Online Education Trajectory during the COVID-19 Pandemic Among the Bangladeshi Adolescent Children

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Abstract

Bangladesh adopted both cutting-edge technology and the pandemic almost simultaneously. Because of this, the government and other groups were able to respond quickly to the evolving situation. Although many sectors, including education, went through a difficult adjustment, the process of adapting was relatively swift. There was an attempt to implement the "New Normal". Teachers and educational institutions modified their methods of instruction. But because of a shortage of resources, it wasn't always advantageous for the students. It may be possible to reduce the vulnerabilities of the online learning that started during the pandemic through strategic ways, including introducing a new policy for a defined amount of time and involving community members. The cooperation of multiple stakeholders will make it easier to identify any potential flaws and difficulties in Bangladesh's online education system. Community members can make sure to be present in every aspect of the online and offline classes, including serving as a channel for parent-teacher communication, keeping up with local administration, and organizing volunteer and social awareness campaigns.

Introduction

As the age of information technology is already here, Bangladesh is also encountering a wave of advanced technologies. Transcending many stages of social development and civilization, we have arrived at a point where people are crossing borders and joining the global community. Information technology has become such a criterion that a country's only option to be acknowledged as a 'Developed' state is to keep up with the information technology competition. Currently, in Bangladesh, information technology is one of the most commonly used terms. Information technologies such as the internet, smartphones, computers, and a variety of other related technologies are being introduced in the context of 'Digital Education' and the use of various forms of information technology is rising at a rapid rate across the country. With the impact of increasing digitalization on people's lives and societies, there are more conversations and academic debates about how learning and teaching practices are being changed (Blessinger and Bliss, 2016). This has an impact on regular people's lives and cultures.

Information technology is not a new topic in our country, and it has sparked people's interest. Despite the lack of accurate statistics on the use of various IT products in Bangladesh, it is not difficult to infer that the country's young population is more inclined towards IT. The United Nations defines youth as people aged 15 to 24, and all UN statistics are based on this age range (United Nations, 2009). Smartphones and other types of electronic gadgets are now commonly seen in the hands of young people. Electronic devices offer young and adolescent children the feeling of holding the entire world in their hands, and the devices are present throughout their lifestyles and thoughts. It provides them with self-assurance, entertainment, and the flexibility to spend their time as they like.
In late December 2019, a pathogenic disease caused by Coronavirus was discovered for the first time in the human body in Wuhan, China's Hubei province. It was labeled as a public health emergency of global concern at the end of January 2020, and the World Health Organization classified it as a pandemic on March 11, 2020. COVID-19 impacted 213 countries and areas around the world. The Institute of Epidemiology, Disease Control and Research in Bangladesh identified the first 3 cases on March 8, 2020. Bangladesh's Prime Minister, Sheikh Hasina, announced on April 27, 2020, that if the pandemic situation does not improve, all educational institutions may be closed till September. 60% of people had not heard from schools about how learning would continue until June 2020, and 38% of parents thought there would not be the continuation of education. The dropout rate in Bangladeshi high schools was 19.60% after the lockdown due to the pandemic, according to the Bangladesh Bureau of Educational Information and Statistics (BANBEIS).

Bangladeshi people embraced both the advanced technologies and the pandemic nearly at the same time. As a result, the government and other organizations could react promptly to the changing circumstances. Though many sectors, including education, experienced a turbulent transition, it was relatively quick adaptation. The 'New Normal' was attempted to be adopted. Educators and educational institutions changed their teaching approaches. However, due to a lack of resources, it was not always beneficial to the learners. One of the main focuses of this research is on how the use of electronic devices and technological tools in Bangladesh's educational system has evolved in the COVID-19 scenario. Additionally, how language, relationships, expressions, personality, psychology and social interaction are influenced by online education. The dissemination of knowledge has fundamentally changed in the digital age, prompting adjustments in education procedures. I tried to focus on the impact and outcome of EdTech companies in Bangladesh and the planning and execution of the authorities to cope with the post-pandemic situation as well. The research materials and questions have been set and pursued with these in mind.

