to the new teaching method. Teachers were in a

rush to convert the traditional assessment into online assessment. The effectiveness of online learning is heavily contested because it is a new technological approach.

This study is about identifying those challenges properly and find out the effectiveness of e learning in Bangladesh during Covid -19.

1.5 Report Layout

The report is separated into five chapters. Each chapter deals with the different perspectives. Each chapter has different parts clarifying in detail.

Chapter 1: Introduction

This chapter talks about the vital theoretical concepts behind my research. Here moreover talks about the objectives of the research, research question, and the problem statement

Chapter 2: Literature Review

This chapter discusses about related works, research summary and limitations

Chapter 3: Research Methodology

This chapter talked about research subject & procedure of data Collection.

Chapter 4: Implementation and Result Analysis

This chapter discusses about experimental results, descriptive analysis.

Chapter 5: Summary, Conclusion, and Future Research

This chapter discusses about summary, conclusions, further study

CHAPTER 2

Literature Review

2.1 Introduction

When teachers and students are separated by time, distance, or both, e-learning is the use of information and communication technology (ICT) to convey knowledge with the goal of enhancing the learner's performance and learning experience. For the research study, online learning is defined as a teaching and learning process involving teachers and students that makes use of several digital platforms, including Google Classroom, WhatsApp and Zoom. Direct instruction is simply one aspect of online education. The definition of online learning includes any tasks and activities supplied by the instructor online. [7].

It makes use of modern computing techniques and fast networks. It makes it easier to learn remotely, acquire new skills, and collaborate internationally [7]. The processes and settings involved in learning have changed and evolved as a result of these emergent technologies. The capacity to learn from anywhere at any time is the most evident benefit of online education. Additionally, e-learning offers flexible and simple education delivery via the internet to meet individual learning or organizational performance goals [8].

Students who engage in interactive online learning can develop various topics by perusing websites and digital libraries. When new technologies are introduced to the field of education, distance learning makes it possible for information and knowledge to be distributed throughout the world. She contends that the potential for online education to encourage more effective self-learning is what gives it its worth. The amount of time, content, and method of learning that students devote to learning are all under their control. Students also have the opportunity to review challenging material until they are confident that they comprehend it completely. Students can learn in a "safe" environment without being embarrassed to express questions thanks to online education [11].

The COVID-19 outbreak forced the immediate shutdown of educational facilities across the globe. For governments and academic institutions, using e-learning and online classrooms to continue the learning process is a major problem. Mohammed Amin Almaiah argues how obstacles to the implementation of e-learning include a lack of technical assistance, awareness, readiness, skills, resource materials, and infrastructure. The success of e-learning programs also depends on issues with trust, resistance to change, and financial constraints [10].

2.2 Related Work

The way someone feels has a big effect on how they act. While negative attitudes invariably result in undesired behaviors, positive attitudes always impact behavior. This result is in line with how students are utilizing online learning [11].

The effectiveness of e-learning is influenced by student attitudes, based on Hazwani's research. As a result, optimistic and driven students won't view online learning as a roadblock to their academic success. Students thought that online learning and traditional learning were vastly dissimilar compared to one another. Moreover, students felt that face-to-face education is necessary for the best learning outcomes and that group assignments are difficult to do online [10].

Numerous studies have highlighted the challenges and opportunities associated with implementing e-learning during the epidemic. Researchers try to understand the benefits and difficulties that various e-learning stakeholders have encountered. According to Mailizar, it's crucial to consider the student's voice in this scenario. Therefore, further research is needed to identify the challenges that limit students' ability to achieve [12].

Abdur Rouf performed a research project which was based on an exploratory research design that employs a combination of qualitative and quantitative approaches. A cross-sectional online survey was performed with 1311 community-dwelling people in Bangladesh from March 29 to April 6, 2020, to examine student essays in the form of opinions or comments concerning the difficulties of online learning. The research was conducted between two groups such as the blended learning group and traditional classroom learning group. The number of the participants of blended learning

group was 110 students whereas 107 students was for the traditional classroom learning group. Its aim is to compare the learning outcomes of these two groups of students using a recently adopted anatomy educational technique [11].

Md Tofayel Ahmed conducted a survey with 120 participants where 40 were students, 40 were teachers and 40 were parents. This study sought to determine the evolving difficulties that teachers, students, and parents of students encountered throughout Bangladesh's entire history of online education. Out of 40 pupils, it was discovered that 12 (or 30%) were conscious of their studies whereas 28 (or 70%) were not. It was found that 25 (62.50%) out of 40 teachers, 29 (72.50%) out of 40 students, and 34 (85%) out of 40 parents of students had no practical knowledge of online education, but the rest of the respondents had no issues. In each online class, it was found that between 40 and 50 percent of the students used to be missing. Students who used broadband internet connections found their online education to be severely impeded by load shedding. Out of 120 respondents, 81 (67.50%) reported experiencing slow internet, while 117 (97.50%) reported experiencing load shedding during online classes and exams [13].

