

**Online Versus Face-to-Face Learning: Do Virtual Classes Offer the Same Learning
Benefits?**

By

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A thesis submitted to the Department of English and Humanities in partial fulfilment of the
requirements for the degree of
Bachelor in Arts in English

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Declaration

I declare that:

1. This thesis is entirely my own work, completed as part of my degree requirements at Brac University.
2. It does not include any material written or published by others, except where proper citations and references have been provided.
3. It has not been submitted, in whole or in part, for any other degree or qualification at any university or institution.
4. All sources of assistance and support have been fully acknowledged.

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Approval

The thesis titled “Online versus Face-to-Face Learning: Do Virtual classes Offer the Same Learning Benefits?” submitted by Kazi Iftekhar Hossain of Spring, 2025 has been accepted as satisfactory in partial fulfilment of the requirement for the degree of Bachelor of Arts in English on 7th October, 2024.

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Ethics Statement

The work presented in this thesis is entirely original. All ideas and references taken from other journals and articles have been properly cited and acknowledged. Information has been collected only from credible and reliable sources. Furthermore, all ethical guidelines were strictly followed while gathering data from participants, as explained in detail in the methodology chapter.

Dedication

To my parents, for their endless love, patience, and encouragement that have guided me throughout my studies. To my father, for always believing in me and supporting my dreams without question. To my mother, whose strength, care, and quiet motivation have carried me through every challenge. To my dear friends, who not only stood beside me and supported me to make this work possible.

Acknowledgement

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Abstract

This study explores whether online classes can provide the same quality of learning as face-to-face education in universities across Bangladesh. It examines how both learning modes influence student engagement, motivation, satisfaction, and academic performance. A qualitative research approach was used, where ten university students who experienced both online and in-person classes, were interviewed. Their responses were thematically analyzed to identify common patterns, attitudes, and experiences. The findings reveal that online learning offers flexibility, accessibility, and comfort, allowing students to attend classes from any location. However, it often leads to reduced concentration, weaker communication, and less emotional connection due to unstable internet, lack of privacy, and limited teacher interaction. Many students also struggled with technical problems and distractions at home, which affected their focus and confidence. In contrast, face-to-face classes encourage discipline, active participation, and stronger bonds with teachers and peers. Real-time feedback, group discussions, and the campus environment help students stay motivated and perform better academically. Overall, the study concludes that while online education has great potential to make learning more flexible and inclusive, it still cannot fully replace the traditional classroom experience in Bangladesh. A blended learning model—combining the convenience of online education with the engagement and structure of face-to-face interaction—appears to be the most effective and balanced way forward for higher education in the country.

Keywords:

online learning; face-to-face education; student engagement; motivation; academic performance; higher education in Bangladesh; hybrid learning; digital pedagogy

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Chapter 1: Introduction

In recent years, education in Bangladesh has changed a lot, especially with the rise of online learning platforms. Before, face-to-face learning was the main way of teaching, where students and teachers interacted directly. However, the COVID-19 pandemic made online learning more common, sparking discussions about whether online education is as effective as in-person learning. The education sector was drastically influenced by the pandemic in both negative and positive ways (Pokhrel & Chhetri, 2021). As Bangladesh's education system starts using more technology, the question is: Do virtual classes provide the same learning benefits as traditional classrooms? This is an important question, especially because not everyone has easy access to the internet, digital devices, or the skills needed to use them, which can affect the quality of online learning. Khan et al. (2021) observed that In Bangladesh, there was very little or no exposure to tech-based education in institutions before the pandemic. While students in cities may have a smoother online learning experience, those in rural areas face more challenges in accessing technology. Additionally, moving to online learning makes us question how engaged students are, how well they learn, and how they miss the social interactions that happen in regular classrooms. Coman et al. (2020) found that Students find it complex and struggle to process information which results in poor performance. This thesis will look at these two types of learning in the context of Bangladesh. It will explore the differences in learning outcomes, student satisfaction, and how factors like motivation affects in online education. Through this comparison, the research will try to find out whether virtual learning can be as good as, or even better than, face-to-face education for Bangladeshi students. It will also give some ideas about what the future of education in Bangladesh might look like.

Background of the Study

Bangladesh has made great progress in providing access to education over the past few decades. While literacy rates have increased, there are still challenges in making sure everyone has equal access to quality education, especially between urban and rural areas. Traditionally, face-to-face learning has been the main way education is delivered in Bangladesh, where students go to schools and universities to learn directly from teachers and interact with their peers. However, with technology and more people having access to the internet, online education is now more popular than before. Before the COVID-19 pandemic, online learning was mainly limited to higher education or specific subjects, and it was not widely used in primary or secondary schools.

When the pandemic started in early 2020, every institution had to close their campuses. But education have to keep going, so that institutions quickly switched to online learning using digital tools like Zoom, Google Classroom. Tadesse and Muluye (2020) highlight that this rapid transition created an inequality in access to technology in many developing countries. This sudden shift showed both the benefits and also the challenges of online education. While it became a good alternative to traditional classroom learning for many people, but it also somehow highlighted the digital divide in Bangladesh. This became clear as many students, especially in rural areas, did not have access to internet or the necessary devices to join in online classes. Islam et al. (2022) observed that limited device access, high data costs, and unstable networks restricted participation in virtual learning for rural students in Bangladesh.

Bangladesh face one of the biggest challenges to fair education, which is - digital divide. People from urban areas are more connected with the internet and also, they have more access to devices. However, rural areas struggle with good internet and lack of devices.

Laptops/smartphones are not available to many students in the villages. Even when they manage to get devices, the internet is typically low, and there exists no broadband connections, thus the expense of data is definitely excessive. Aristovnik et al. (2020) found that such inequalities in technological access severely impacted student motivation and academic performance during remote learning. Such division intensifies the difficulty faced by students in rural areas due to their limited access to high-quality education compared to students located in urban areas, thereby increasing the ongoing education divide. This brings us to an essential point; Can online learning give everybody in Bangladesh an equal education?

Some schools had teachers who were ready for online learning, while others did not, which caused additional hassle with the transition. Most educators had no training in how to use the technology behind virtual lessons. They were not prepared to teach, which in turn led to a decrease in the quality of education. Coman et al. (2020) stated that many teachers lacked the necessary digital skills, which directly impacted their ability to maintain instructional quality. In a traditional classroom, it is easy for a teacher to interact with students and see if they are struggling. But in an online class, it is difficult to ensure personal interactions, therefore, students often lose concentrations and outcome often becomes zero.

One of the biggest difficulties for online learning is engagement. Research shows that when it comes to online learning, students feel lack of motivation or distraction at home. Saboowala and Manghirmalani (2020) reported that students from low-resource settings often struggle to remain attentive due to lack of space, shared devices, or noisy environments. Especially in Bangladesh, it is also a problem that many students may not have a quiet place to study or they may share devices with their family members. Challenges are also experienced by online assessments. In real life, teaching staff are able to proctor the exam, provide immediate

feedback, and enforce respect of the rules in a classroom. However, in the context of online learning where monitoring of students is more difficult, the likelihood of cheating rests. Online assessments often face issues like cheating and usually can't measure skills like creativity or deep thinking accurately (Rajab et al., 2020). Similarly, automated grading systems also struggle to evaluate creative or critical-thinking abilities effectively.

In order to overcome the difficulties in online and face-to-face learning, a hybrid model is being considered by many educational institutions in Bangladesh. This model integrates distance learning with the practicality of face-to-face classes. Hybrid learning may be used to address some of the problems in both forms of education, including enhancing student engagement and interaction with teachers. It enables students to receive educational material at a distance and still have a chance to discuss it and apply the acquired knowledge in practice. Raes (2022) emphasizes that hybrid models promote active learning and enhance engagement through the combination of the advantages of digital and physical space.

Purpose of the Research

Being a student in Bangladesh, I have observed the significant transformations in the education system, particularly during the pandemic. The abrupt shift in the in person or offline classes to online classes affected both the students and teachers significantly. This transformation made me interested in the comparison of the effectiveness of offline and online class. After having gone through online classes myself, I started doubting the effectiveness of online learning as compared to face-to-face class. The benefits of online learning such as flexibility and convenience were realized but it was also an issue of concern how hard it was to remain engaged without the face-to-face interaction. These issues prompted me to seek more information on how online learning is impacting education in Bangladesh, particularly where other factors such as the

digital divide and socio-economic factors contribute to access to education. As a resident of a country where online and face-to-face learning is a common practice, I have been able to see how the absence of infrastructure, digital devices, and good internet can impact the learning process. I have also observed the difference in the degree of student engagement in online and face-to-face classes. This prompted me to explore the advantages and disadvantages of the two learning approaches.

Research Questions

- How do student learning outcomes in online education compare to face-to-face learning in Bangladesh's education system, particularly in university level?
- What are the key challenges, advantages, and disadvantages of online learning?
- How do students' engagement, participation and motivation differ between online and face-to-face learning?
- How does online learning affect students' academic performance compared to in person learning?

Scope of the Study

This study focuses on comparing the effectiveness of online and face-to-face learning in Bangladesh, specifically examining how various factors such as technological access, student engagement, and socio-economic status affect learning outcomes. The scope is limited to higher education, primarily focusing on university-level students who have experienced both forms of education.

The study investigates the differences in learning outcomes between online and in-person learning, including student performance, satisfaction, and engagement. It also explores the

challenges and advantages of online education, particularly in relation to the digital divide between urban and rural areas.

This study is carried out in the background of the education system in Bangladesh, taking into account the infrastructure issues, teacher readiness, and technological facilities that students and teachers have. Although the study is based on higher education, the results can be used in other levels of education, which can be used to inform future educational policies and strategies in Bangladesh. The research is generalized to the private or international schools, instead, focus on the universities and their students.

Significance of This Study

I strongly believe the findings of the study will prove to be very important especially for the education system in Bangladesh. With the pandemic moving the country to online learning, the issue of the benefits and difficulties of online and face-to-face education has become a key factor in determining the future of education. The research aims at enhancing the learning process through the comparison of the effectiveness of online and face-to-face learning. It gives information on which approach results in improved learning outcomes, and it pays attention to numerous factors, including student engagement and satisfaction. Moreover, the results are important in policy and decision-making. The data can be used by policymakers to make decisions on how to incorporate online learning in the national education system. The knowledge of the strengths and weaknesses of the two learning methods will help in coming up with policies that will enhance the effectiveness of education. The study contributes to the discussion of the future of education, especially the transition to hybrid and digital learning, by analyzing the effects of online classes in Bangladesh.

To students, the study offers a better insight into the influence of various learning conditions on engagement, motivation, and academic performance. This will assist the students in determining the learning approach that will best suit them that will enhance their overall learning experience. Teachers will learn to engage students better online and in person. The research will assist teachers in realizing their instructional practices to fit the specifics of every setting and emphasize the aspects in which additional training in digital tools is required.

Finally, the research will form the basis of future studies on educational models in Bangladesh and other countries. The knowledge obtained can inform future research on the long-term impact of online learning in various age groups, subjects, and communities to improve educational practices in the future.

In this introductory chapter, the researcher explains the main problem this research aims to explore, why it is important, the research questions, and the overall scope of the study. Chapter 2 reviews previous studies on online and face-to-face learning. It highlights the advantages and challenges of virtual classes compared to traditional classroom learning and outlines the conceptual framework that supports this research.

Chapter 3 describes how the study was designed and carried out. It explains why a thematic analysis approach was chosen, introduces the participants and research setting, and discusses the role as the researcher. This chapter also explains how the data were collected and analyzed to answer the research questions. More details about the data sources are provided in the Appendices. Chapter 4 presents the main findings from the interviews, focusing on the key themes that emerged from the participants' responses. Chapter 5 discusses these findings in relation to the research questions and connects them to earlier research and theories.

Finally, Chapter 6 summarizes the entire study and its major findings. It also outlines the study's limitations, practical implications for education, and suggestions for future research.

Chapter 2: Literature Review

This chapter reviews existing research on the effectiveness of online and face-to-face learning, with a specific focus on higher education in developing countries like Bangladesh. It investigates the effect of various learning environments on student engagement, academic achievement, and satisfaction. The chapter also looks at how socioeconomic factors and infrastructural constraints influence access to quality education by students. This review presents the challenges and benefits of each learning mode based on global and local studies. Based on these views, the chapter provides the basis of comprehending how learning practices should be modified to provide equitable and effective education in Bangladesh.

The Evolution of Learning Modalities in Higher Education

The way students learn in higher education has changed significantly due to technological advancement, globalization, and evolving pedagogical approaches (Altbach et al., 2019). In the past, most learning happened in classrooms where students and teachers interacted directly through lectures and group work. This method is still appreciated because it builds social connections, allows quick feedback, and creates a disciplined learning environment (Trowler, 2010). However, in the last 20 years, online learning has grown. It is easy to access, flexible in time, and often cheaper, especially in places without enough classrooms or resources (Allen & Seaman, 2017).