I tried to adjust my study according to the changes in the education system while documenting those as well. Education is considered as a social resource that requires collaboration and sharing. We cannot fully expect to teach today's students using yesterday's methods in order to prepare them for a future that we do not yet completely understand. By offering inclusive and equal learning opportunities and encouraging lifelong learning in a rising number of people, education and the learning environment play an important role in changing lives and acquiring skills. To reveal the quality of the programs that students participate in, online education techniques can be represented along with its organizational and pedagogical attributes.
1.2 Research Topic

Electronic devices[5] (cell phones, computers) are currently the most frequently used and discussed technologies. These elements have expanded the usage of the internet, which has evolved into an easy medium of entertainment, with dramas, movies, songs, books, and social media all becoming part of the package. As a result, the youth of today reacts enthusiastically to these technologies. Electronic devices are now used by children also. Their life is closely affiliated to these. They use their electronic devices for practically almost everything in their lives. Before the pandemic, Bangladeshi students were not so familiar with having education through technological devices. However, it had become one of the primary means of education during the pandemic. In my study, I wanted to understand how the usage of electronic devices evolved from being used for entertainment to being adopted for education.

For my research, I have selected 14 to 17 year old children as adolescent children who were the primary target of the government of Bangladesh to educate digitally[6] during the pandemic. It is important to comprehend how society, culture, ideology, principles, and ethics have been affected and transformed by digital gadget use in education during the pandemic. I determined my research topic to be "Online education trajectory during the COVID-19 pandemic among the Bangladeshi adolescent children" to examine relevant factors and their impacts.

Not only children, but also parents are important stakeholder of this study. Parents are compelled to purchase electronic devices for their children, including cellphones, due to the child's whims and social security in the context of several uncertainties. Adolescent children's physical and mental health is impacted by these digital devices in a variety of ways. But, I attempted to determine if the social relationships and communication patterns of adolescent children have altered during the pandemic and whether or not these changes are related to education methods.

My study analyzed the impact on children's relationships, friendships, and social interactions as a result of the pandemic and other significant aspects. I tried to explore how with the ease of digital devices[7], the access to online educators from across the country has affected linguistically distinct patterns of accent in adolescent students, as well as the consequent outcomes.

1.3 Terms Used in Research
In various segments of the research report, I have used terms like ‘Online Education’, ‘Adolescent Children’, ‘Electronic Devices’, Digital Devices, ‘Smartphone’, ‘Zoom’, ‘Google Meet’, ‘EdTech’ etc. Here is a brief overview of the context in which I used these suffixes.

i. Online Education

Online learning can be roughly defined as the use of the internet to facilitate teacher-student interaction in some way. Online delivery comprises both asynchronous[8] and synchronous modes (Curtain, 2002). Online learning is a learning method using the internet/online connected devices in a synchronous, or in an asynchronous classroom where students connect with instructors and other students and are not constrained by their geographical location to participate in this online learning experience (Singh and Thurman, 2019).

ii. EdTech

Educational technology is nothing but the use of technologies that implement educational theories and practices. When the term ‘EdTech’ is used, it usually refers to the industry of companies that create, use and provide educational technology. The K-12[9] segment, higher education, and upskilling segments are fueling this industry’s expansion. Edtech helps to bring technologies to make learning entertaining and engaging. It attempts for an inclusive and personalized experience. Edtech technologies make it easier for teachers to design customized lesson plans and learning experiences that promote inclusion and enhance the learning capacities of all students, regardless of age or ability.

iii. Adolescent

The period between childhood and adulthood is adolescence. Determining the age of puberty is critical. The age of puberty varies from country to country based on the natural and social surroundings. According to the World Health Organization (WHO, 2021), adolescence begins between the ages of 10 and 19, which is the transitional period between childhood and adulthood. Adolescence is the period during which a person makes the transition from childhood to adulthood. The majority of cultures correlate the beginning of adolescence with the age of puberty, whereas the end of adolescence can vary significantly among
cultures. However, the biological or genetic approach to definition disregards crucial social and legal factors. It is difficult to define adolescence in precise universal terms because traditions and practices differ so widely from one culture to another (Paxman and Zuckerman, 1987).