353 university lecturers from private and public universities in Bangladesh participated in this online survey-based study. Between July 30 and September 24, 2020, an online survey was run to collect data using a convenience sample method that is not based on probability. A well-structured questionnaire was created that featured details regarding online classes, their obstacles, and some demographic information. According to this poll, the majority of teachers (79.8%) believe that the e-learning process must continue, and just a small percentage (1.4%) believe that it is not assisting pupils in closing the achievement gap. They have incorporated several courses that are particularly challenging to deliver online.

In order to help students, reduce study gaps, the majority of teachers continued their e-learning initiatives, according to our study. The major issue they ran with in class was a bad internet connection [14].

Numerous research studies have explored specific factors that can affect how well students perform on e-learning assessments, such as minimal or no communication with instructors, challenges navigating the system, insufficient tech experience, ineffective interaction, and inappropriate feedback.

Al-Nuaim did a study to see if the effectiveness of the same course delivered by the same instructor differed when delivered online versus in person. Her study's overall findings revealed that, for the majority of courses, there was no discernible difference between online and in-person students' performance. Al-Nuaimie did note some difficulties with identifying students' identities and other challenges with online learning and evaluation. "The low integrity of examination and homework results provided by pupils who are examined remotely, as there is no confirmation of their identity or whether they actually completed their own work," she said [15]. According to a number of studies in the literature, teachers are unhappy with the honesty of online testing. When compared to regular tests, the primary issue with online exams was the uncontrollable problem of cheating.

2.3 Limitations

- The main limitation of this study was the survey's operation by a very limited number of respondents at Bangladesh's North South University, Uttara University, and American International. The study solely looked at how students at private universities felt about taking lectures online while the COVID-19 outbreak in Bangladesh was going on.
- The 66-person sample size for this study was approximated. Of the participants, 46 provided secondary data, while the remaining 20 provided primary data. If the anticipated sample size was large, the research findings would be much more accurate.
- Furthermore, the study did not look at other factors that might have an impact on online learning, including as the emotional and socioeconomic situations that students were in during the outbreak, their access to power, and other crucial factors. The study did not cover how to resolve the problems or how to assist the participants in coping, either.

CHAPTER 3

Research Methodology

The investigation was carried out using both primary and secondary data. Data from both the qualitative and quantitative realms were combined. Google meet application interviews were done to learn more about the difficulties associated with online evaluation. The distribution of quantitative data in the form of a survey through Google Form was followed by a statistical analysis to look into the instructors' replies. A two-point Likert scale with five possible responses—strongly agree, agree, somewhat agree, disagree, and strongly disagree—was used to create the questionnaire. Open-ended and closed-ended questions were also included in the questionnaire to elicit details on the e-assessment practices used by teachers.

20 teachers were surveyed using the Likert scale approach. To ascertain the trend of instructors' impressions of e-learning evaluations utilizing full-time e-learning during the pandemic corona scenario, the questionnaire data were presented in the form of tables and graphs. To learn more about the difficulties faced in online assessment, what's up application was used to collect qualitative data in the form of interviews. These interviews were then analyzed using a thematic content analysis technique.

To investigate the student's perception on the effectiveness of online learning, the device the used for accessing online platform & the resources they need to have for the online learning, secondary data is used. For this purpose, research papers, articles, journals, case stud was utilized regarding online learning during Covid-19.

CHAPTER 4

Experimental Results and Discussion

4.1 Descriptive Analysis

According to the research of North south University and American International University of Bangladesh (AIUB) and Uttara University, the opinions of students and teachers about the effects of online learning were gathered using a standardized questionnaire. 46 students and instructors completed the surveys. 46 people make up the sample with a 100% response rate that was used for the study. Some questions are based on demographic data, such as the respondent's name, age, and gender. According to the Likert 3-point scale, questions are structured.

Table 4.1: Demographic profile of the participants (teacher & student) of the study

Category	Frequency	Percentage(n=66)
Teacher	20	30.3%
Student	46	69.7%
Age		
18-25	46	69.7%
26-35	15	22.7%
36-55	5	7.6%
Gender		
Male	42	63.64%

Female	22	33.33%
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Table 4.1 show that 69.7% were students and 30.3% were teachers of the 66 respondents of the research. 69.7% were aged 18 -25, 22.7% were aged 26-35 and 7.6% were 7.6%. Besides, 33.33% were female whereas the male participants were 63.64%.

Table 4.2: Interpretation of the percentage score

Percentage	Interpretation
0% - 49%	low
53% - 70%	Moderate
71%-100%	High

4.2 Experimental Result and Data analysis

Research Q-1: How efficient was online education during the Covid 19 Pandemic, according to students?