The COVID-19 pandemic sped up the move to online learning all over the world. Even areas with little experience in digital education had to quickly switch to online classes. This sudden change showed both the good and bad sides of online learning. These online classes were different from well-designed online courses because these often lacked proper design,

implementation because of no proper teacher training and support. As a result, those did not always match the quality of in-person classes.

Experts have been discussing whether online or face-to-face learning is better. Studies have found that when online learning is well-designed and structured, it can be as effective as or even more effective than traditional face-to-face learning (Means et al., 2010). But this success depends on several things, such as how ready students are, how well teachers are trained, the tools available, and how the lessons are prepared.

Blended or hybrid learning has become popular in recent years as it combines both online and in-person methods. Garrison and Kanuka (2004) contend that this mix helps students think more deeply and understand better by offering both real-time and flexible learning options. This model is helpful in developing countries because it offers both flexibility and support, even when there are limits in resources.

In Bangladesh, this change is very noticeable. Before COVID-19, most universities offered face-to-face courses only with little use of technology (Khan et al., 2021). When the pandemic hit, many problems became clear, like lack of training for teachers and weak digital systems. Still, this experience encouraged new ideas, and now many universities are thinking about using hybrid learning in the long run (Islam et al., 2022).

Online Learning in Developing Contexts: The Case of Bangladesh

Online learning can be a means to enhance access to higher education, especially in resource-strained countries, but its success depends on local factors such as economic resources, technological infrastructure, and institutional readiness (Butler et al., 2021). In countries like Bangladesh, the rapid transition to online classes in the COVID-19 pandemic revealed numerous issues that complicate the use of online learning in the long term (Tadesse & Muluye, 2020).

Structural Barriers and the Digital Divide

The high disparity in access to digital tools between students of various backgrounds is one of the biggest issues with online education in Bangladesh. City students tend to have access to smartphones, the internet, and study areas. However, these basic things are not available to many students in rural areas. Islam et al. (2022) state that rural students frequently have to contend with low mobile connections, lack of broadband, and personal devices. In a 2021 study, it was found that only 36.5 percent of rural students had regular access to the internet, compared to 71.4 percent of urban students. (Hasan, 2025)

It is not only the issue of access to the internet, but the price of mobile data is also expensive to many low-income families. Aristovnik et al. (2020) stated that these expenses rendered students unable to participate in online classes. Moreover, not all students can afford to have their own devices, and they have to share them with their family members, which complicates attending live classes or completing assignments in time.

Institutional Readiness and Teacher Preparedness

The readiness of the universities to online learning and the readiness of the teachers also determine the success of online learning. Prior to the pandemic, the majority of Bangladesh universities lacked sufficient digital tools. The teachers, particularly the rural teachers were not trained in using online platforms. This caused issues in the provision of lessons and grading of students appropriately. According to Coman et al. (2020), the quality of teaching in most countries was influenced by the absence of digital skills among teachers.

Khan et al. (2021) described that in Bangladesh, simple methods were employed by many teachers to teach their classes, such as teaching on Facebook Live where they did not even need to make any interactions with students. Although these platforms enabled the teaching process to

go on, they did not provide the support that students require to learn effectively. Consequently, students reported that they experienced difficulties in comprehending the lessons and were dissatisfied with the way courses were delivered.

Student Experience and Perception

Numerous research indicate that learners in developing nations struggled to adapt to online education. Sarker et al. (2022) discovered that Bangladeshi students experienced difficulties in remaining focused during online classes due to noise at home, internet problems, and discipline. A lot of students also reported that they always desired the physical interaction with teachers and friends, but with online learning, they felt lonely and demotivated.

Students also felt fatigued due to prolonged screen time. They were also anxious and easily panicked when taking online exams because of technical issues and because they felt that they were not progressing in their studies. The same problems were observed in other countries as well where the abrupt transition to online learning resulted in increased stress and reduced satisfaction (Aguilera-Hermida, 2020).

Local Innovations and Adaptive Strategies

Despite these difficulties, there were also some helpful ideas that were created during this period. Some universities began to employ less internet intensive methods like recorded video lessons (Hossain, 2020). These transformations demonstrate how educators and schools attempted to be creative in solving issues with scarce resources. Nevertheless, these attempts were not well-organized and lacked solid policy backing. Online education in Bangladesh requires long-term planning, improved technology, training of teachers, and systems that accommodate all kinds of students to be effective.

Student Engagement and Motivation in Online Versus Face-to-Face Learning

Engagement and motivation among students are highly essential to success and retention in higher education. These factors highly rely on the kind of learning approach applied. Online learning provides students with greater freedom and control over their learning, but it may also make them less motivated and engaged, particularly in developing countries where online learning is not well supported (Martin & Bolliger, 2018).

Engagement in Traditional Classrooms

Learning in person is inherently social and requires face-to-face interaction. In a physical classroom, students and teachers are able to communicate, read body language, work in groups and solve problems together. This makes the learning process more interesting. According to Trowler (2010), face-to-face classes make students feel more emotionally and behaviorally engaged since they have a common learning environment with other students. This feeling of belonging usually serves to keep the students motivated and to make them participate in the classroom activities.

Teachers are also able to see when students are lost or not listening and can react immediately. This will enable prompt feedback and individual assistance, which will enable students to comprehend more and keep up. These advantages are more difficult to attain in the online environment without proper planning and sophisticated teaching tools.

Challenges in Online Engagement

It is hard to offer the same degree of human interaction with online learning. Although it is flexible and can be done anywhere, the absence of physical interaction may make students feel isolated. Most students complain of being lonely, unmotivated, and less attentive in online classes, particularly when the lessons are long or not interactive.

In Bangladesh, the situation is even more problematic because of poor digital infrastructure and home conditions that do not support learning. It was discovered that students, along with teachers frequently experience disruptions at home, and neither of them felt comfortable conducting online classes as it is difficult to remain engaged in online learning (Rahman et al., 2020). Moreover, in such cultures as Bangladesh, students are accustomed to close interaction with teachers, and thus they might not consider online learning effective and valuable.

Online learning also involves students controlling their time and independent learning independently. Broadbent and Poon (2015) state that students who are not effective in time management or are not highly motivated might struggle to keep pace without routines or teacher support. This is one of the issues that are prevalent in developing nations where students are not usually trained on how to study online.

Theoretical Perspectives on Motivation

Self-Determination Theory by Deci and Ryan (1985) states that individuals are motivated when they experience three things: independence (autonomy), skill (competence), and connection with others (relatedness). Online learning tends to encourage independence, yet it does not always offer sufficient interaction and can even impact student confidence, particularly when technological issues or ineffective course design slows down their learning.

Face-to-face learning have better chances to accommodate all these three conditions. Face-to-face interaction makes students feel connected, immediate help and feedback make them confident, and guided learning activities make them feel independent. Therefore, online learning may be effective, but it typically requires additional effort and encouragement to ensure that students are motivated similarly to traditional learning.

Bridging the Gap: Strategies for Improving Online Engagement

Studies indicate that there are a number of methods of making online classes more interactive. They involve the incorporation of interactive elements such as quizzes and polls, the promotion of group discussions, and the active presence of teachers during the course (Martin et al., 2020). Online learning can be made more social by creating videos, discussion forums, and quick feedback to make students feel more connected and interested in their learning. These techniques are not common in Bangladesh. Most online classes during the pandemic were one-sided and did not provide much student participation. In order to enhance interaction, universities should educate teachers and encourage more student-centered and interactive approaches to teaching in the online classroom.

Learning Outcomes and Academic Performance in Online vs. Face-to-Face Education

The primary issue in the comparison of online and in-person education is whether the two approaches result in the same degree of learning and academic success. Despite the perceived flexibility and ease of expansion of online learning, there are still concerns regarding its ability to facilitate deep learning, critical thinking, and long-term memory, particularly in less-resource-rich countries such as Bangladesh.

General Trends in Learning Outcomes

Numerous researches have attempted to determine whether online education is as effective as classroom education. Bernard et al. (2004) conducted a review of more than 230 studies and discovered that students in distance learning were slightly better than those in face-to-face classes. This success however was determined by the way the course was designed, the kind of students involved and the subject being taught.

A different review also reported the same. Online learning was more effective, but only when the courses were interactive, had teacher feedback, and group work. Online courses that were not interactive and only involved recorded lectures were not effective.

Challenges in Measuring Online Academic Performance

Although these are good results, it is hard to replicate the same in developing countries. A significant concern is the way of measuring student performance fairly. When education rapidly shifted online in Bangladesh during the pandemic, numerous issues emerged, including cheating, ineffective exam supervision, and ineffective grading systems. According to Rajab et al. (2020), most institutions did not have secure platforms to conduct exams, and thus, they were forced to use open-book tests or project work, which might not reflect actual learning.

In addition, learners in developing nations usually struggle to control their learning, which is highly significant in online learning. Students may not grasp the lessons properly without the support, guidance, and frequent feedback, even when they pass their exams or complete their work.

Discipline-Specific Learning Considerations

The kind of subject under study also influences the best learning method. Online teaching is a little less challenging for subject areas such as humanities or social sciences, which are predominantly reading and discussion based. However, practical courses like medicine, engineering, or arts require practical work, group work, and real-life practice, which are more difficult to accomplish online. This has led to learning gaps in subjects that involve physical practice in Bangladesh. As an illustration, medical students were less confident in their clinical abilities due to the inability to participate in hospital training (Rahman et al., 2021). The

engineering students also found it difficult to perform lab work or design tools without real-time assistance of teachers.

Learning Outcomes in the Bangladeshi Context

A study of university students in Bangladesh has mixed outcomes. Online classes were preferred by some students, particularly those who lived too far away or worked part-time (Khan et al., 2021). Nevertheless, the majority of studies indicate that bad internet, low digital skills, and absence of classroom organization complicated the learning process of students. In a survey of more than 700 students, Sarker et al. (2022) discovered that approximately 68 percent believed they were learning less during online classes than during in-person classes.

In online exams, also, many students got better grades, and this was a cause of concern. Other teachers confessed that they graded easier due to the challenges of online exams and the pressure students were under. Therefore, it is not clear that improved grades at this period were an indication of actual learning.

Addressing the Learning Gap

Experts propose to design online courses better to decrease the learning gap. This involves the use of videos and images, frequent feedback and live interaction to facilitate effective learning. In addition, it has been demonstrated that training students on how to organize their study time and how to think about their learning can enhance the outcomes of online education.

In the case of such countries as Bangladesh, a hybrid model of online and face-to-face learning can be the most appropriate. This approach provides flexibility and still retains the advantages of personal interaction and hands-on learning. Nevertheless, it will involve

significant modifications, including improved technology, teacher training, and governmental support of blended learning programs.

The Role of Socioeconomic Status in Shaping Learning Access and Experience

The socioeconomic status (SES) of a student has a strong influence on the access to education, the type of learning experience, and the performance of a student in school or university. In online and face-to-face education, income, parental education, and location disparities can significantly influence student opportunities and achievement. These gaps have become more pronounced in such countries as Bangladesh with the emergence of digital education. The poor students do not have the devices, the internet, and the space to study online, which further increases the divide between the rich and the poor students.

SES and Educational Inequality

Numerous researches indicate that SES has a strong association with student performance in school. Sirin (2005) elaborated that students in rich families are more likely to perform better due to the availability of better learning resources, school facilities and home conditions that facilitate learning. In online learning, such students usually possess laptops or tablets, high-speed internet, and the assistance of family members, which enhances their learning and comprehension.

Conversely, poorer students have more challenges. A report established that more than 40 percent of students across the globe lacked internet or digital devices during the pandemic, and the figure was even greater in poorer nations. In Bangladesh, most university students had good internet access and a peaceful environment to study during lockdowns, and it was difficult to attend online classes regularly.

The Digital Divide in Bangladesh

The digital gap in Bangladesh is not just about having internet. It includes larger issues like weak digital infrastructure. Rural areas have limited broadband services, frequent power cuts, and expensive mobile data, all of which make it hard for many students to take part in online classes (Islam et al., 2022). Also, many low-income students depend on mobile phones, which are not suitable for tasks like writing essays, attending long classes, or doing multiple academic activities.

This digital divide also affects how well students learn and engage. Students from poor backgrounds often feel left out in online classes, lack the confidence to use technology, and do not get enough support from teachers or family. As a result, many of them lose interest, become anxious, and drop out of school or university more often (Aristovnik et al., 2020).

Impact on Face-to-Face Learning

Classroom learning is also influenced by socioeconomic differences, yet schools and universities can usually offer additional assistance to assist students. Face-to-face learning offers students the advantage of sharing space with teachers and peers, accessing library resources, and having a schedule. In Bangladesh, the gap is narrowed by the public universities which provide low tuition and accommodation, making education affordable to the poor students. Physical classroom teachers can also observe when a student is having problems and provide assistance where necessary.

Nevertheless, in the classroom, low-income families have to incur additional expenses on transportation, food, and learning resources. These expenses were minimized in online learning, and new issues such as internet and digital tools deficiency substituted them.

Gender and Intersectional Disparities

In Bangladesh, gender problems are usually intertwined with socioeconomic problems. Poor girls tend to have more issues like restrictions on their mobility, inability to use digital devices, and reduced autonomy in their educational choices. It was discovered that a significant number of girls were forced to discontinue their education during the pandemic not only because of the absence of tools, but because now they have more domestic responsibilities and social expectations.