iv. Children

A child is defined as someone under the age of 18 unless the age of majority is reached earlier under the law that applies to the child (Convention on the Rights of the Child Text, 1990). 'Children' is the plural form of 'Child'. The biological, mental, and sentimental changes that occur between birth and the end of the teenage years are referred to as childhood. Persons belonging to this phase are addressed as children. There are three stages of childhood: early childhood, middle childhood, and late childhood (Preadolescence). In my study, I have worked with the participants who belong to 14-17 years old.

v. Electronic Device

The device that controls the movement of electricity in digital electronics, analog electronics, microelectronics, optoelectronics, or integrated circuits to achieve its goal can be considered as an electronic device (Vargas-Bernal, 2019). Electronic devices are elements that regulate the passage of electrical currents to process data and control systems. Electronic devices are typically small and can be integrated into integrated circuits. The contemporary electronics boom is focused on nanotechnology. Cell phones, computers, tablets, etc are electronic devices.

vi. Digital Device

Desktops, laptops, tablets, servers, cell phones, smartphones, and any other similar storage device are examples of digital devices that may produce, transmit, distribute, connect, acquire, save, display or process information. Electronic signals representing a one (On) or a zero (Off) are processed by a digital device. A digital device is a physical device that uses digital data in some way, such as delivering, receiving, storing, or processing it. Digital always refers to direct current or, to put it another way, logic 1 for voltage and logic 0 for no voltage. Electronics can be digital or analog in structure. Analog electronics is a separate field that deals with analog devices such as amplifiers (Yocabet, 2020).
vi. Smartphone

A smartphone is a wireless device that connects to the internet and is used for different sorts of tasks. This is basically a mobile phone and computer integrated into one device. Smartphones were designed to allow people to interact via phone and email. Now it also allows them to access the internet, play games, and send text messages in addition to making phone calls and sending emails. Consumer demand for cell phones without smartphone-based applications, such as messaging apps and gaming, would fall once people realized that they could enjoy more social interaction with them (Frankenfield, 2022).

Mobile apps are downloaded to a smartphone from online stores (Google Playstore/Apple App Store) that is controlled by the firm that produced the smartphone's operating system. Apps are usually free to download, although there may be a charge in some conditions. When an app is opened, the developer may put advertisements in the content or sell things through the app. Outside of operating system development and device hardware production, the popularity of smartphones has produced new economic prospects. Smartphone software applications, or apps, have grown into a multibillion-dollar business (Curry, 2021).

The rise of smartphones has had a severe impact on different sectors, particularly those that create digital cameras. Most smartphones can take pictures that are comparable to those taken with digital cameras, but unlike digital cameras, they can also easily communicate with other smartphone apps and the internet. Some smartphone apps compete with calculators, web browsers, alarm clocks, documents, and notepads, which were once only available on personal computers (Curry, 2021).

Social networks like Meta (FB), previously named Facebook, have benefited greatly from the surge in smartphone adoption. The ability to enter into a social network account from a smartphone has drastically improved network revenue by increasing the amount of hours people spend on the network. Smartphone users' activity has been a driving force in the emergence of social networks that were once controlled by those accessing them through their personal computers. In my study, most of the research participants used smartphones for continuing their education during the pandemic. That's why it was one of the major components that I assessed during my research.

1.4 Apps and Websites Used in Online Education
Multiple software or SAAS[10] become essential components for continuing online education during the pandemic. During the pandemic, my research informants accessed the following websites/software/apps frequently for their learning purposes.

**i. Zoom**

Zoom Video Communications has developed a video-telephony software named ‘Zoom’. The free version supports up to 100 synchronous participants and a 40-minute time limit. Users can upgrade to a paid plan by subscribing to it. The most expensive plan allows for up to 1,000 simultaneous participants for meetings lasting up to 30 hours. Zoom was an early beneficiary of the coronavirus pandemic, which drove people to go online for anything from professional meetings and school lessons to family reunions. Since the COVID-19 virus shut down offices all around the world in mid-March 2020, video chat platforms like Zoom have become a necessity (Skantzos, 2020).