The responses from students about the Hardware device used to access online platform and the efficacy of online learning are summarized in Table 4.3 &Table -4.4.

It was identified that 74% students disagreed that online learning didn't motivate them more than traditional learning. Surprisingly no one agreed that there are no differences between online learning and traditional learning in terms of effectiveness. Around 82% students agreed that there are a lot of differences between online learning and traditional learning in terms of effectiveness.

Table 4.3: Device used by students to access online platform

Device	Frequency	Percentage
Smart phone	30	65.22%
PC	13	28.26%
Others	3	6.53%

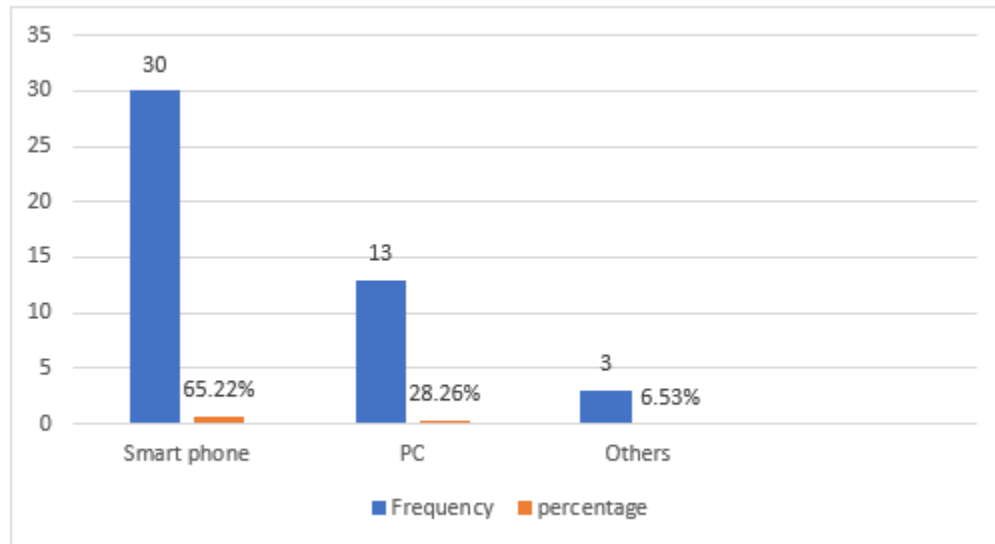


Figure 4.1: Device used by students to access online platform

The responses from students about the efficacy of online learning are summarized in Table 4.4. The results showed that 74% students (n=34) disagreed that online learning motivates them than traditional method. Surprisingly no students agreed (strongly agree, agree) (n=0) that There is no distinction between online learning and traditional learning in terms of effectiveness whereas the disagreed percentage is 82%.

Table 4.4: Student's perceptions on the effectiveness of E-learning

Effectiveness of online learning – perspective of students	Frequency					Mean	Std. Deviation
	Percentage						
	SA	A	MA	D	SD		
1. As opposed to traditional schooling, using online learning motivates me more.	2	0	10	19	15	4.10	0.97
	5	0	21	41	33		
2. There is no distinction between online learning and traditional learning in terms of effectiveness.	0	0	8	8	30	2.78	1.41
	0	0	18	18	64		
3. System feedback helps me to reflect on my merits in learning	7	17	8	6	8	3.21	1.35
	15	38	17	13	17		
4. I can finish group projects with online instruction.	11	4	17	10	5	3.43	0.84
	22	8	36	21	12		
5. Traditional or in-person instruction with teachers is crucial.	8	22	8	6	0	4.23	1.04
	18	49	18	13	0		
6. Cheating is quite hard.	1	1	7	7	32	2.98	1.56
	1	1	15	15	66		
	0	0	8	8	30		

7. I enjoy long duration online classes and concentrate properly.	0	0	18	18	64	2.78	1.41
8. It helps me to learn a course effectively than traditional method.	10	4	13	19	0	3.26	0.89
	21	8	29	42	0		
9. I want more courses in Online.	5	10	10	16	5	2.87	0.98
	11	23	23	35	11		

Furthermore, 53% students agreed that system feedback helps them to track their progress and merit whereas 67% students agreed that face to face feedback is very important. Besides, in terms of cheating, 83% students disagreed that cheating is very difficult during online examination. 42% student's responds that traditional method is more effective than online learning and 46% students don't want online course whereas only 34% students want online course.

Research Q-2: What challenges did students have while learning online during the Covid-19 Pandemic?

Respondents must have the necessary equipment, including a smartphone, computing device, and internet connectivity, in order to study online. To enable online learning, this is the first problem to be solved. Information about the online learning resources that respondents possessed is included in Table 4.5.