These issues complicate the learning process of people who were already experiencing a lot of negative effects. Online or in-person, students with financial and social disadvantages have a higher chance of struggling in school, missing classes, and they also experience stress and mental health problems.

Chapter 3: Methodology

This chapter focuses on the methodology and compare online and in-person learning. The chapter includes research design, research participants, research sites, research instruments, data, data collection, data analysis, and also ethical considerations to make sure the confidentiality of participants. The study uses qualitative research, with semi-structured interviews with 10 students who have tried both online and in-person learning. The goal is to understand how these learning methods affect students' interest, motivation, challenges, and satisfaction. The data is analyzed thematically to identify key themes which provides a deeper understanding of the students' learning experiences.

Research Design

This study used a qualitative approach because the research questions focus on students' perceptions and lived experiences of online and face-to-face learning rather than measurable test scores alone. My research particularly uses phenomenology because instead of measuring things with numbers, phenomenology focuses on the lived experience of people and the meaning they give to that experience. Semi-constructed interviews were appropriate for capturing how students interpret engagement, privacy, assessment pressure, and learning routines in real settings. For example, participant noted like there isn't always privacy—family members may suddenly enter the room... Then my attention leaves the class (Naim). These shows that the key issues are context-dependent and best understood through detailed narratives, making qualitative inquiry suitable for answering the study's research questions. This provides an in-depth insight into learning, and seeks to address the two subsequent key research questions:

- 1) What are the perceptions of students regarding the differences in engagement and motivation between online and face-to-face learning?

2) What are the challenges and advantages of the students in the two learning method and how they impact on their academic satisfaction?

Research Participant

The number of participants in this research is 10, and the participants will be students of various universities. This is done to have a balanced view of the experiences and challenges of online and face-to-face learning at various levels of education.

The sample of the university students was chosen among various universities in Bangladesh, which is a diverse sample of students who had undergone online and face-to-face learning. The students were selected to reflect the students who were in the academic stage and still undergoing online learning and those who had more face-to-face learning experiences.

The participants were enlisted using purposive sampling, ensuring that each participant had directly experienced both online and face-to-face learning. This approach captured relevant perspectives to the research questions. The final sample consisted of 10 participants in total from different universities and department, allowing for a comparison between the student experiences.

Name	Gender	Age	Department	University Year
Adity	Female	25	English	4 th
Rafi	Male	24	C.S. E	4 th
Mahira	Female	22	B.B. A	4 th
Naim	Male	23	C.S. E	4 th
Farzana	Female	23	B.B. A	3 rd
Mehzabin	Female	23	Microbiology	3 rd
Arif	Male	24	Economics	4 th
Shahriar	Male	24	B.B. A	3 rd
Samiul	Male	24	B.B. A	4 th
Nusrat	Female	23	LL. B	4 th

Table: List of participants.

Research Sites

The research was conducted across 9 private universities and one public university in Bangladesh, chosen for to understand their different perspectives. Different universities were selected to share their experiences from students enrolled in various academic programs because each student from different universities have faced different kinds of problems. The 10 university students involved in this study had all experienced both format of learning during, by which they share both the challenges and benefits of both learning mode. The participants were specifically chosen to represent individuals with experience about both formats, allowing for a comparison of how both formats affected student engagement, motivation, and academic performance.

All participants were from different departments which made the research get a good variety of experiences of various students. This provided a more in-depth understanding of how the shift to online education affected students learning. The research aimed to investigate how the transition to online learning was managed, and what challenges students faced. The research highlights those that were either an experience shared by most, or whether there were multiple challenges faced by the students. For this reason, different universities were targeted for the study.

Research Instruments

In this research, the primary research instrument was a semi-structured interview guide that was to be used to collect qualitative data on the experiences of the participants regarding online and face-to-face learning. The interview includes open-ended questions that are aimed at making the participants express their in-depth views on engagement, motivation, challenges, and academic satisfaction in online and face-to-face learning settings. The questions will seek to understand how the students perceive the differences in engagement between the two modes.

Data

This research was based on the interviews of 10 university students who had attended online as well as face-to-face classes. The interviews were initially done in Bangla. All the recordings were initially written in Romanized Bangla because some of the participants believed that they would not say those things in English in the near future, which are in their minds. The transcriptions were then translated into English to enable the data to be analyzed in a clear and consistent manner. Translations were done with care to ensure that the original meaning and context were not lost.

The researcher read the transcripts after preparing them to identify significant themes, including access to technology, student-teacher interaction, and satisfaction with learning. These themes were clustered and examined to demonstrate the primary differences and similarities between online and face-to-face learning. This process assisted the researcher to comprehend how students and teachers perceived both learning approaches and how their experiences were influenced by the transition to online learning.

Data Collection

The information of this research was gathered by interviewing 10 university students, who are my personal contacts in various universities in Bangladesh. They were chosen as they had previously undergone online learning and face to face learning. The participants represented various departments, and their views on their academic experiences were diverse.

The interviews were done one-on-one which enabled close interaction that made the participants feel free and willing to express their views. The interviews were sufficiently long to allow the participants to talk about their experiences, difficulties, and ideas about the effectiveness of each learning mode.

All the interviews were taped with the consent of the participants. The questions were based on such important areas as student engagement, motivation, academic satisfaction, and challenges and benefits of online learning to students and teachers. This method enabled the students to contemplate their experiences throughout the pandemic.

Data Analysis

The interview data were analyzed using thematic analysis. This implies that the researcher sought similarities and trends in the statements of the students. To begin with, the interview transcripts were read thoroughly and key words or points were highlighted as codes. These codes were then combined to create larger themes that demonstrated what the students went through. The key themes that emerged were access to technology, student engagement, motivation, satisfaction, and the challenges encountered in online and face-to-face learning.

The themes were verified and refined a number of times to ensure that they were a clear reflection of what the students told. The researcher contrasted what was said about the two learning methods to identify similarities and differences. This assisted in observing how students adjusted to online learning, what issues they encountered, and what kept them focused.

Based on the analysis, there were certain patterns. Majority of students reported that they were able to concentrate better in physical classes. Their presence in the classroom, the presence of the teacher, and direct communication made them more active and serious about studying. Eye contact, calling them by name, and brief post-class conversations made them feel connected and confident. Online learning, conversely, was perceived as flexible and more difficult to concentrate on. Most students reported that it was hard to study at home due to noise, family disturbances and shared rooms. Internet issues and power outages frequently interrupted them and caused them to miss sections of lessons.

Students also discussed that exams were more stressful online. Their nervousness was caused by slow internet, short timers and upload issues and some of them believed that online exams were not fair since not all people had the same internet or devices. Face-to-face exams, on the contrary, were more stable and equal as everyone was in the same environment. The other trend was that students were more motivated in face-to-face classes. The fixed class time, campus presence, and classmates assisted them in remaining on track. In online classes, most students reported that they lost motivation due to the lack of contact with teachers and friends. Nevertheless, there were those who preferred online learning as it saved time and provided them with greater flexibility.

In general, the discussion revealed that both learning approaches have their positive and negative aspects. Online education is not rigid, whereas in-person classes assist students to remain more attentive, inspired, and self-assured. The following chapter later discussed these results to relate them with the main research questions and other studies.

Ethical Considerations

This study followed ethical guidelines to protect participants' rights and maintain confidentiality. Informed consent was obtained from all participants before the interviews, ensuring they understood the purpose of the study and that their participation was voluntary. The names which are used, are pseudonyms for the sake of privacy. The interviews were recorded, but personal identity were removed during the transcription process to. Participants were made aware that they could withdraw from the study at any time. Data was securely stored and was only accessible to the researcher and supervisor. These ethical measures ensured that the research was carried out with respect and responsibility.

Chapter 4: Findings

This chapter presents what students said about learning in person and online at Bangladeshi universities. The findings are based on ten semi-structured interviews with students who experienced both modes. Short, exact quotes are included, with speakers shown in parentheses (e.g., Arif).

In-person Classes Improve Focus and Participation

Throughout the interviews, students reported that face-to-face classes put them in study mode, and therefore, attention is natural and easy to join in. Rafi explained it well: “I’m most engaged face-to-face. Entering the gate flips a mental switch to study mode. Small signals—like a teacher’s eye contact—keep me alert” (Rafi). The presence in campus creates a distinct boundary between home and study, and it is easier to listen, react in real time, and remain with the task to the end. Adity also mentioned that at home “the class does not feel serious,” while in person “I sit at front... keep my eyes on the teacher,” which helps them to be focused even when the topic is not immediately interesting.

It was evident from the experience shared by the participants that discipline was not imposed but rather natural through shared attention in the room, the pace of the teacher and even basic routines such as opening a notebook. Presence was also associated with accountability and interaction by students. They were familiar to the teachers, called by name, and had immediate opportunities to ask or respond, unlike online situations when an unexpected question may seem difficult to respond to. The awareness that you might be asked to speak keeps the attention at a steady level and promotes short and concise responses. Combined, visual contact, rapid teacher checks, and instant access to peers increase focused participation in person. The environment itself helped with attention, and thus participation increases without frequent reminders.

Eye Contact and Calling Student by Name Keep Attention

Students reported that eye contact and calling them by name enhances concentration. It assists them in focusing on the class. Naim clarified, “I engage best when I sit in the front row. Because of eye contact I stay much more attentive—if the teacher pauses and says ‘Naim, did you understand this?’, I have no chance to not think.” This demonstrates how addressing the students directly transforms listening into active thinking. Naim also remarked that a brief pause allows him to ask the person beside him one line, which provides a one-minute fix that he would not get at home; and when the teacher assigns him a brief whiteboard task to write one small point, his concentration is boosted--the hand moving makes the head work.

The fast, straight forward prompt is a way of getting the mind back on track. The same was reflected in what Rafi said, “If a teacher says ‘Rafi, what did you understand?’ that gentle pressure keeps me focused.” This underscores the role of a cordial cold-call and definite campus routine in maintaining focus levels and sealing doubts within a short period of time. He further explained that going to campus would switch the study mode and a two-minute chat in the corridor immediately after the lesson would tend to complete the loop on the doubts so that the next step is obvious.

Such signals make students feel noticed and accountable, and thus class is more of a discussion, rather than a lecture. It is not just pressure, but it is relationship. Adity replied, “the teacher knows me and understands me; they may talk to me... that’s when rapport is built,” which highlights the fact that the feeling of being known reduces the barrier to speaking. Students described the same pattern: in person they feel recognized—not just a roll number—and those 1–2-minute corridor sits with a teacher build real rapport, which makes it easier to speak next time. Feeling known lowers, the risk of speaking up and turns brief exchanges into a steady

habit. When eye contact, a name call, or a brief exchange happens in the room, students stay alert for the next turn instead of slipping into passive listening. Small signals keep minds engaged from minute to minute.

Quick Follow-Up Questions Keep Thinking Active

In person, teachers can pause and ask questions right away, which trains on-the-spot thinking. Nusrat explained, “In tutorials, where the teacher pauses and asks questions, we think on the spot—that habit helps in exams.” Right after this, the same student shared a simple plan that makes answers clear: start with a short map, give two points, end with one clean line; the teacher marks “keep this, cut this” and crosses with a marker, and you practice “one point in one minute” for delivery. Fast checks like these makes shape ideas quickly, so recall is stronger later, shared by Nusrat.

Students also reported that the viva-style moments are more powerful as there is the energy of the room that creates confidence and transforms rough knowledge into steps. The same student reported that little, consistent habits develop in this environment, like sitting in the front row, having a clean notebook, and completing small in-class assignments on time, which makes grades more consistent, not only huge improvements. When something is not clear, a 15-minute recap with friends after the lesson reinstates the comprehension that day.

Students also reported that visual cues assist them in making judgments of importance. “Online I cannot see the teacher’s eye expression, so it is hard to catch how important a point is. On campus when sir underlines with a marker, I put a star right there in my notebook” (Naim). In case of a follow-up, students clear it immediately after the lesson. Even minor body-language cues can direct them, such as a nod of the head indicates to proceed, squinting eyes indicate to explain, that silent coaching keeps the focus on the most important thing. In general, fast cues

and follow-ups maintain thinking on the move, clarify doubts in the room, and send students into practice with a more detailed map of the topic.

Short After-Class Chats Clear Doubts

Short, casual interactions immediately after the lesson eliminate minor misunderstandings before they develop as pointed out by Rafi, “Clearing doubts in a two-minute corridor chat right after class closes the loop—that’s when I’m most engaged.” These conversations usually occur at the door or on a bench in the corridor--teachers or TAs indicate the precise line to correct (sometimes even to draw a little arrow indicating that it should be put before), and the issue is resolved in a few minutes and there is no lengthy email trail. Students also reported that these two-minute pauses can become a fast planning of the next assignment, which maintains the momentum. Even a small explanation at the door keeps gaps out of homework or revision.