**ii. Google Meet**

Tech giant Google’s one of the services is Google Meet which provides free video conferencing tool for free. According to Google's March 2017 announcement, traditional Hangouts would be evolved to focus on two team-building experiences: Hangouts Chat and Meet. In 2022, Chat and Meet are now available to Gmail users (Looper, 2019). Google Meet accommodates up to 100 participants and incorporates screen sharing and the familiar tiled interface. In an obvious poke at Zoom, which limits free accounts to 40 minutes, Google has removed its 60-minute limit, allowing meetings to go up to 24 hours (Collins, 2020).

**iii. Facebook**

Facebook is a social networking service that was established in 2004 by Mark Zuckerberg, Eduardo Saverin, Justin Muscoviz and Chris Hughes. An individual builds his or her own identity through his or her Facebook profile. As such, s/he is known to everyone in the virtual world. The user can make contact using Facebook chat, update status, post and share photos/videos to express thoughts. People all over the world can view the uploaded content and can express their feelings by reacting and commenting. There are numerous types of groups and pages on Facebook, and also, virtual friends are called 'Facebook friends'. With millions of active users, Facebook is drastically transforming how hundreds of millions of people interact and exchange information and emotions. Facebook is comprised of a set of interconnected profile
pages where individuals can add a variety of information about themselves and link their profiles to the accounts of others. The emphasis on networks, which determine the users' levels of profile exposure, is a crucial organizational component of Facebook (Wilson et al., 2012).

iv. YouTube

YouTube was started in February 2005. Google bought YouTube in 2006. It has a lot of video documents. Anyone with a profile on this site can watch, search, and download (if allowed) videos for free. Anyone can make documentaries and create channels. People from all over the world can watch videos uploaded to YouTube by users from all over the world. Videos can be on any topic: events, news, documentaries, tutorials, music, movies, or drama. However, sensitive children's films on YouTube are restricted to those over 18. But the technique for identifying the user's age is inadequate.

YouTube, the world's most popular video-sharing website, is full of contrasts: professional and amateur performances, high- and low-quality recordings, popular and classical music, and legal and illegal uploads. YouTube appeals to casual viewers because they may instantly see or hear master classes, performances, field recordings, interviews, tutorials, current popular music, etc (Dougan, 2014).

1.5 Research Questions

I started my research with some questions in mind and my objective was to find out the answers at the end of my research by gathering and analyzing data. Though during the research, I was not rigid with my research questions. I was flexible toward the insights of the informants. I noted all the important information of the participants even if those were not included in my research questions. I started my research with the following questions in mind -

1. What do adolescent children, their parents and teachers think about online education?
2. How increased internet usage due to the implementation of online classes has impacted adolescent children?
3. How did the stakeholders embrace the new education technologies?
4. What can be the improvement pointers for online education?
5. Is online education the future?
1.6 Objective of the Research

COVID-19 raised unique challenges for educational institutions, limiting their ability to provide essential services securely. Although digital learning has grown more common as a result of necessity, Bangladeshi students have mixed feelings regarding this. To improve distance learning, Bangladeshi academic institutions had to provide virtual services, which required new ideas and resource reallocation. The pandemic accelerated the trend of online learning all over the world, and Bangladesh is no exception.

Though inadequate, evidence shows that most on-campus students prefer remote learning over face-to-face learning. Academic institutions would certainly adopt digital learning as a need. In reality, colleges and universities are unlikely to choose between 'In person' and 'Online' delivery modes. They will likely need to provide many courses entirely online or online and in-person simultaneously through a HyFlex[11] model to meet the demand for continued demand for online learning (Kelly and Columbus, 2020). I continued my research with the following objectives in mind -

- Assessing the perceptions of Bangladeshi adolescent children, as well as relevant stakeholders, on online education during the COVID-19 pandemic.
- Evaluating the social consequences of closing in-person classes for an extended period in order to maintain social distance and avoid health hazards.
- Examining adolescent students' adaptability to alternate educational mechanisms.
- Considering how the authorities, educators, students, and parents can improve the scenario of online education.
- Studying Bangladesh's surge in EdTech(s)[12] during the pandemic and their plans to move further in a world without COVID-19.