Table 4 5: Online learning Facilities of the students – the challenges

Necessary facilities to study online	Frequency	Percentage	Interpretation
Smart Phone Availability			
• Button Phone	14	30.43%	High
• Smart phone	30	65.22%	
• None	2	4.35%	Low
Computer Facility			
• Use my family	33	71.74%	high
• My own	13	28.26%	low
Internet Connection			
• Broadband	11	23.91%	low
• Mobile Data	35	76.09%	high
Slow speed of internet			
• Fair Slow	11	23.91%	low
• Very slow	35	76.09	high

This data indicates that 2% of students didn't have smart phone whereas 35% students used mobile data for online class and their assessment. Besides, 33% students shared their computer with their family members and slow speed of internet was a big issue for 35% students.

Issues faced by the students with the teacher during online learning

Table 4.6: lack of maintenance class schedule by the Teachers

Maintenance of class schedule	Frequency	Percentage	Interpretation
• Scheduled maintained by teachers	25	54.35%	Moderate
• Scheduled not maintained by teachers	21	45.65%	low

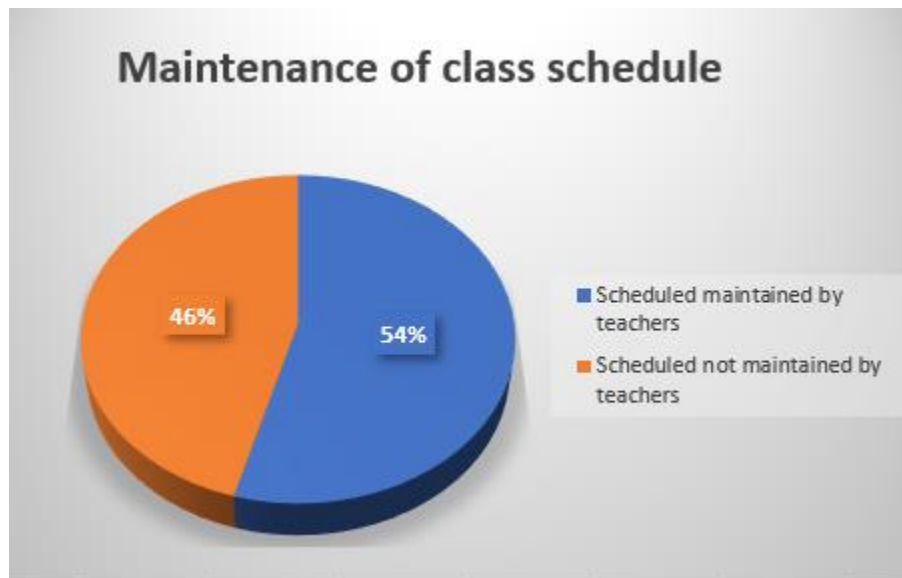


Figure 4.1: The percentage of class schedule maintained by the Teachers

Table 4.7: Lack of communication with the lecturer

Communicate with the lecturer	Frequency	Percentage	Interpretation
• Easy to communicate	19	41.30%	low
• Faced problem to communicate	27	58.70%	moderate

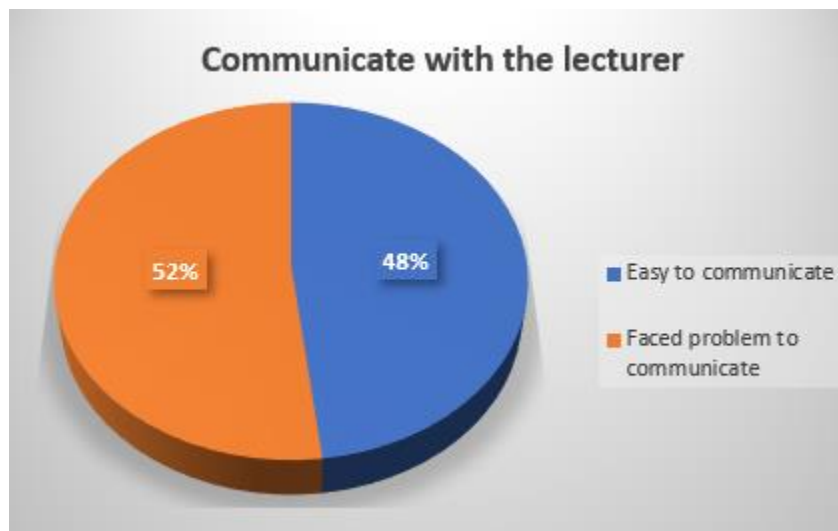


Figure 4.2: The percentage of student's communication with the teachers during online classes.