Adity mentioned the fast check-ins with peers, “After class, I often have a discussion with classmates— ‘Which part did you get? Which part didn’t you get?’ In person, these talks happen more.” These side-by-side conversations are useful to get to know people and request assistance in the future; on the Internet, when the lesson is over, the conversation is over as well, so the opportunity to compare steps or verify one line is lost. A step or point that students wish to review can be verified even half a minute. This occurs naturally in person as students are already walking together or sitting next to each other; online there is no simple way to initiate that small, helpful conversation. Rapport is also created through these micro-interactions. Nusrat reported that,

Support is more powerful since the 1-2-minute hallway conversations make them feel acknowledged. A teacher may ask immediately after a lesson, did your notes get done? or

say a word of caution, don't hurry, take it in bits, and that little phrase reduces the tension and maintains the pace even.

The awareness of the proximity of help promotes a consistent rate and attendance. This also was associated by students with a healthier routine—two words in the corridor, or a brief visit to the library that made them feel stable and prepared for the next lesson. This is difficult to replicate in an online class. The meeting is over, the window is closed, and the opportunity to make a small, focused fix is gone. Physically, assistance is within a few steps, and thus, inquiries do not accumulate.

Sitting With Classmates Helps to Stay on Task

Being near peers creates easy, low-friction support. “I sit up front, open my notebook, and whisper quick checks with a friend; mini discussions happen instantly” (Rafi). Others called this “mutual guard duty”—if one friend misses one line, another catches it;—so small mistakes stop early, and notes stay clean for later work. These tiny confirmations keep attention steady and stop small mistakes early.

Naim shared that catching a friend right after a slide or while walking between classes can remove confusion right away. He stated,

On campus a teacher or TA can add a quick tick/cross with two words like ‘shorter,’ ‘why?’— and, if needed, ask to clear it after class, so the fix happens within minutes; even on the way between rooms I can ask ‘that line on the slide?’ and get it cleared immediately.

Rapid synchronization maintains the speed of everyone and minimizes the re-tracking in the future. Even in the classroom, when sitting next to each other, a little discussion begins, and students can compare the knowledge without losing attention. That small conversation also

contributes to knowing people and requesting assistance in the future; online, this does not begin very often, and the opportunity to verify a step or provide a brief example is lost.

Students associated these peer touches with more consistent habits: front-row attention, cleaner notes, and completion of small tasks on time-benefits that accumulate week after week. Room energy and whispering easily assist in maintaining momentum throughout the entire period and make understanding develop over time. Students also reported that the shared room response, everyone tilting their head or saying “hey, this is different” pushes them to talk, and a small preparation habit (reading 3-4 lines before class) makes the first words easier and keeps attention glued.

Home Environments Limit Effective Online Learning

Home in these interviews was not a place, but a combination of sounds, tasks, common areas, and device boundaries that continued to distract the focus off of live class. Students explained a basic trend: in case of thin privacy and small screens, individuals mute more, talk less, and become passive listeners. A single student described it as being largely mute, like radio, which demonstrates how live classes can lose their interactive quality when family life is in the same room. Live sessions that are supposed to be more of a conversation become a one-way stream where questions and follow-ups are postponed, lost in the chat, or saved to be answered later when the moment has already passed.

Students attempted workarounds, muting, turning off video, parking questions to ask later, taking notes to ask later, but they claimed that they still distract them out of the moment and make real-time learning more difficult. Even minor, reasonable actions (such as turning the camera off to concentrate or muting to shut out family noise) interrupt the fast pace of speaking and listening that makes a live class seem alive. Even motivated students talked less over time

and used after-the-fact catch-up more than live participation. These circumstances justify why even motivated students talk less and use after-the-fact catch-up more than live participation. It is not a trend of interest but of circumstances that render real-time interaction delicate and prone to disruption.

Noise and Limited Privacy Suppress Speaking

Participants mentioned that privacy is an issue for them during an online class, “There isn’t always privacy—family members may suddenly enter the room... Then my attention leaves the class” (Naim). This demonstrates that one distraction can disrupt concentration and desire to talk. When the focus shifts to the distraction, say, a person walking in, a call by a relative, it is difficult to get back on track, and by the time one does, the lesson might have progressed. Kitchen sound, doorbells, street horns--that makes them keep the mic off. They said that when they are muted, fast replies are delayed, hence questions and follow-ups are delayed or abandoned.

In this situation, many students stay quiet even if sometimes they have something to say, because speaking up and turning the camera on would show their home life to everyone. As a result, answers get shorter and participation drops. Students also pointed to a simple contrast: on campus the classroom protects a block of time; at home, anyone can walk through the door. Students from shared households said, in online classes they lower their voice so others will not hear, so the participation is less. Even when the internet is stable, the worry of being overheard keeps people quiet and pushes contributions into later messages that arrive after the moment has passed.

Shared Rooms and Devices Disrupt Concentration

One of the participants Naim says, “In many homes in Bangladesh there are shared rooms, shared devices”. Which reminds us that online class often assumes private desks and dedicated computers that many students do not have. When a space is shared, attention always get divided and the student becomes a guest in their own study area. When rooms and devices are shared, learners move around, and each move breaks the thread of the lesson and the mood to study. Rejoining the flow means figuring out what was said while they were away, scanning the chat for context, and trying to catch the teacher’s next step at the same time. That constant “context reload” makes simple tasks feel heavy.

Phone-only access introduces a second level of friction as Shahriar mentioned, “Many days I join by mobile... small text on slides is hard to catch,” which makes reading and taking notes slower and makes it more difficult to make mistakes when copying formulas, examples, or references. Shared devices also influence other activities other than listening- typing long answers on a phone, copy-pasting into a document, and correcting broken formatting as the lecture goes on divides attention and makes students feel behind even when they get the concept. Some claimed to turn off the video and save questions to the end when another person requires the device. To put it briefly, shared space and shared hardware do not only make the experience less comfortable, but they also erode the consistent attention

Camera and Self-View Discomfort Reduce Presence

Students said that they were tense and slower when they could be seen by classmates and household members. Self-monitoring in the attempt to appear presentable at home competes with listening and thinking. They also struggled with formatting after copy-pasting and were unable to do a first draft on paper in the same situation and the first line took 2-3 minutes and the timer

ticking made them panic. Farzana also said that, when you see your own face on camera, you worry about the background, hair, and light, which kills creativity and divides attention.

Adity explained a similar obstacle when cameras are off: “Online... it feels wrong to ask while sitting alone with the camera off in front of many people.” Therefore, they remained quiet even when they were lost. The camera on off is dull--and in any case, spontaneous questions fall. This silence is supported by sluggish online feedback loops - typed questions are not noticed in time and the subject is dropped - and by unreliable home internet that cuts the thread in the middle. Simple supports assist timid classmates to make inquiries regardless, such as an open office hour weekly and an anonymous question box.

Students also demonstrated the competition of self-view with learning: when they saw themselves on the screen, they checked their hair, light, and background- they were no longer focused on the teacher but on the small window of me on camera. In the long run, learners reported that they fell out of being in the room to being in the background, being there but not really there. The loss of small signals, nods, short smiles, confused glances, takes away the immediate feedback that teachers rely on to slow down or repeat a step. Farzana replied that, they were like a small mute/unmute window, with the mood level and the first line slow to type-- campus life later restored vitality and concentration. Having the camera off made them feel like they were in the background, and the lack of body-language cues (a nod to continue, narrowed eyes to clarify) eliminated the silent coaching that keeps the attention alive in the room.

Household Tasks Interrupt Class Time

Most of the students said that studying from home was difficult because there were too many distractions around them as Rafi mentioned, “Home brought constant distractions— kitchen, doorbell, my sister’s homework—so focus broke.” This demonstrates the way in which

ordinary tasks and sounds distract in a few seconds. The same trend is repeated: when cameras are off it was like talking to a vacuum, that is, it is hard to know whether anybody is listening to them, whereas in the classroom quick questions are answered immediately. At home, small pauses such as tea making or reconnecting after a net drop are energy consuming and disruptive. A step out of the way, and you miss a definition, a direction, the beginning of an example, and the remainder of the explanation no longer falls on the ground.

Shahriar explained that a one-minute pause can easily become a ten-minute one in reality, tea, balcony, answering a call, and before they get back, the lesson has already progressed. These little breaks accumulate quickly and interrupt attention--and engagement declines since it is uncomfortable to speak loudly in the presence of relatives. In some homes, even well-meant advice (e.g., “study in the morning”) clashes with class timing, so students miss parts and try to catch up later without the chance to ask in the moment. Online, several also noted that focus slips fast at home: even the first 10 minutes can be hard to hold, because the setting doesn’t feel serious like a classroom.

Learners also mentioned juggling device access with others at home; when a sibling needs the laptop, they drop to audio-only or leave and rejoin, which breaks continuity. Many described shared homes and shared devices as the norm, so they turn video off, a compromise that delays real-time help—and hope the question still makes sense later. Students summed it up simply by saying that, at home the flow breaks—tea, doorbell, quick chores—while on campus the day’s rhythm and quick in-person fixes keep the thread intact.

Connectivity and Power Instability Disrupt Learning Continuity

Across the interviews, students said unstable internet and power cuts make it hard to stay with the lesson. A common pattern is: the connection drops, the router reboots, and by the time

they rejoin, the teacher has moved on. Many times, the connection drops during an important part. By the time students rejoin, the content has moved on and it breaks the chain of ideas, leaves gaps in notes, and turns a live class into pieces that must be fixed later. Each restart forces the mind to reload context, so even short cuts feel like starting over. Attention thins, and confidence to speak up drops after the interruption. Together, these show how even brief outages break understanding, create note gaps, and replace real-time participation with after-the-fact repair.

Load-Shedding and Dropouts Derail Lessons

Students said power cuts and net drops cut into key explanations and kill momentum. “If there is load-shedding the whole rhythm goes off—router on again, log in again” (Shahriar). This shows how a blackout instantly breaks focus and pace. Immediately after this, they mentioned that the first 1-2 minutes disappear to fixes, checking router lights, rebooting, waiting to get a signal, rejoining the call, and searching the right slide, so the class is already on the next step. The break is not only a few seconds wasted, but it re-establishes focus and breaks up the lecture. Students lose transitions, half a definition, a step in a worked example, and it is difficult to correct when the class continues.

Adity described the academic price: “Many times the connection drops during an important part. By the time I rejoin, the content has moved on” (Adity). It is difficult to fill that gap during the lecture. They claimed that the following few minutes become guesswork scrolling chat, inquiring what step we are on, or waiting to be told again--and the original flow is lost. The very question is time and attention consuming. What was useful was a little catch-up routine: a friend posting the step we were on in chat, and the teacher posting one sentence, such as we just completed step 2--before proceeding. One such line is enough to reset the context and allow the

class to move at the same pace. The following minutes pass without a second glance at what was missed, a scan of the chat, or waiting until someone repeats, which is a poor alternative to the original flow.

Students associated this with everyday life in Dhaka. Since load-shedding is the norm, they proposed broader windows, narrow grace periods, and a backup submission route such that a single blackout does not spoil a grade. Even without complete drops, reducing video quality to conserve data makes slides more difficult to read and cues more difficult to notice- tiny hits that accumulate throughout a term. The common denominator is straightforward: without a stable power and internet, a lesson becomes a series of start-stop bits rather than a single experience.

Rejoin Lag While Classes Continue Raises Stress

It is not a quick process to rejoin and the classroom does not stop because one individual is absent. Students reported the delay between reconnecting and locating the teacher on the slide or board. One of them said that once a dropout has left, “by the time I rejoin, the content has moved on” (Adity), by the time I get back, the material has already passed (Adity) and it is difficult to fill the gap during the lecture. Immediately after such drops, students reported that 2-3 minutes disappear to practical actions, such as router back on, platform login, meeting re-entry, and the class continues. When they come back, they start searching for the last slide and speculating on what they have missed. They scroll chat or say which step now, but the original flow is lost and a gap appears in the notes. It is also more difficult to speak up at the moment, particularly online. That gap tends to be a weak point in homework or revision.

Mehzabin observed the process router reboot - platform login - meeting re-entry - which consumes minutes and causes stress when focus is needed on the explanation. The cost of each outage is compounded during those minutes as the class is covering new ground. The slide has

progressed after rejoining, examples have varied and there is a gap in notes. The following few minutes are spent in locating the thread rather than contemplating the content, which reduces the confidence to ask at the time. This results in increased post-class repair (requesting a friend to write the lines, replaying sections where possible) and reduced timely follow-ups—a change that is associated with reduced participation and trust in live conversations.

Proctoring Can Cause Device Heat/Lag

Students reported that under proctoring, laptops become hot, fans are on full blast, and inputs slow down immediately when time is of the essence. Rafi shared,

With the proctoring tool on, the laptop got hot, fan full speed, my head got hot too—the cursor moved late, panic rose. After submission, showing a ‘success’ screen was also a tension—if the email confirmation didn’t come, I refreshed the browser for half an hour.

This demonstrates the accumulation of tool strain and timer stress in a short time.

Immediately after this, he added that a load-shedding hit took three minutes to restart the router as the timer continued to run, and that when they returned two MCQs had not submitted, so even a short outage had a grade cost. They were also concerned when the site displayed long processing/ success screens that made them remain watching and refreshing rather than progressing.