1.7 Justification of the Research

COVID-19 impacted the global education system. To encounter the COVID-19 pandemic, most countries temporarily closed their educational institutions until the outbreak faded, about 40 million students in Bangladesh were out of school during the pandemic (Emon et al., 2020). Apart from this broad disruption, online learning deprivation varied according to the socioeconomic status of the people, their access to technology, parental capabilities, etc. Although people of all generations were affected by the pandemic, I
focused on adolescent children because they were particularly vulnerable in terms of both health and education.

COVID-19, while impacting 1.58 billion children and young students from pre-primary to higher education in 200 countries, caused the largest disruption of education systems in history (UNSDG, 2020). A total of 38.6 million students in Bangladesh are there, with 3.6 million enrolled in pre-primary education, 18 million in primary school, 13 million in secondary education, and 4 million in higher education (BANBEIS, 2021). These students’ academic life was hampered as well. To cope with the situation, more than 90% of countries, including Bangladesh have developed some type of remote learning strategy in response to the unprecedented educational difficulties faced by school closures due to the COVID-19 pandemic. Nevertheless, at least 463 million children around the world were dispossessed of education, due to a deficiency in remote learning policies or the necessary equipment for home learning (UNICEF, 2020).

As people around the world had a scarcity of equipment, this problem could be minimized by shared resources within the communities and households. Community engagement[13] in development initiatives provides a successful and long-term outcome for society. During a pandemic, community members’ participation in education is vital. Students from diverse vulnerable positions would be connected to the education system through community-level initiatives, which could have a positive impact (Noor and Shaoun, 2021). During the pandemic, online education opened up a new horizon of potential for developing and underdeveloped countries around the world, but it also created a new set of challenges (Shearer et al., 2019).

Anthropology has always been intrigued by social and cultural concerns integrating natural or human causation. The COVID-19 pandemic caused widespread disruption around the world, notably in Bangladesh. Researchers didn't miss the opportunity to observe and analyze the pandemic situation and the transitions in different sectors. However, most studies to date have been conducted from a bird's eye view or from the perspective of administrative functions, which represents an overview rather than individual perceptions. Most studies are focused on the pandemic scenario, but I wanted to focus on the other side of the pandemic: how students, parents, and educators adapted to their changed situations and how the educational system in post-pandemic Bangladesh performed.

1.8 Research Period
I began my studies promptly after being assigned with a supervising professor at the beginning of my fourth year of undergraduate. Before settling on a particular study topic, I conducted an initial literature review to see on which grounds I might proceed with a solid grounding. Following a discussion with my research supervisor, I opted to finalize my study topic, as I considered it to be one of the most important pandemic challenges.

Although I initiated my research earlier, my third-year final exams obstructed its progress. After completing my third-year final exams, I devoted myself entirely to this research. Including additional duties and setbacks, it took me around 6 months to come to an end.

1.9 Ethics of Research

A researcher, conducting an anthropological study must become close to the people being researched and provide precise and objective findings, but still, the analysis can be subjective. An anthropologist, more than any other social science discipline, is expected to adhere to the notion of ethics.

The practice of blending personal narrative and objective description is not exclusive to modern ethnography and as well as in anthropology. An anthropologist must assess if the society in which s/he works is developing a response to that social reality or is gaining relevance in order to do study (Clifford and Marcus, 1986). It is essential for a researcher to be unbiased and ethical in order to perform a proper study. Depending on one's point of view, social reality might be distorted. However, a researcher must verify that any shift in viewpoint or findings are properly justified and relevant to the study. It is one's ethical limit that prevents him/her from sharing thoughts and analyses that compromise authenticity and become flexible for sake of the research's success or reaching preset goals in other words.