Table 4.8: Late feedback issue faced by the students

Feedback facility for assignment	Frequency	Percentage	Interpretation
• Provide timely	17	36.95%	low
• Take too much time	29	63.05%	moderate

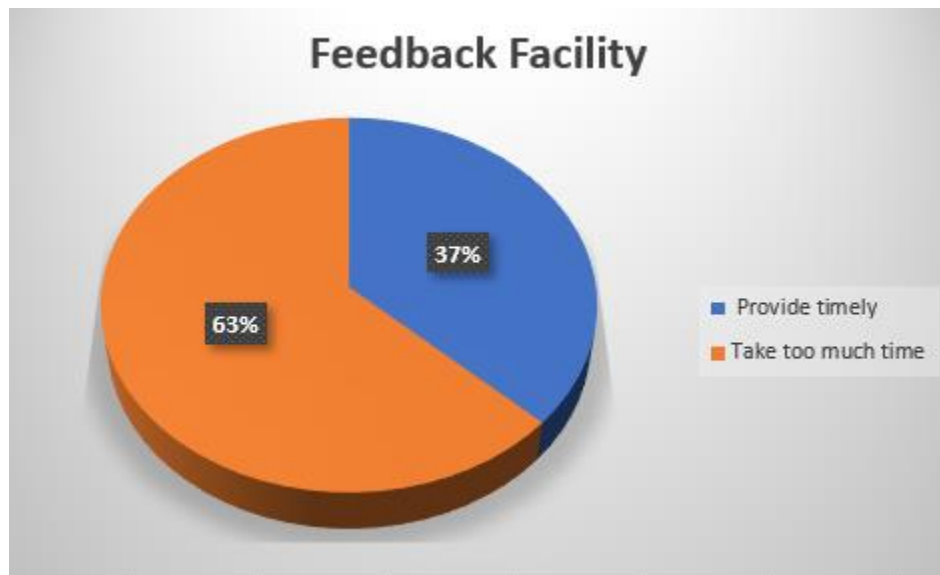


Figure 3.4: The percentage of feedback provided in assignment

The above graph shows that 54.35% teachers maintained their specified class schedule whereas 58.70% of students faced difficulties to communicate with their lectures and many of them didn't get assignment. Furthermore, only 41% students got their assignment feedback timely.

Research Q-3: Which platform did the teachers prefer for online class and the challenges they faced during the Covid-19 Pandemic?

Table 4.9: Educational Platforms Preferences

Platform	Frequency	Percentage
Zoom	3	15%
Google Meet	15	75%
Facebook	0	0%
Others	2	10%

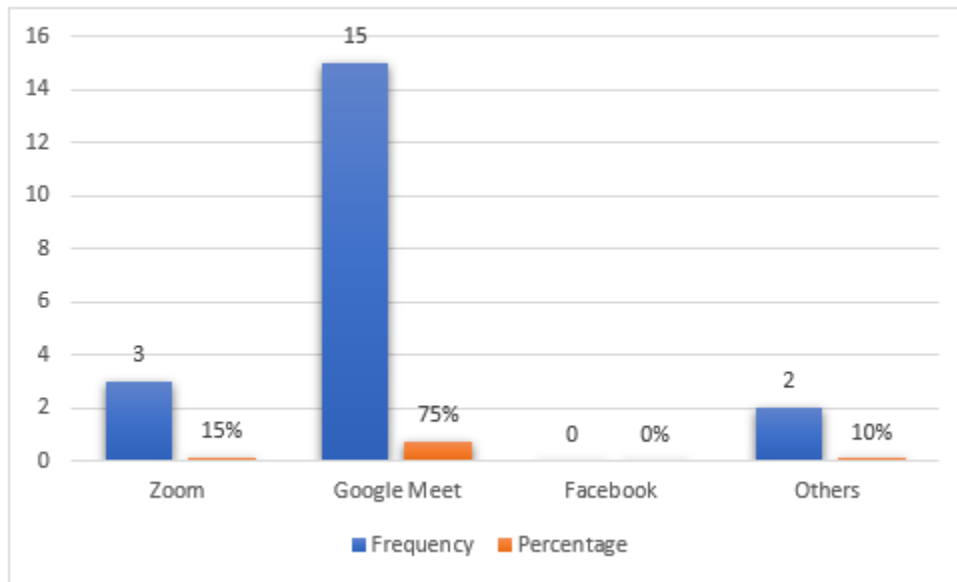


Figure 4.4: Educational Platforms Preferences

The above figure shows that, the faculties preferred Google Meet more (75%) that other online platform.