These technological inconveniences are added to regular exam requirements. Even a minor net lag in the process of reading, plus timer pressure, according to the same student, was a breaker of composure. This combination is a wake-up call. Beyond that they mentioned additional measures that consumed time, scanning handwritten pages over the phone, struggling with shadows and alignment, and then compressing the PDF and losing readability; there were strict rules about file-names, and a re-upload was necessary in case one underscore was

misplaced. Quick stutters were also indicative of the following item possibly loading slowly when the timer was already running, and proctors' pop-ups such as Are you there? could rob a few seconds and interrupt the train of thought. The few seconds count on a clock. Throughout the interviews, the message was evident: in proctored tests, the strain of the devices and the demands of the platform are competing with the actual thinking.

Fear of Mid-Exam Disconnects Undermines Confidence

The fear of something breaking the concentration occurs even in the absence of breaking. Rafi told that, "Honestly, the stress was bigger with fighting the platform than with the exam content" (Rafi). This demonstrates that platform concerns can be larger than the questions. Immediately after that, they described what the fear does at that moment: the eyes continue to look at the Wi-Fi icon, the hands become slower, and they write shorter responses to be safe rather than a complete thought. They do not change tabs because the screen may freeze, and they have a backup plan in their mind (hotspot, refresh, rejoin) as the timer is running. A little checklist made them relax: hotspot on, autosave on, screenshots of answers every few minutes, and a pre-agreed backup submission (email or drive link) in case the site freezes. The anticipation of trouble causes students to organize around outages rather than ideas.

Some said prevention: since load-shedding is the norm, open exam windows wider and have alternative submission routes so that confidence is not tied to ideal home conditions. Such buffers render the assessment fairer and allow one to focus on the questions again. This concern also alters the daily behavior: students reduce video quality prematurely, do not want to ask end-of-class questions in case of uploading, and have one eye on the connection icon. These decisions are reasonable in the case of instability, but they also decrease involvement. They cause students to interact less and more cautiously- at the time when they need to concentrate

and speak the most. The outcome is a more tense and silent classroom whenever there is a power or internet outage.

Online Exams Increase Stress and Can be Unfair

Students repeatedly mentioned that, during any kind of online examination or assessment, it always felt like a fight with the system because any internet related problem could occur anytime. The countdown timer in the exam made students panic even more. Just using the interface drained focus from the task. Rafi said, “In online exams my biggest trouble was the timer plus upload... a small net lag, and timer pressure.” Together, these pressures turn every click into a time tradeoff, not a thinking choice, and the fear of losing work nudges answers to be briefer and safer than on paper.

Students also described proctoring alerts, tab warnings, and having to sign in again that broke concentration mid-answer. A single prompt can erase the shape of a sentence from working memory; by the time the alert clears, the argument has to be rebuilt from scratch. Worries related to the issue of fairness followed. Fast typists, cooler laptops, larger screens, and fewer upload glitches all gave advantages.

Tight Timers with Simultaneous Reading/Typing

Students often had to read and write on the same screen while the clock counted down. Samiul described a common layout: “Long PDF on one side, answer box on the other—scrolling again and again to reference loses pace... It was said open-book, but time was so tight that opening cost time” (Samiul). This shows how the interface turned open-book into a time penalty—every scroll cost seconds that should have gone to thinking. They also worried about alt-tab rules and sudden proctor pop-up. Fast typists gained an edge, while slower, outline-first writers felt squeezed.

Rafi mentioned about a moment that, “In online exams my biggest trouble was the timer plus upload... while reading questions when my head was settling, just then a small net lag, and timer pressure” (Rafi). This micro-lag forced a split-second choice—finish reading properly or start typing half-formed lines to beat the clock. Scanning handwritten answers added many small steps (light, straightening, compression), and strict file-name rules meant re-uploads for tiny mistakes—each delay pushed panic up while the timer kept running.

Students also complained about losing partially written answers because of late loading or unintentional navigation as the clock continued to run: “question loading late, but timer already started” (Naim), and one back action erased half a draft. Immediately after that, they had to endure lengthy processing spins upon submission and trackpad slips during drawing/markings—more seconds wasted on the interface rather than ideas. In such circumstances, they produced fewer exploratory drafts and more hurried, minimal responses, not due to their lesser knowledge, but because the timer interface combination penalized the default read-plan-write loop.

Proctoring Pop-Ups and Tab Flags Increase Anxiety

The interruptions of stop-starts brought about by proctoring and tab monitoring interrupted sentences in the middle of thought. Samiul explained the perpetual anxiety: “Once the proctor mid-way gave an “‘Are you there?’ prompt—I took 5 seconds to click ‘yes’—in those 5 seconds the line of thought went away” (Samiul). Immediately after this, the student remarked that fast typists had an advantage and outline-first writers were crowded out and even a single pop-up would push them off the thread until the end of that question.

Others experienced the physical burden of tracking running: “With the proctoring tool on, the laptop got hot, fan full speed... the cursor moved late, panic rose.” (Rafi). He also included that post-submission success/processing screens kept them hanging on refreshing minutes when

the confirmation email did not come immediately. Stress increased with heat, lag and waiting as the timer continued to run. These warnings and delays altered behavior. Students did not switch tabs (when given the option), omitted checks they would otherwise have made, and abbreviated answers to minimize the possibility of a pop-up in the middle of the paragraph. A back action that happened by accident might wipe half a draft, and submission processing spinners consumed more of the clock-pure process loss due to software, not the subject.

Scanning/Upload Rules and Stalled Submissions Cause Losses

Many online exams require students to scan handwritten answers or submit PDF files with strict file-naming rules. Rafi described,

Open a scan app on the phone, shadows fall... straighten pages, PDF size big—when compressing, clarity gets damaged. The file name had to be like:

‘roll_section_question’—if one underscore missed, re-upload again. After submission, showing a ‘success’ screen was also a tension—if the email confirmation didn’t come, I refreshed the browser for half an hour.

Every micro-step brought confusion at the time when time and calmness were needed the most. These measures consumed valuable minutes and requested a mere backup path--such as a template email/subject--so that a frozen upload does not cost the entire exam time. He also experienced a direct loss in load-shedding: “router reboot took 3 minutes, the timer kept going; when I got back, I saw the first two MCQs weren’t submitted... the stress was bigger with fighting the platform than with the exam content.” (Rafi). This is the effect of small outages multiplied: reboot, re-login, rejoin, and then find a half-complete submission--as the clock continues to run and the next questions proceed.

Nusrat said that formatting added more risks. “Once I attached the wrong file—‘final1.docx’ instead of ‘final2.docx’—had to email and explain” (Nusrat). Small mismatches between intention and upload created grading risks unrelated to knowledge. Students said a few simple guards help: a clear naming pattern taught early (e.g., “ID_Course_Assignment”), a shared folder version scheme to avoid wrong-file uploads, and a checklist culture (mail subject format + file-name pattern) so the last minute doesn’t turn into guesswork. Together, these mechanics turn the end of an exam into a race and a gamble—waiting for confirmations, compressing and re-checking PDFs, or retrying uploads while the clock runs—instead of focusing on answers.

Typing Speed and Formatting Issues Skew Results

Several students felt online exams favored fast typists and hurt slower, paper-first writers. “Those who type fast got advantage—for a slow-steady type like me it was tough. Offline I outline and then write; here making an outline itself ends it” (Samiul). Nusrat described,

Long-answer typing + formatting... I typed in Google Docs on the phone and copy–pasted—the format broke, quotation marks were wrong, footnotes vanished... My habit is first draft on paper—not possible online, so even the first line took 2–3 minutes, then I saw the clock and panicked.

They also observed that typing was slower with camera-on at home, Bangla fonts were not always readable in PDFs, and a single error would result in additional emails and stress as the timer was running.

Students associated these obstacles with equity. Performance was a measure of input speed, layout skill, and device condition—not just understanding. The students proposed easy solutions: realistic time limits and a fallback submission route (accept by email/form in case of

upload failures) to prevent preventable losses to determine grades. Others also contributed that broad windows with a 5-10-minute grace and using a standardized subject line for backup submissions template help to calm down when technology slows you down.

Structured Routines and Campus Rhythms Sustain Motivation

Throughout the interviews, students reported that campus organization, such as fixed class schedules, room transitions, and study areas such as the library, keep them in study mode and make motivation consistent throughout the day. Nusrat explained it in a simple way: “everything has a separate place—classroom, library, TSC, bus stand—these separate places signal my mind ‘now study,’ ‘now break,’ ‘now go home.’ Running on these signals makes motivation stable” (Nusrat). These place-based cues act like switches. “When you step into a classroom or the library, your mind expects to focus; when you step out, it expects a break. That predictable cycle cuts down extra decisions and saves energy for the work itself” (Nusrat).

Others linked this rhythm to discipline. Face-to-face the time is fixed, the seat is fixed, the teacher’s pace is static and these things help them head run in a straight line. The more parts of the day that are set, the less energy is spent negotiating with yourself, and the more energy is left for reading, writing, and asking questions. Together, these accounts show how campus cues line up attention, reduce drift, and turn effort into routine instead of a short burst. When time and place are consistent, motivation doesn’t need constant willpower; it’s carried by the rhythm of the day.

Start and Stop Times Create a Structured Study Environment

Students described a clear mental switch tied to set times and shared expectations. Samiul explained that on campus “discipline is automatic—dress ready, reach on time, assembly vibe”, and because follow-up questions may come, ‘you have to study in advance’. Students also said

body-language signals act like ‘silent coaching’ (a nod = continue, narrowed eyes = clarify), which is another reason fixed routines on campus feel strong. Arif said fixed schedules prevent swings: “Online my motivation dipped... On campus I write the plan at night and follow it next morning—possible because the day’s flow is set” (Arif). He also said that it is easier to start-up in person, find a seat, open the notebook, pen on, and a definite end point at the end of the class makes it easier to transition to the next task; the presence of people makes the plan healthier, so it is easier to stick to.

Students referred to it as a place-based signal such as going through the gate to turn on a mental switch to study mode. They claimed that the classroom switch is accompanied by fast cues (eye contact, a little stop here, then move type line) and brief hallway conversations that close loops in a short time; small wins such as a teacher saying good are fueled the next day. In brief, fixed starts and finishes cause attention to be less a matter of willpower and more a matter of routine, thus saving energy to be used in the work itself.

Short Transitions between Rooms Reset Focus

Students said that brief movements, such as bus rides, walking down the corridor, changing lecture hall to lab, are mental refreshes. Naim replied, “The bus ride itself is a reset—outside air, bustle, and once I enter the classroom, everything together makes the head present” (Naim). Immediately following this reset, even a simple stroll between rooms is like a breath of fresh air. Students added that they supplemented this with simple in-room activities: draw an important line with a dot and two underlines so when the teacher goes back to it, the confidence level will be higher; have a quick chat in the corridor and a small human touch will lift the mood and keep the routine consistent.

These rapid transitions not only relieve boredom but also divide the day into sections and allow one to get to the next lesson prepared to write rather than rehear. These resets maintain attention constant over several periods over time--assisted by little external-class check-in with friends and the automatic bus-dress-arrive warm-up that a campus day offers.

Library Settings Improve Study Efficiency

The library was frequently cited by students as a quiet, concentrated environment that enhances quality and speed. It is the serenity of the library, which is a component of the campus rhythm that keeps the head clear. Silent seats and observing everyone at work send a simple message: remain with the task. The participants claimed that two hours in the library were like four hours at home since switching dropped and revision was quicker. Small pushes like “let’s go to the library for 20 minutes” (Adity), post-class assisted in transforming plans into action.

Similarly, Nusrat added that, “Without a library-like quiet place, searching references feels less appealing... 20 tabs, finding the right one takes time,” (Nusrat), showing how a steady study setting reduces scatter and speeds tasks. They had fewer tabs in the library, as they had more search habits- once they had a brief library database training (remote access, keyword search, citation basics), retrieving the appropriate sources became quicker and more efficient. To most, simply being in the company of other readers was a reminder to continue and complete small tasks on time. That space helps to focus even when motivation is low- the presence in a quiet and shared room is a signal and a reminder to study, which helps to maintain attention throughout the time and makes it easier to read and take notes without interruption.

Clear Day-End Fosters Closure and Steadiness

Students reported that campus days are terminated by a natural stop line, which helps in recovery and planning. Arif observed, “After class there is a clear finish line—stop here, start

there... On campus I write the plan the first night after studying, and next morning I follow exactly that—possible because the day’s flow is set” (Arif). This day-to-day shutdown allows one to shut down, sleep and wake up fresh. Immediately after this, the same student added that this finish line is an easy habit-plan at night, follow in the morning, which keeps the next day on schedule without the additional effort. They also said steady progress at set times lowers worry—small routines (eat–study–sleep) feel predictable, so stress doesn’t pile up.

Nusrat described the effect on consistency. “Face-to-face I feel more consistent; the motivation graph is straight, fluctuation is less” (Nusrat). Students mentioned that ending the day with a sense of ‘today’s study is complete’ fuels tomorrow’s start and keeps the week steady.