Conducting social research demands a rigorous level of research ethics. During the research, it's important to make sure that multiple voices are present there (Fischer, 1986). There may be flexible and rigid opinions in a field of research dependent on the socio-economic environment of the research participants. It is the responsibility of a researcher to ensure that everyone has a fair chance to express themselves, not to disregard any insights or findings for personal convenience. In anthropological research, subjectivity must be prioritized. Anthropologists are expected to consider not only the mainstream's viewpoint, but also the voice of the marginalized in order to identify the power dynamics and social factors that contribute to the disparity. It's vital to recognize how the anthropology of subjectivity can be seen as a foundation for cultural critique, allowing us to ask critical questions about the cultural shaping of subjectivities in a world.
marked by massively unequal power relations, as well as the complexities of personal subjectivities. (Ortner, 2005).

In the field of research, there may be various sorts of inter-political relations. For reaching a conclusion or reviewing research findings, both the researcher and the researched community can seek additional clarifications. To perform an appropriate research, researchers must have a comprehensive understanding of a field's politics and power dynamics. Because they can't always be objective and ethically correct while also being politically naive. It is a fundamental ethical obligation while collecting data to offer informants a clear understanding of why they are being interviewed and how their information will be used or inferred to illustrate a bigger picture. They should also be informed about the research's goals and objectives. The goal and scope of a study are to gather information with the consent of the informants. Any form of deception or disguise is strictly prohibited.

4 important research ethics are considered to be part of the ethical structure of all institutional research and those are such as giving importance to the participants, not taking any advantage by deception, maintaining confidentiality, and not manipulating data (Denzin and Lincoln, 2005).

I tried my best to maintain all the research ethics and intentionally didn't violate any of these in my research. I adhered to the following necessary ethics in research.

Firstly, I put an attempt to pay attention to every word spoken by the participants - students, educators, and parents. I've tried to understand them in several ways without being agitated if I don't understand anything they’ve said. Because one of the most important aspects of research ethics is to value the informants' 'knowledge' and perspective. In this situation, I have highlighted the respondents' statements without imposing any sort of opinion on them.

Secondly, I didn't make any false assurance to the participants about how my research would benefit them. By clarifying the study's aim and outcome, I was able to obtain the consent of the informants. I asked them whether they wanted to withdraw any part of their statements or make any changes after their interview.

Thirdly, the important principle of research ethics is to protect confidentiality. If the informant does not want to reveal his/her identity or is reluctant to reveal their name, then confidentiality has to be maintained. I took permission of all the informants before mentioning their name in my study.
Fourthly, By conforming to the premise that no misleading or manufactured information can be published, I avoided data that could cause confusion. As a result, this study meets all of the criteria for ethical approval.

Anthropological researchers should do all feasible things to guarantee that their work does not compromise the safety, dignity, or privacy of those with whom they collaborate, do research or engage in other professional activities (AAA, 1998). I conducted a couple of online surveys as part of my research. In the description, I mentioned the purpose of my study and sought their consent to use their insights for analysis. To carry out this study, I did my utmost to safeguard their integrity and sense of privacy.

1.10 Research Limitations

One of the most notable issues I encountered during my study was having lack of time. Educational institutions remained closed for almost 2 years due to COVID 19. It limited my scope to do extensive qualitative research over a considerable length of time. Nevertheless, at that time, I continued my quantitative research.

Furthermore, there are less direct theoretical writings on the digitalization of education, as well as insufficient research in the context of Bangladesh. It has become incredibly challenging for me to determine the research's theoretical standpoint. Additionally, I did not obtain a significant number of statistics on this topic. For example, what is the number of students in Bangladesh who receive education via the internet, including the rates of adolescent children who receive informal education, the frequency of internet addiction, and so on? Having access to such statistical data would have enhanced my research. Although both girls and boys use smartphones and computers extensively in my research field, I cannot guarantee the same scenario across the country due to different socio-economic realities.