Table 4.10: Teachers' opinions of the obstacles they experienced in online assessment

Statements	N	Mean	Std. Deviation
The absence of face-to-face interaction might be a barrier to fully online assessments of students.	20	4.1923	0.74936
Due to students' preference for working alone rather than in groups with classmates, team projects might occasionally be impossible to complete.	20	3.6923	1.1231
Anxiety is related to online summative evaluations	20	3.3846	0.75243
There are issues with translation course e-assessment.	20	4.3077	0.67937
Conducting peer or team assessments are challenging.	20	3.3846	0.75243
Due to students' inadequate technical proficiency, many students fail to turn in their assignments on time.	20	3.6923	0.78838
Big Size classroom is quite impossible to manage and provide feedback to their assessments.	20	3.5769	0.7027
Students are more likely to cheat on exams taken online.	20	4.7692	0.42967
One of the fundamental challenges during tests is the overload of the platform due to technical issues.	20	4.5769	0.64331
I have trouble electronically evaluating pupils in listening and speaking classes.	20	4.0385	0.72
It is challenging to evaluate synchronous activities in classes with lots of pupils.	20	4.1154	0.90893

A lot of students frequently inquire about delaying the submission of examinations or tasks for numerous justifications.	20	4.3077	0.67937
A lot of students turn in papers that contain a significant percentage of plagiarized text that is straight copied from websites without any editing or paraphrasing.	20	4.5	0.5831
Numerous pupils plagiarize one another's work.	20	4.1385	0.74936

Table 4.10 shows how teachers see the difficulties they encounter while administering online tests. The majority of the questions received high or very high means, with ranges between 3.3462 and 4.7692, as shown by the findings of the analysis. This shows that professors have significant difficulties while evaluating pupils online. The lack of physical interaction, evaluation of communication and interpreting courses, greater risk of disruptive behavior, technical issues, and evaluation of a large number of students clearly have the greatest impact on assessing students in full-time e-learning.

The data gathered from the interviews was evaluated to gain further information about the difficulties faced in online assessment. The most important issue that teachers had to deal with was how to ensure the validity of online assessments. For instance, the information below was gleaned from conversations with professors who thought it was difficult to maintain the integrity of online assessments.

Teacher A:

I believe one of the biggest difficulties is upholding academic honesty. For instance, some learning objectives may be overlooked and maybe not met as a result of the restrictions of online training (e.g., teamwork).

Teacher B:

The only difficulty I have is the outdated nature of traditional assessment techniques, such as those we used in presence classrooms. To maintain academic integrity, I need to develop new strategies.

Teacher C:

Since there is no way for me to verify that the exam is truly being attempted by the student, online assessment processes increase my anxiety about its validity.

Teacher D:

The online evaluation is time-consuming, especially when one considers the number of tests every semester, the number of students in sections, and the number of courses one teaches.

4.3 Discussion

Effectiveness of E-Learning

When using computers and other electronic communications devices (like smartphones) for individual online course sessions, the majority of the respondents claimed to be competent, confident, and at relaxed. There is no disputing that the sudden closure of the school and the advent of online education have resulted in unique experiences and relationships that have shaped their opinions about online education. Due to their familiarity with electronics and computers, these students may have felt at ease and found it easy to study utilizing online resources. Widely available online resources that encourage social learning, in Samat's opinion [16], are very effective in raising student and instructor as well as inter-student learning engagement. As a result, the students will benefit from this procedure.

Although it was established that online learning was an effective method of learning in this situation, the results showed that only a small percentage of respondents believed they had benefited from it and that they agreed that it did not motivate them to enjoy studying.

They chose traditional classroom techniques instead. Similar findings were made by Hazwani [12], who discovered that students' motivation was low when they were studying online since this type of learning forced them to be autonomous and self-motivated. Intrinsic motivation is a predictor of students' desire to use online learning, according to Samat study [16]. Teachers should thus play a significant part in creating learning that is exciting and engaging for pupils.

Most of the students claimed that they faced problem to communicate with the lecturers and the teacher took long time to give assignments feedback. Feedback is an important part for any assessment. Maintenance class schedule was average. Majority of the student claimed that face to face interacting is far better than online classroom & its effectiveness is more than online learning. The survey claimed that most of the students agreed that cheating is easy in the online examination & they don't want online course though the online feedback plays a vital role as it improves their assessment score and they can track the feedback anytime.

According to the above survey it can be said students prefer traditional classroom educational method rather than online learning. In terms of effectiveness, there is a vast difference between e learning and traditional learning.

Addressing the Challenges

Due to the lack of engagement between students and professors, the lack of social interactions between students and teachers, ongoing technical issues, and financial constraints, online learning can be less effective than traditional classrooms. Students struggle to collaborate online due to their lack of social connections. People may become less motivated to learn when they are isolated from their social networks. As a result, teachers must improve their pedagogical approaches and alter some curriculum elements to make the curriculum suitable for online learning [17].

Almost all of the instructors interviewed complained about issues including plagiarism, cheating, and verifying the identities of test takers. The majority of teachers worried that pupils may cheat on online tests by using internet resources or other students. Here are a few answers from professors expressing their displeasure about cheating and plagiarism on online tests.