These clear endings and beginnings bookend effort, helping students’ close loops daily instead of carrying unfinished work into late nights. The campus rhythm turns motivation from a spike into a steady line. Some also use tiny end-of-day check-ins (“what I finished today”) to lock that feeling of closure.

Face-To-Face Feedback is Fast and Easy to Use

Across the interviews, students said in-person feedback is quick, specific, and immediately useful. Instead of waiting on threads or dealing with lag, teachers and TAs step in with short instructions and tiny demos. On campus, feedback is quick and specific. In person, help arrives at the exact second a student feels stuck. A hand goes up, the teacher walks over, marks a phrase, and the next step becomes clear. Because the correction lands while the student is writing or solving, they don’t have to rebuild their thinking later—they adjust the draft or the calculation while it’s still fresh. Many called this the difference between “understanding the advice” and actually using it in the next sentence, the next line of code, or the next step of a proof.

Quick “Keep/Cut” Notes and Small Demonstrations Guide

Students valued brief, targeted markings and quick modeling at the board. Nusrat said that in tutorials the teacher gives a simple structure— “a short map at the start, two points in the middle, one clean line at the end”—then marks the page: “keep this, cut this,” often crossing a line with a marker. The student rewrites on the spot and hears “now it works.” Right after this, the same student noted the mentor also times delivery— “one point in one minute”—and has you read the fix aloud; a quick nod confirms the edit right there.

The same pattern shows up in regular classes: the teacher “lifts one line on the board” and tells everyone “Stop here, then move forward,” showing the exact place to adjust the draft. Students said that lifted line becomes the anchor—they “understand the path” and know exactly where to tweak the sentence. These tiny edits are fast to apply and lead to visible improvements within the period. A student fixes one sentence, then mirrors the fix in the next paragraph. A group watches a teacher split one long step into two short ones, then copies that rhythm in their own explanations. In other classes, teachers do the same at the notebook level—circle a line, say where to add the example—and the two–three-minute action points are clear: what to cut, what to add, where to slow, where to go fast.

Mini-Help Turns Advice Into

Students said the most useful help is short and face-to-face. Nusrat shared a routine from tutorials: “one point in one minute.” In those sessions the mentor gives a simple frame— “short map at the start, two points in the middle, one clean line at the end”—then marks keep this, cut this, has the student read the new line out loud, and nods now it works. Timing that one-point trains a delivery you can reuse across the page.

Rafi described how a “two-minute corridor chat right after class closes the loop” (Rafi). In those 120 seconds, teachers often lift lines like ‘stop here, then move forward’—or add a quick tick/cross with two words (“shorter,” “why?”), so the next edit is obvious. If more help is needed, they clear it right after class or jot a tiny outline on a sticky note to follow that evening. These short bursts protect momentum. Instead of booking a long meeting or writing a long message, students get a precise nudge and return to work without losing pace. Shy classmates can also use quick options like a weekly open office hour or an anonymous question box to ask for the same one-minute fix.

After-Class Talks Solve Problems Quickly

A common pattern is a quick note in class, then a short after-class follow-up to finish the fix. Teachers often say ‘come after class,’ and the confusion is cleared right away. If there is a confusion, the teacher may redraw the diagram, reorder two lines in a proof, or offer a cleaner topic sentence—then check the student can do it once before leaving. That quick rehearsal locks in the correction. A 1–2-minute corridor check-in also builds rapport and closes gaps before they grow. Right after this, students said they feel recognized—not just a roll number—and these tiny chats make it easier to ask next time.

Peer chats right after class help too. “Which part didn’t you get? ... can you explain?” By the next room, the gap is smaller and the plan to fix it is concrete. What would take three emails becomes one short huddle, and a quick office-hour stop or hallway chat clears the same day. These same-day closures keep confidence up and they confidently mentioned that they leave knowing what to do, not just what went wrong.

Friendly Nudges Build Confidence

Small affirmations and gentle prompts make feedback easier to use. Simple signals like good point, a nod, a quick correction—create small wins that motivate a 15-minute review before the next class. After a quick right in class, one student said they naturally did a short review that evening, which became a steady habit across the week. Mehzabin mentioned that, over the days it becomes a habit: yesterday's fix shows up in today's draft. Students also said tiny, kind lines like “breathe, you're doing fine” help them try again the same day—small wins keep momentum without long meetings.

A teacher's cold call can be a gentle pressure that keeps focus in the moment and turns feedback into action right away. Right after describing this, Rafi mentioned that being called by name keeps them alert during the explanation, and a two-minute corridor check after class closes the loop the same day. Because the tone is supportive, being called on feels like a reminder that student's contribution matters. Taken together, in-person feedback works because it's short, specific, and delivered at the moment students can use it—during class, in the corridor, or right after the bell. These friendly nudges become habit, so quality improves within the hour and keeps rising across the term.

Chapter 5: Discussion

The chapter presents the findings of the research as compared to the available literature on online and face-to-face learning. It will describe the experiences of students, gathered via interviews, in response to the primary research questions of the study. The discussion explains the meaning of the results and how they validate, elaborate or contradict previous studies on student engagement, motivation and performance in various learning environments.

Why Physical Presence Sustains Engagement and Deep Learning

The initial significant implication of the results is that physical presence facilitates interaction and more profound learning. The narratives of the participants in this study indicate that the classroom offers an immediate social and academic context that facilitates the ease of attention maintenance, accountability, and cognitive activity. This assists in answering the research question regarding the difference in engagement, participation, and motivation among modes: engagement is not merely a personal endeavor but a socially constructed process that becomes more manageable to maintain when learners are in a common space, routines, and expectations.

This is in line with the argument that learning is a social and emotional process in addition to cognition (Trowler, 2010). In this sense, face-to-face environments enhance interaction since they constantly offer presence signals, such as teacher presence, peer awareness, and real-time responsiveness, which support attention and engagement. Simultaneously, the importance that the participants attached to immediate clarification implies that deep learning is facilitated in the case of fast and adaptive feedback loops. The delay between confusion and correction can be minimized by face-to-face interaction, which enables teaching to respond to the signals of learners as they happen (Garrison & Kanuka, 2004). This meaning is also consistent

with the studies that highlight the close connection between instructor presence and responsiveness in a timely manner and student motivation and engagement (Martin & Bolliger, 2018).

Another implication is related to motivation: the focus of the participants on collective responsibility and classroom vitality can be explained by the Self-Determination Theory, especially relatedness (Deci & Ryan, 1985). That is, motivation here seems to be maintained not only by inner discipline but also by relationship bond and social responsibility. This is significant to the Bangladesh context since when learning is moved to an online environment that is not equally supported by infrastructure, personal study environments, and consistent connectivity, the processes that typically sustain engagement are more difficult to replicate. Thus, the results cannot be interpreted as stating that online learning is necessarily inferior, but they suggest that, in the current circumstances, online classes do not always offer the same interactional density and immediacy that participants relate to deep learning, particularly when technological limitations disrupt communication (Khan et al., 2021).

Combined, this section provides the answer to the learning-outcomes question by implying that the participants relate the better outcomes to the conditions that allow maintaining attention, quick clarification, and social motivation. The practical implication is that when universities go online or blended delivery, they need to consider presence and responsiveness as design requirements and acknowledge that the capacity of students to take advantage of online learning is determined by unequal access to stable learning conditions.

The Influence of the Home Environment on Online Learning

One of the main implications of this research is that online learning is not realized in a platform (Zoom, Google Classroom, etc.) only, but in the home as the learning location. Home

conditions in the interviews were always a factor that determined the ability of the students to engage in real time and not just the comfort of the students. This directly responds to key challenges of online learning and differences in engagement and participation. It is not just a matter of motivation, but the manner in which home environments undermine the interactional conditions that enable live learning to occur. According to the Self-Determination Theory by Deci and Ryan (1985), the feeling of connection is important in motivation.

The important thing in this case is the concept of boundary collapse: when academic and family life are in the same space, students are deprived of the so-called protected learning block that a classroom usually offers. The testimonies of the participants indicate that noise, distractions, common areas, and device restrictions can drive students to muted and passive attendance, i.e., the lesson might go on, but the engagement will be weak and slow. The same trend was observed by Aguilera-Hermida (2020), who experienced a lot of stress during the abrupt transition and associated camera hesitation with reduced engagement and isolation. This reading reinforces your point since it re-contextualizes the problem: less online interaction is not necessarily a personal failure but a structural consequence of learning circumstances.

These domestic limitations also contribute to the explanation of why online learning can replicate-and even enhance-educational inequality. When students do not have equal access to quiet space, privacy, consistent electricity, and personal devices, then the same online class will be a different educational experience in different households. This helps to frame more broadly that online learning in Bangladesh is conditioned by the realities of digital divide, whereby participation is determined by material and domestic resources and not just ability. Islam et al. (2022) also mentioned that online study is not even and stressful because many rural students do not have their own rooms, proper lighting, and stable devices.

In academic performance, the implication is not that online learning necessarily reduces performance of all students; instead, performance is likely to be more uneven due to more uneven learning conditions. The distance between attendance and learning is further increased when students often miss components of live explanation, are reluctant to talk, or use post-class catching up. In that regard, the home environment is a hidden variable that influences the learning outcomes indirectly, by decreasing the immediacy, weakening the participation, and interrupting the attention, but not by the content difficulty itself.

Lastly, this observation contributes to the online vs. face-to-face comparison with an additional critical point: the home environment is not merely a distraction. It alters what can be taught in practice in the present moment, and it transfers the responsibility of learning to work to individuals. This implies that in assessing the effectiveness of online learning, universities must consider the learning conditions of students (space, privacy, access to devices) as a component of the learning design, rather than as an extraneous problem outside of education.

The Role of Technological and Infrastructural Barriers in Learning Continuity

One of the key implications of the results is that online learning in the context of the Bangladeshi university is frequently perceived as discontinuous learning, as opposed to continuous learning. In the case when the stability of electricity and the internet cannot be guaranteed, attending a class is exposed to unexpected disruptions that interrupt the flow of attention and comprehension. The same trend was observed by Rajab et al. (2020): unstable networks introduce information gaps and stress, which reduces performance. These findings are consistent with Islam et al. (2022): low broadband and expensive mobile data prevented many people to attend regularly. This is reminiscent of Aristovnik et al. (2020): the digital divide is not only related to access but also quality and reliability. This directly answers key challenges of

online learning and contributes to the explanation of the differences in learning outcomes and perceived academic performance.

The disruption itself is not the most important, but the cost of restart caused by outages. Participants explained that rejoining is not instant: they have to spend time rebooting routers, re-logging in, and finding out where the teacher has gotten to, as the lesson goes on without them. This is cognitively consistent with cognitive load theory: working memory is constrained, and distractions increase the load. This has a learning implication: even brief disconnections can leave gaps in notes and reasoning, which students have to fill in after the lesson instead of constructing during the live explanation. In the long run, such recurring gaps may undermine understanding and trust, which is a significant channel through which infrastructural instability can influence learning outcomes and academic performance perceptions.

Engagement and participation are also redefined by this instability. Students who expect to be disconnected might plan their attention on how to remain connected rather than participate in the lesson. The results demonstrate how the fear of power/internet interruptions can cause students to lower the quality of videos, communicate more cautiously, and remain obsessed with the possibility of the connection to fail-behaviors that are logical in unstable situations but diminish engagement and spontaneity in classroom conversations. In this respect, reduced engagement online cannot be merely viewed as a lack of motivation; it can be explained as a structural effect of learning in the environment where continuity is not guaranteed.

In general, the most important implication is that technological infrastructure is not a background factor, it is a component of the learning environment itself. Students do not simply lose minutes without stable power and internet, but the flow that facilitates understanding, posing questions, and getting clarification in real-time, making learning more of a start-stop experience

than a continuous one. Coman et al. (2020) discovered that many educators did not have training and tools on online platforms. This is one reason why online learning might not seem effective in the present circumstances in Bangladesh without necessarily stating that online learning is inferior.

Online Assessment, Fairness, and Academic Pressure

One of the key implications of the results is that online assessment presents new sources of academic pressure that are not related to subject knowledge, which casts doubt on both validity and fairness. The participants reported online exams as a scenario in which performance might be contingent on the ability to control the platform (timer, uploads, device stability) as much as the questions, i.e. the results of the assessment can be partially due to technical factors and not learning. Such technological challenges may pervert the intent of assessment and make it a contest of technical fortune instead of knowledge. (Rajab et al., 2020). This directly answers challenges of online learning and supports how online learning influences academic performance, since in this context, performance is influenced by factors other than academic ability.

A significant interpretation is that tight timers and interface requirements impose some kind of process pressure that squeezes thinking time and dishearten careful planning. Students said that even open-book exams seem confined by reading and writing on the same screen as the clock runs, as scrolling, referencing, and formatting become time penalties. The implication is that the design of online exams can inadvertently penalize normal academic activities (e.g., reading, outlining, revising) and encourage students to give shorter, safer answers-response style changes that can lower the quality of academic work even when students know the material.