To understand how participation in education is changing because of using technological tools, it is relevant to differentiate the personalities of those who are not within the arena of online education. But due to lack of time, the difference between the personality and cultural practices of the students who got online education and those who did not, could not be highlighted separately. In the future, I hope to continue my study on a wide range of prospects while overcoming all of the mentioned limitations.
1.11 Chapter Planning

This study is segmented into 8 chapters in an effort to comprehend the impacts of researching the perspectives of multiple stakeholders regarding online education and the ramifications of the pandemic. The impact of online education and other variables related to the lockdown situation are addressed and evaluated from various perspectives in different chapters. I tried to keep a logical flow among the chapters so that the entire report becomes simple to comprehend. In order to provide the research report in a concise manner, the chapters have been formatted as follows -

The first chapter presents an overview of the research study, highlighting the research's purpose, objective, rationale, duration, and terms used in the research work.

In the second chapter, I emphasized the impact of several scholarly books, journals, articles, websites, and theoretical frameworks used in the study, as well as the relevance of the theories in my research, which provided a solid academic foundation for my research effort.

The third chapter is used to outline the research data source, research methodologies, and study area. In addition, this chapter contains some of my own fieldwork experiences. This chapter also aims to examine the context of my field and crucial topics that I attempted to highlight, such as how the lives of adolescent children in sub-urban areas are being significantly altered by their adoption of new technologies.

In the fourth chapter, I exhibited the study of the socio-economic context of the informants from my field research. The classification of the field informants by age, social status, and gender. The occupation and educational qualities of the parents, the daily routine of the informant students, the source of access to online education, and the various apps used for online education are also discussed. Simultaneously, in this chapter, I portrayed the user's behavior of online education in Bangladesh. The data used in this chapter was collected by my online survey where 1013 persons participated. This chapter discusses the user behavior, current state, changes, adaptations, as well as its consequences.

In the fifth chapter, I attempted to present different scenarios covering the education conditions in Bangladesh through different parameters before, during, and after the pandemic. This chapter mostly
presents numerical facts and their interpretations.

In chapter six, the challenges that Bangladeshi adolescent children faced regarding education due to the pandemic and how they impacted the education sector in Bangladesh are discussed. It includes both the situations with and without COVID-19.

In the seventh chapter, the social impacts of online education on the adolescent Children of Bangladesh with other research insights and some of the recommendations are presented so that the readers can comprehend the total outcome of this study.

The eighth chapter presents a synopsis of the entire study project so that anyone can understand its essential without reading it in detail. And with this chapter, my study is concluded.

[1] In comparison to other less industrialized countries, a developed country is a sovereign state with a decent quality of life, a prosperous economy, and advanced technological infrastructure.

2 Pathogenic diseases are those that are caused by infectious agents in humans.

[3] A lockdown is a policy forcing people or a community to remain where they are, typically to avoid imminent risks to themselves or others if they move or engage freely. It was imposed due to maintain social distancing during the COVID-19 pandemic.

[4] A formerly unexpected or unusual circumstance that has become typical, ordinary, or accepted.

[5] Electronic devices are gadgets that regulate the transmission of electrical currents in order to process data and control systems. It is also referred to as digital devices.

[6] Leveraging computers or other digital technologies.

[7] Desktops, laptops, tablets, tablets, servers, cell phones, smartphones, and any other similar storage device are examples of digital devices that may produce, transmit, distribute, connect, acquire, save, display or process information.

[8] The primary distinction between synchronous and asynchronous communication is that synchronous communications involve scheduled, real time phone, video, or in-person engagement asynchronous communication is unplanned and does not require scheduling.

[9] K-12 is an acronym for 'kindergarten through 12th grade'. This refers to a school starting age of around five to a Grade 12 age of around 18. The system has three levels of grade: K–5, 6–8, and 9–12.

[10] Software as a Service (or SaaS) is a process of providing software as a service through the Internet. Users can easily access the software via the Internet rather than installing and updating it.

[11] A Hybrid-Flexible (HyFlex) course is a learner-centered delivery model that combines in-class instruction, online synchronous video sessions, and asynchronous content distribution.
The use of computer hardware, software, and educational theory and practice to facilitate learning is referred to as educational technology. When 'EdTech' is used as an abbreviation, it refers to the industry of companies that produce educational technology.