Many educators worried how they might ensure that students weren't using one another's responses as sources for cheating. They asserted that online testing might lead to academic dishonesty on the

part of pupils, which is viewed as a chance to cheat for marks. They claimed that cheating was a possibility on online tests, which is consistent with other research on the drawbacks of online testing [18] .

Many educators bemoaned the fact that online assessments had increased their workload. Teachers resort to extra work that requires time and effort since they are aware that students might cheat, such as creating various tests or question banks. Even instructors' duties as academic advisors have somewhat surprisingly changed online, which inevitably results in more labor.

Many educators also complained about persistent technological problems and internet outages that undermined the legitimacy and dependability of assessments, which could only be accomplished if all students took exams in identical circumstances. Online platforms frequently had issues, and technical assistance could not be a helpful resource during the short exam period. Some professors could find this to be draining, and students might find it stressful. Teachers complained that several pupils had connection problems or other technical concerns that hampered the efficiency of the assessment process [19]. While taking their examinations, the candidates spoke with the technicians in order to remedy their concerns. As a result, their focus was distracted, which occasionally led to student dissatisfaction since they were unable to concentrate and proceed as before.

Some professors noted that the program (BB) used for summative assessment only provided a few alternatives for how to phrase the questions because it was created for usage across all courses. In order to meet the course learning objectives, the diversity of questions that were compatible with the software were therefore greatly decreased [20].

Finally, several professors reported that their students were unprepared to manage their time for online tests and often asked for more time to respond. Students, according to some professors, were too preoccupied with their efforts and occasionally lacked faith in the grading or verification of their responses. Because of this, several of them occasionally exhibited an irksome level of curiosity.

CHAPTER 5

Conclusion and Future Work

5.1 Summary of Work

In conclusion, the technological competence required for this study and research to obtain the online observation study. However, it is less successful than offline research. Online education is superior in unusual circumstances like the current global COVID-19 outbreak. Online study is perceived by both students and educators as lacking in ability and practical knowledge. We could not dispute the fact that learning methods will evolve more quickly. Although we believed that conventional methods of instruction and learning were superior, technology has changed everything. Teachers should always prepare themselves for the evolving nature of instruction. They want to be innovative and discover the best method for instructing their pupils. Online learning has a negative impact on student achievement. Compared to the conventional learning performances, it offers a variety of assists. Many kids find it fascinating since it is so flexible, even if using the internet costs money.

Online learning is not reliable due to a lack of hardware and infrastructure, as well as a lack of or inadequate computer basic knowledge. Unlike traditional methods or offline systems, online learning is not focused or serious learning. The majority of students disagree with online learning, believing that there is no other method to prevent study gaps during epidemic situations.

Descriptive research reveals that teachers and students have quite varied perspectives on online learning. However, both the instructor and the student share the same views on their interactions given the pandemic circumstance. According to a study, students are reportedly bored and diverted by online learning due to the pandemic condition. They disagree on whether online education should continue in the future.

By utilizing successful pedagogical techniques, teachers may enhance their students' online learning experiences. The government must simultaneously assume responsibility and upgrade the current internet infrastructure and facilities. To guarantee the effectiveness of online learning,

however, cooperation between parents, school administration, and the school community is essential.

5.2 Recommendation

1. In light of the issues, they encountered while conducting their study, researchers have attempted to provide some recommendations based on the findings and data analysis:
2. Only if all of the students are connected to the Internet will the online courses be successful. For the best learning experience, the smallest technical prerequisites, such as Internet connectivity, software, and device requirements, should be met.
3. Teachers can encourage their students to participate and learn more by providing incentives that can be satisfied by awarding bonus points for completing quick quizzes.
4. Higher education institutions should provide their staff members with training courses on online instruction. These initiatives will enable professors to acquire the necessary abilities of a top-notch e-teacher. With this system, the Covid19 Pandemic's detrimental effects will be lessened through efficient teaching and learning.
5. UGC should play a significant part in making sure that they adhere to the strict requirements required for relevant material, connectivity, recorded videos, along with sufficient follow-up, making online classes comparable to the scenario in a regular classroom.

5.3 Future Work

The current study highlights the effectiveness and challenges of E-Learning and the obstacles encountered in the E –Assessment. Further research can be done how students feel about online exam and their issues with it might be conducted. Besides, psychosocial and socioeconomic circumstances of students during the epidemic can also be investigated.

The proposed research study was conducted through descriptive analysis. No advance machine learning tool was utilized. In the further research, I will try to utilize the advance modern intelligent methods such as big data analysis, machine learning algorithm and multi criteria decision making.