The second implication is related to proctoring and monitoring features, which may cause anxiety and loss of focus in the middle of the answer. The participants observed that pop-ups, tab warnings, and re-logins interrupt the flow of thought, and students have to reconstruct arguments afresh. This is in line with results that online platforms, devoid of the comfort of physical oversight, impose psychological stress that is detrimental to performance. (Aguilera-Hermida, 2020). Equity-wise, this also puts unequal conditions: students who have superior devices, cooler laptops, faster typing speed, and fewer glitches have fewer disruptions and thus have a practical advantage even when the level of knowledge is equal.

The issues of fairness are even more acute when it is necessary to scan and upload the assessment, use strict file names, and wait until the confirmation screens appear. Students reported several ‘micro-steps’ such as scanning quality, compression, strict naming formats, re-uploading that waste time and expose students to the risk of losing marks because of procedural errors, as opposed to academic weakness. This implies that online assessment can create what is practically administrative failure risk, in which students can be punished on submission mechanics rather than learning outcomes.

These results lead to a definite practical conclusion: in case online or blended learning persists, assessment systems must be considered as educational equity by the institutions. The proposed protective measures by the participants, including broader exam periods and other submission options, indicate the necessity to decrease the degree to which grades are conditional on optimal home connectivity and flawless platform functionality. That is, assessment must be structured in such a way that it reduces platform-based stress and platform-based barriers that are construct-irrelevant, in order to make academic performance more representative of what students know and can do.

Motivation, Study Routine, and Learning Discipline

One of the most important implications of the results is that motivation is not a personal characteristic only--it is created by structure. Participants repeatedly explained that campus life offers fixed cues (time, place, movement, shared expectations) that make it unnecessary to always push oneself to study. This is appropriate to Self-Determination Theory (Deci and Ryan, 1985): motivation is greater when you believe you are able, related, and have a choice. That is, learning discipline is facilitated when routines bear some of the motivational load. This directly responds to how engagement, participation, and motivation differ since it demonstrates that motivation is not only different based on student effort, but also based on the structure of the learning environment.

A helpful way to understand this is that campus routines serve as a behavioral scaffold: when the time of day, seat arrangement, and the pace of the classroom are consistent, students use less mental energy to negotiate with themselves and can devote more energy to the academic task (reading, writing, asking questions). This, according to participants, was a mental switch to study mode, which was activated by place-based cues such as coming to campus and entering the classroom. Online study is more difficult because of weak time-management skills, as Broadbent and Poon (2015) observe. The most important implication of this is that motivation is less willpower-dependent and more environment-dependent, i.e. online learning is more difficult when students lose these environmental cues and have to create structure on their own daily.

The results also indicate that transitions and segmentation are also helpful in motivation, rather than classroom time itself. Short movement- commuting or walking between rooms- was reported to be a mental re-set that re-energizes the attention and enables students to get better focused on the next learning activity. Campus environments are also motivating: the commute,

brief breaks, and brief conversations serve as mental switches that get you ready to study (Trowler, 2010). This is important to engagement since it suggests that the ability to maintain attention over several sessions is facilitated by small break points that separate the day into manageable portions, as opposed to a single, blurred schedule at home.

The third implication is related to the use of study spaces to maintain learning discipline. Students reported that the library is a place that makes the process of speeding up and improving quality by minimizing distraction and making focus socially normal. They also contrasted home study with library study in terms of efficiency (e.g. fewer distractions, less tab switching, faster revision), implying that the same student can work differently in different environments. This adds to academic performance in the sense that perceived performance differences can be partly attributed to differences in study conditions and routine stability, and not necessarily to teaching quality.

Lastly, participants stressed the motivational importance of closure-the feeling that there is a definite end to a campus day that helps in recovery and planning, which minimizes stress and maintains effort consistency across days. It means that online learning may inadvertently transform the academic day into an always-on condition (no definite end), which makes motivation changeable and causes fatigue. That is similar to Martin and Bolliger (2018): online interaction fails unless educators create community intentionally. A lot of students rely on teacher instructions and well-organized systems; the abrupt transition to online learning required self-direction that most of them were unprepared to (Khan et al., 2021). This is one of the reasons why certain students found motivation to be more consistent in a face-to-face environment, without asserting that online learning is necessarily inferior.

Teacher Feedback, Communication, and Learning Effectiveness

One of the implications of the findings is that the difference that students described is not merely between more feedback and less feedback, but between more usable feedback and less usable feedback. Face-to-face feedback is more likely to come when the problem is still alive (during an explanation, right after a task, or immediately after a class), and thus students can more easily transform correction into improvement. It was said that teachers immediately noticed confusion and corrected it immediately - such real-time, contingent feedback facilitates learning when the idea is still fresh (Martin et al., 2020). Both your participants and your current draft of the discussion indicate that the characteristics that make feedback effective are immediacy, tone, and real-time adjustment.

This is directly relevant to learning outcomes and perceived academic performance since formative feedback influences learning by iteration: students revise, repeat, and correct their misconceptions before they become fixed. In case of delayed or detached feedback, students can still be graded, but the learning loop becomes weaker, i.e. performance can become less related to guidance and improvement. The statements of students in the coding sample demonstrate this difference: they talk about teachers being more detailed in person and online feedback being reduced to a marks sheet or document without any explanatory conversation.

Engagement, participation, motivation is also addressed by the findings. It is not just an informational problem (what did I do wrong?), but also a relational one (does the teacher notice me; can I approach them?). This distance undermines motivation and reflects the results that online arrangements tend to lack the social and emotional aspect of teacher support (Coman et al., 2020). Students mentioned online written comments may be cold or misunderstood due to the lack of non-verbal communication and conversational repair (explaining the tone, making a

correction softer, ensuring that the message is understood). Body language is important, as well: in a classroom, intonation, movements, and eye contact can make students interpret a correction as either positive or negative, and allow instructors to make changes on the spot (Garrison and Kanuka, 2004). This is one of the reasons why online communication may decrease the desire of students to ask follow-up questions: it is not necessarily shyness, but a logical reaction to the uncertainty about the tone, hierarchy, and the possibility of messaging a teacher as an intrusion. Online, many students were afraid to message teachers, fearing it would seem intrusive, so confusion persisted (Trowler, 2010).

Another implication in the Bangladeshi context is that feedback is frequently received as a component of a larger mentorship relationship, not necessarily as task evaluation. When students perceive the relationship to be formal and remote over the internet, they can take feedback as a list of errors instead of something they can do with- an interpretation. This confirms the notion that the concept of social presence is central online--students must believe that there is a real person behind the screen (Martin and Bolliger, 2018). This is significant as it re-contextualizes the problem of online feedback as a design and communication problem (social presence, approachability, follow-up access), and not as an assertion that online learning is ineffective.

Implications of the Study

This paper demonstrates that good learning requires more than tools and internet. It relies on the presence of teachers, immediate feedback, face-to-face interaction, and community. Without these human elements, interaction and motivation, online learning can be flexible. Therefore, the lessons are important to classroom instruction, university policy, and national planning.

Implications for Educational Practice

Teachers are not only teachers but they are inspirers, guides and supporters of students. Discussions, group activities, and brief and clear feedback should be incorporated in both classroom and online lessons. Voice messages or short videos can be used by teachers in online classes to make the lessons personal and engaging. The teachers are to be trained on digital teaching regularly, how to facilitate discussions, engage the quieter students, and keep the students motivated online. It is highly important to develop good digital teaching skills.

Implications for Institutional Policy

Universities require explicit, inclusive digital strategies. Invest in reliable internet in campus, backup power and low bandwidth platforms. Rethink assessment: abandon high-pressure online tests in favor of projects, open-book tests, reflections, and short oral tests. Encourage hybrid models, which combine online flexibility with regular in-person sessions to safeguard engagement and integrity.

Implications for Educational Equity and Social Inclusion

Online education in Bangladesh now creates disparities. Learners with low income or rural backgrounds do not have consistent access to the internet, privacy, or personal computers. Sim companies and government should increase broadband and provide student data packages. Gender disparities also need to be tackled since in certain households, women are restricted in the use of technology. Take awareness programs and scholarships to ensure that every student is able to participate and remain involved.

Implications for Curriculum and Program Design

Do not simply transfer lectures to the Internet - redesign courses to be interactive and student-centered. Integrate the adaptability of online education with real-world activities and

discussions to ensure that students are motivated. Regular practice should be done using discussion forums, shared slides or videos, and short self-check quizzes. Add fundamental training in digital skills and self-management, including time management, note-taking, and online communication. Not all students have these skills, and that is why they find it difficult, not due to the subject matter, but because they are not taught these skills; by teaching them, technology becomes an aid and not a hindrance.

Implications for Educational Policy in Bangladesh

Bangladesh requires a single transparent digital education strategy that links internet access, training of teachers, and accessibility to all students. The government policies must favor the enhancement of internet in the rural regions, cheap data, and facilities in the universities. The teachers should be among the priorities to be trained to be able to teach online in an effective and caring manner. Education in the future must be based on a hybrid model, which is a combination of classroom and online education. This will enhance access, sustain interaction and quality, and assist education to persist in case of emergencies. In general, the policies must make sure that technology can be used to enhance human connection, and therefore, digital innovation can reinforce teaching and learning, but not substitute them.

Chapter 6: Conclusion

This chapter summarizes the main findings of the research and contemplates what they imply to higher education in Bangladesh. It provides a summary of the key findings, practical recommendations, and limitations and future research directions of the study. The chapter concludes with some final words on how online and face-to-face learning can most effectively be used to complement one another in a shifting educational environment.

Summary of The Thesis

This research question was whether online education can be as good as face-to-face education in the universities of Bangladesh. It compared engagement, motivation, satisfaction, and performance in both modes, with a qualitative design. Thematic analysis revealed six themes, namely, (1) engagement and focus, (2) the home environment, (3) infrastructure, (4) assessment fairness, (5) motivation and discipline, and (6) teacher feedback and communication.

Results indicate that face-to-face learning remains more effective in deep learning, attention, and interaction. The physical classrooms provide order and belonging. Instructors are able to provide immediate feedback, interpret body language, and make changes on the fly-things that online tools have yet to master.

Online education is convenient and accessible. Students are able to attend at home and make their own schedules. However, poor internet, lack of devices, and lack of emotional attachment usually overshadowed the advantages. This is in line with previous studies (e.g., Coman et al., 2020; Islam et al., 2022) that have found that in developing countries, the quality of online learning is lower due to poor infrastructure and unequal access.

Online learning is a potential; however, it is not a comparable alternative in Bangladesh. An online flexibility with a physical structure and human interaction seems to be the most effective hybrid model.

Recommendations

To ensure quality and fairness in online and blended learning, I would like to make the following recommendations:

- Teachers should be trained in practical digital pedagogy and student support skills including interactive tools, clear online communication, feedback practices since effective online teaching depends heavily on how teaching and communication are adapted to the online environment.
- Online classes should be designed and redesigned to be interaction based (not just moving lectures online) ensuring structured participation and student-centered tasks, because student presence and engagement often drops when sessions are one-way.
- Hybrid models can be promoted. Institutions can combine online classes with periodic in-person sessions to enable engagement and integrity.
- Stakeholders should take steps to make online assessment fairer and less platform-dependent and by simplifying submission steps, allowing small buffers/grace, and keeping a backup submission route during disruptions, because online exams feel like a “fight with the system” for many students.

Limitations of the Study

As with all other research, this research has its limitations. To begin with, the sample was limited (ten students) and was carried out in primarily private universities. They have more access to devices and campus services than many rural students. A bigger and more diverse

sample in the future should be used to represent the entire situation in Bangladesh, including public universities, regions (urban/rural), and income groups.

Second, the study relied on self-reported interviews. Memories can fade and people may present themselves in a favorable light. Adding other data—class observations, attendance records, sample assignments, and brief surveys—would help cross-check what students say with what they do.

Third, only students were interviewed. Teachers, TAs, IT staff, and administrators face different pressures that shape online and hybrid learning (e.g., platform setup, assessment policies, support hours). Including these voices would reveal system-level barriers and practical fixes that students do not see directly.

Scope for Future Research

My study has multiple scopes for further research. Research could be conducted on larger and more diverse samples from public and private, urban and rural campuses, including teachers, TAs, IT staff, and administrators. Future studies could also track the same students over several terms to examine what aspects of online, face-to-face, and hybrid learning persist, and to evaluate fairness across gender, income, and location. Future research could examine which types of student support—such as low-data feedback options, flexible submission mechanisms, or varied assessment formats—are most effective in improving engagement, learning performance, and equity, and whether brief training in digital skills and self-management enhances these outcomes.

Concluding Remarks

This study shows that strong learning depends on human factors—teacher presence, quick feedback, routine, and community—alongside technology. Internet, power, and home

study space shortage in Bangladesh lower the quality of online learning, whereas classrooms offer common conditions that facilitate attention, fairness, and confidence. Institutions ought to enhance digital systems and student support, educate teachers adequately, simplify learning activities and make them more helpful. The evidence indicates a moderate solution that involves both online and face-to-face learning. Access should be enhanced with online tools and in-person sessions should be aimed at interaction, clarification, and motivation. These measures can be used to improve and enhance higher education in Bangladesh.

References

- Aguilera-Hermida, A. P. (2020). College students' use and acceptance of emergency online learning due to COVID-19. *International Journal of Educational Research Open*, 1, 100011. <https://doi.org/10.1016/j.ijedro.2020.100011>
- Allen, I. E., & Seaman, J. (2017). *Digital Learning Compass: Distance Education Enrollment Report 2017*. Babson Survey Research Group.
- Altbach, P. G., Reisberg, L., & de Wit, H. (2019). *Trends in global higher education: Tracking an academic revolution*. UNESCO Publishing.
- Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustainability*, 12(20), 8438. <https://doi.org/10.3390/su12208438>
- Bernard, R. M., Abrami, P. C., Borokhovski, E., Wade, A., Tamim, R., Surkes, M., & Bethel, E. (2004). How does distance education compare with classroom instruction? A meta-analysis. *Review of Educational Research*, 74(3), 379–439. <https://doi.org/10.3102/00346543074003379>
- Coman, C., Tiru, L. G., Meseșan-Schmitz, L., Stanciu, C., & Bularca, M. C. (2020). Online teaching and learning in higher education during the coronavirus pandemic: Students' perspective. *Sustainability*, 12(24), 10367. <https://doi.org/10.3390/su122410367>
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behavior*. New York: Plenum Press. <http://dx.doi.org/10.1007/978-1-4899-2271-7>

- Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *Internet and Higher Education*, 7(2), 95–105.
<https://doi.org/10.1016/j.iheduc.2004.02.001>
- Hasan, M. (2025, January 1). *Internet shows stark rural-urban divide*. The Daily Star.
<https://www.thedailystar.net/business/news/internet-shows-stark-rural-urban-divide-3789861>
- Hossain, I. (2020, May 2). *Covid-19: Educational institutions engaging in online, virtual classes*. Dhaka Tribune.
<https://www.dhakatribune.com/bangladesh/education/208637/covid-19-educational-institutions-engaging-in>
- Islam, M. T., Sarker, M. S. I., & Islam, S. M. D. (2022). Digital divide in education sector of Bangladesh during COVID-19. *ResearchGate*.
<https://www.researchgate.net/publication/371541326>
- Khan, M. M., Rahman, S. M. T., & Islam, S. T. A. (2021). Online education system in Bangladesh during COVID-19 pandemic. *Creative Education*, 12(2), 441–452.
<https://doi.org/10.4236/ce.2021.122031>
- Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning*, 22(1), 205–222. <https://doi.org/10.24059/olj.v22i1.1092>
- Martin, F., Sun, T., & Westine, C. D. (2020). A systematic review of research on online teaching and learning from 2009 to 2018. *Computers & Education*, 159, 104009.
<https://doi.org/10.1016/j.compedu.2020.104009>
- Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2010). *Evaluation of evidence-based*

- practices in online learning: A meta-analysis and review of online learning studies*. U.S. Department of Education.
- Pokhrel, S., & Chhetri, R. (2021). A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning. *Higher Education for the Future*, 8(1), 133–141.
<https://doi.org/10.1177/2347631120983481>
- Raes, A., Detienne, L., Windey, I., & Depaepe, F. (2022). Exploring Student and Teacher Experiences in Hybrid Learning Environments: Does Presence Matter? *Education and Information Technologies*, 27(2), 2267–2288.
<https://doi.org/10.1007/s10639-021-10706-w>
- Rahman, M., Aziz, M., & Ahmed, S. O. (2020). *COVID-19 boosts digitization of higher education in Bangladesh*. World Bank Blogs.
<https://blogs.worldbank.org/en/endpovertyinsouthasia/covid-19-boosts-digitization-higher-education-bangladesh>
- Rahman, M. M., Ferdous, W., & Ahmed, S. (2021). Medical education during the COVID-19 pandemic: Bangladesh students' perspective. *Journal of Medical Education and Curricular Development*, 8, 23821205211029913.
<https://doi.org/10.1177/23821205211029913>
- Rajab, M. H., Gazal, A. M., & Alkattan, K. (2020). Challenges to online medical education during the COVID-19 pandemic. *Cureus*, 12(7), e8966.
<https://doi.org/10.7759/cureus.8966>
- Saboowala, R., & Manghirmalani-Mishra, S. (2020). E-readiness of Senior Secondary School Learners to Online Learning Transition amid COVID-19 Lockdown. *Journal of Educational Technology Systems*, 49(1), 3–17.

<https://doi.org/10.1177/0047239520934012>

Sarker, R., Akter, F., & Hossain, M. I. (2022). Perceptions and challenges of online learning among university students during COVID-19 pandemic in Bangladesh. *Asian Journal of Education and Social Studies*, 29(3), 26–40.

<https://doi.org/10.9734/ajess/2022/v29i330695>

Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research*, 75(3), 417–453.

<https://doi.org/10.3102/00346543075003417>

Tadesse, S., & Muluye, W. (2020). The impact of COVID-19 pandemic on education system in developing countries: A review. *Open Journal of Social Sciences*, 8(10), 159–170.

<https://doi.org/10.4236/jss.2020.810011>

Trowler, V. (2010). *Student Engagement Literature Review*. The Higher Education Academy.

<https://www.advance-he.ac.uk/knowledge-hub/student-engagement-literature-review>.

Appendices

Appendix A

Information Sheet for Participants

Study Title: Investigating Online vs. Face-to-Face Learning: A Comparative Study of Student Experiences in Bangladesh

Principal Investigator: Kazi Iftekhar Hossain

Institution: Brac University

Department: English and Humanities

Contact Information: Kazi.iftexhar.hossain@g.bracu.ac.bd

The primary objective of the study is to learn the impact of online and face-to-face learning on students in Bangladesh. It dwells on the effect of these two approaches on student engagement, motivation, and the overall performance. The paper will demonstrate the advantages and limitations of both learning methods. Through the comparison, it will be able to determine significant aspects that can be used to enhance teaching and learning strategies, particularly in developing nations such as Bangladesh.

In case you decide to take part in this study, you will be engaged in a semi-structured interview. The interview will provide you with a chance to think over and talk about your personal experiences of online and face-to-face learning. In these interviews, you will be asked to express your ideas about the difficulties you faced and how you experienced each type of learning, especially in the COVID-19 pandemic when the educational systems shifted dramatically. Also, you will be requested to fill in a brief survey prior to the first interview to determine your initial impressions and perceptions of online learning, which will help to determine your starting point in terms of the study.

Your involvement in this study is purely voluntary, i.e. you are free to choose whether to participate or not. You can withdraw at any point in time, and you will not be subjected to any punishment or adverse effects of the study. You are free to make your choice without fear or hesitation.

Although the risks of taking part in this study are low, it is necessary to note that some of the issues raised in the course of the interviews may cause you to feel uncomfortable or awkward. In case any of the questions cause you to feel so, you may skip those questions or even terminate the interview without any consequences. Conversely, the advantages of taking part in this study are high. The results will be helpful in terms of the way online education can be better designed and implemented, particularly in such countries as Bangladesh. At the personal level, you can also find it useful to reflect on your learning experiences, which might enable you to understand how you interact with various learning approaches better. It should be noted, though, that no monetary rewards or incentives are offered to participate in this study.

The most importance in this study is given to your privacy and confidentiality. Any personal information that you give will remain confidential. In order to protect your identity, any records, reports or publications that may arise out of this research will use pseudonyms rather than your real name. Also, all data gathered such as audio recordings, interview transcripts, and survey responses will be stored safely and only the research team will access them. No personal or identifying data will be ever disclosed in any of the reports of the study, and your participation will be anonymous.

By accepting to take part in this research, you are affirming that you have read and comprehended the contents of this document. Any information gathered in the course of the study will be kept in a safe place and will only be analyzed in the context of this study. In case you have any questions or concerns regarding the study at any stage, then you may not hesitate to contact me at Kazi.iftekhar.hossain@g.bracu.ac.bd and I will be glad to respond to them.

Participant's Name: _____

Participant's Signature: _____

Date: _____

Appendix B

Informed Consent Form

Title of Research: Online versus Face-to-Face Learning: Do Virtual classes Offer the Same Learning Benefits?

Principal Investigator: Kazi Iftekhar Hossain

Information and Purpose: The interview you are taking part in is to become a part of a research that will investigate the experiences of university students and teachers with online and face-to-face learning during the COVID-19 pandemic in Bangladesh. The research is aimed at comprehending the issues of students and teachers, the effects on student engagement and satisfaction, and the effects of these learning approaches on academic performance.

Your Involvement: Your involvement in this study will entail an interview in which you will be questioned on your experiences with online and face to face learning. The questions will be based on the challenges you encountered, your involvement, and your satisfaction with the two learning approaches. The study is completely voluntary and you can pull out of the study at any time without any penalty.

Confidentiality: The interview will be taped to be used in the research, but any personal data will be deleted in the process of transcription and analysis. The researcher will ensure that all the data is safely kept and will not disclose your responses to any other person other than the research supervisor. All the recordings and transcriptions will be confidential.

The researcher can be contacted in case you have any questions or concerns regarding the interview.

I agree to take part in this interview and give the researcher the right to use the data gathered in the study by signing below. I realize that my interview will be recorded, and I can end my participation at any moment without any repercussions.

Participant's Signature: _____

Email: _____

Date: _____

Researcher's Signature: _____

Date: _____

Appendix C

Interview Questions

1. Can you please tell me about yourself (your background, educational qualification etc.)?
2. Do you have any experience of attending online classes? Can you describe your overall experience with both online and face-to-face classes? How were they different for you?
3. Which learning method—online or face-to-face—helped you feel more engaged in class activities, and why?
4. How did your motivation to study change between online and face-to-face classes?
5. What are the main challenges you faced during online learning?
6. Are there any challenges you faced during face-to-face classes? If so, how did they affect your studies?
7. How is your academic performance (grades or understanding of lessons) compare to online learning?
8. How satisfied are you with the feedback and support you received from teachers in online classes compared to in person classes?
9. How is your rapport with teachers and classmates during online classes compared to in-person classes?
10. What kind of difficulties you faced during online exams or assessments?
11. How are your mental and emotional health affected differently by online and face-to-face learning?
12. Did you receive any training on how to use digital platforms or be effective online learners? Please share your experience.
13. How do you think online classes can be more effective for all students in Bangladesh?

Appendix D
Coding Sample

Participant	Data Excerpt	Codes	Themes
Adity	“In online classes I cannot keep my focus most of the time. For me, after about 45 minutes my attention starts to slip; in online classes, it’s hard to stay focused even for the first 10 minutes.”	Difficulty maintaining attention; lack of focus at home	Engagement Challenges
Adity	“In face-to-face class I get an academic environment... I have to look at the teacher and listen.”	Academic environment; physical presence increases discipline	Learning Environment and Focus
Adity	“In face-to-face classes my motivation to focus works better... that praise helps my motivation more in face-to-face than online.”	Teacher recognition; classroom motivation	Motivation and Encouragement
Adity	“At home there isn’t always privacy—family members may suddenly enter the room... then my attention leaves the class.”	Distractions at home; lack of privacy	External Factors Affecting Learning

Adity	“Another big challenge is the internet connection... the connection drops during an important part.”	Unstable internet; technical difficulties	Technical Barriers
Adity	“In face-to-face classes I don’t face many challenges because... I sit on the first bench and try to listen.”	Active participation; self-discipline	Positive Classroom Habits
Adity	“When BRAC shifted to the permanent campus... all exams and classes were online... my overall grade was not satisfying.”	Lower performance in online exams; lack of focus	Academic Performance Comparison
Adity	“Teachers prefer to talk in person and in more detail... they try to find where the problem is.”	Detailed feedback in person; teacher support	Teacher Feedback and Support
Adity	“Online... they just share a PDF with marks. We don’t really get feedback like we do face to face.”	Lack of constructive feedback; impersonal grading	Limitations of Online Feedback

Adity	“In online class... I can’t really get to know classmates. In person... a small conversation starts.”	Lack of peer interaction; social isolation	Rapport and Social Connection
Adity	“Typing during online exams was really difficult... I couldn’t finish writing in time.”	Time pressure; lack of typing skill	Assessment Difficulties Online
Adity	“At home... background noise made it hard to focus during exams... my thoughts would stop.”	Environmental noise; disrupted concentration	Home Environment Challenges
Adity	“Online, most of the time before the exam I felt heavy pressure... my mental health got worse.”	Anxiety and stress; poor preparation	Mental and Emotional Health
Adity	“In face-to-face, I can stay cheerful and handle things with confidence—something I couldn’t do online.”	Confidence; emotional well-being	Positive Emotional Impact of In-Person Learning
Adity	“I slowly learned about online tools like breakout rooms... everything else I learned by doing.”	Learning digital tools; adaptation	Digital Literacy Development

Adity	“Online learning needs to be a bit more intense... teachers should involve everyone in discussion.”	Need for engagement strategies; inclusive participation	Suggestions for Improvement
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