References

- [1] P. Sahu, "Closure of Universities Due to Coronavirus Disease 2019 (COVID-19): Impact on Education and Mental Health of Students and Academic Staff," vol. 12, no. 4, p. 2, 2020.
- [2] M. S. H. M. H. T. A. Md. Abdur Rouf, "Online classes for higher education in Bangladesh during the COVID-19 pandemic: a perception-based study," *The online Learning for higher Education* , p. 2, 2021.
- [3] S. N. Sakib, "COVID-19: Bangladesh shuts all educational institutions," 2020. [Online]. Available: <https://www.cureus.com/articles/29507-a-bibliometric-analysis-of-covid-19-research-activity-a-call-for-increased-output>. [Accessed 2 January 2023].
- [4] T. G. A. S. Lokanath Mishra, "Online teaching-learning in higher education during lockdown period of COVID-19," *International Journal of Educational Research Open*, vol. 1, p. 100012, 2020.
- [5] K. B.-H. J. R. B. M. M. G. R. B. P. A. M. S. L. Joseph Crawford, "'COVID-19: 20 countries' higher education intra-period digital pedagogy responses," *Journal of Applied Learning and Teaching*, vol. 3, no. 1, pp. 1-20, 2020.
- [6] S. M. T. R. S. T. A. I. Mohammad Monirujjaman Khan, "Online Education System in Bangladesh during COVID-19 Pandemic," *Scientific Research Publishing* , vol. 12, pp. 441-452, 2021.
- [7] R. O. M. A.-S. Alaa Obeidat, "The Effectiveness of Adopting e-Learning during COVID-19 at Hashemite University," *International Journal of Advanced Computer Science and Applications*, vol. 11, no. 12, pp. 96-104, 2020.
- [8] M. Y. M. Abduh, "Full-time Online Assessment during COVID -19 Lockdown: EFL Teachers' Perceptions," *Asian EFL Journal Research Articles*, vol. 28, no. 1, 2021.
- [9] A. A. S. M. S. B. Mailizar, "Secondary School Mathematics Teachers' Views on E-learning Implementation Barriers during the COVID-19 Pandemic: The Case of Indonesia," *Eurasia Journal of Mathematics, Science and Technology Education*, vol. 16, no. 7, 2020.

- [10] A. A.-K. & A. A. Mohammed Amin Almaiah, "Exploring the critical challenges and factors influencing the E-learning system usage during COVID-19 pandemic," *Education and Information Technologies*, vol. 22, pp. 1-20, 2020.
- [11] N. R. A. B. N. O. Hazwani Mohd Najib, "E-Pembelajaran Dalam Kalangan Pelajar di Sebuah Institusi Pengajian Tinggi Selangor," *Journal of Education.*, 2017.
- [12] M. T. Ahmed, "Online Education in Bangladesh during Covid-19: An Empirical Study," *International Journal of Arts and Social Science*, vol. 4, no. 5, 2021.
- [13] S. E. M. M. I. P. B. S. A. Mimma Tabassum, "Online Education during COVID-19 in Bangladesh: University Teachers' Perspective," *AQUADEMIA*, vol. 5, no. 1, 2021.
- [14] H. A. Al-Nuaim, "The Use of Virtual Classrooms in E-Learning: A Case Study in King Abdulaziz University, Saudi Arabia," *E-Learning and Digital Media*, vol. 9, no. 2, pp. 211-222, 2012.
- [15] N. A. A. S. N. A. H. F. A. M. Muhammad Faizal Samat, "Online Distance Learning Amidst Covid-19 Pandemic Among University Students: A Practicality of Partial Least Squares Structural Equation Modelling Approach," *Asian Journal of University Education (AJUE)*, vol. 16, no. 3, pp. 220-2033, 2020.
- [16] I. E. a. R. S. M.Y. ÖZDEN, "Students' Perceptions of Online Assessment: A Case Study," *JOURNAL OF DISTANCE EDUCATION*, vol. 19, no. 2, pp. 77-92, 2021.
- [17] H. R. S. & M. Priestle, "Online learning and assessment during the Covid-19 pandemic: exploring the impact on undergraduate student well-being," *Assessment & Evaluation in Higher Education*, 22.
- [18] A. & K. Muhammad, " Learning Amid The COVID-19 Pandemic: Students' Perspectives. Pakistan," *Journal of Pedagogical Sociology and Psychology*, 2020.
- [19] P. Diocleciano Nhatuve, "Effectiveness of Online Learning during the Covid-19 Pandemic: A Case of One University in Zimbabwe," *East African Journal of Education and Social Sciences (EAJESS)*, vol. 2, no. 3, pp. 56-61, 2021.
- [20] A. N. M. K. A. J. B. S. A. Zulaikha Mohd Basar, "The Effectiveness and Challenges of Online Learning for Secondary School Students – A Case Study," *Asian Journal of University Education*, vol. 17, no. 3, 2021.

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