The concept of community engagement is that everyone who is effected by a problem that affects their community should have a say in how decisions are made about it.

Literature Review And Theoretical Framework

2.1 Introduction

In the First chapter entitled 'Introduction', the research propositions and the terminologies are explained to overview and understand the research. Research objectives and the justification of this research have also been described. In this chapter, I am presenting the literature that I reviewed for constructing this research and the theoretical framework which will support the research as the base.

There have been multiple attempts to improve education through the use of communications and technological advancements since the beginning of the 20th century. The most recent and well-known of them is the widespread offering of online education. It's a strategy of compiled content supply toward students without any face-to-face contact between teachers and students (Baum and McPherson, 2019). Park and Park argue that working parents’ children are getting addicted to smartphones as they’re considering them as an alternative to toys. That’s why children are being reluctant to study and go to school. They report that there are 32,730,000 smartphone users in Korea. As their parents are busy with their work, children are becoming dependent on smartphones (Park and Park, 2014). The world started to realize the importance of digital education when it encountered a pandemic of corona virus disease in 2019 which was caused by the severe acute respiratory syndrome coronavirus 2. This novel virus was first identified during an outbreak in Wuhan, China, in December 2019. COVID-19 has then rapidly spread all over China and the world. The World Health Organization (WHO) declared a Public Health Emergency of International Concern on 30 January 2020 and addressed that as a pandemic on 11 March 2020 (Zhu et al., 2020).

To control this quick spread, many countries were prosecuted for lockdown that caused a significant impact on all aspects of our daily lives (Abdulamir and Hafidh, 2020). The first COVID-19 patients were traced in Bangladesh's capital, Dhaka, on March 8, 2020. It prompted the country to go into action. It was announced as a public holiday but considered a lockdown on March 26, 2020. Since then, people are keeping themselves at home except for emergencies while educational institutions and most industries and business centers remain closed. Apart from the economy, the education sector is the one that has been hit the most by the Covid-19 outbreak (Khan et al., 2021). Digital education is a sort of education where
students use their home computers or laptops or smartphones through the internet, staying away from their academic institutions (Anastasiades et al., 2010).

2.2 Literature Review

With the rise of digital education, many research took place to discover its advantages and drawbacks. The research about online versus classroom learning is contrasting. Some studies reveal consistent exam grades irrespective of the location. Online learning outcomes appear to be the same as in traditional courses, although students with prior computer training are more satisfied with online education than others (Tallent-Runnels et al., 2006).

Like other countries, Bangladesh government also tried to popularize and spread online education from the beginning of the pandemic. At the center of the country’s administration, teachers started using a combination of real-time interactive courses and classes, with a combination of pre-recorded materials and homework-wise digital sessions on a small scale. But in many cases, the initiatives taken by the government failed due to lack of resources and proper planning. As an example, I can mention that pre-recorded classes for primary school students were transmitted by a state-run tv channel for the children across the entire country. Putting aside the usefulness of this non-interactive education method, the fact that 50% of the nation’s households do not have a tv set means that a massive number of people had been kept outside its ambit (Brac.net, 2020).

According to the government’s guesstimate, the whole number of internet users reached 103.253 million at the end of March, whereas the whole number of mobile phone users reached 165.337 million. But this total number does not express the digital divide in the nation and does not talk about whether the entrance is equal across the various intersections and classificatory (for sex, gender, socio-economic class) contrast (Brac.net, 2020).

For avoiding social gatherings, online teaching-learning was the only way of solving the educational crisis, which was happening throughout the globe due to the pandemic of COVID-19 (Basilaia et al., 2020). In this circumstance, distance learning achieved so much priority in the education system; media, like Zoom, Google Meet, and video communication systems, gained massive popularity during those lockdown days (Khan et al., 2021). The possibilities of the digital education system with online tools are massive. It can bring many benefits for both teachers and learners to aid in teaching and learning. Students are more
interested in self-learning and they agree that online courses are more suitable for them (Brazendale et al., 2017).

Learners in Bangladesh who attended online lessons, think that participating in online classes has helped them be confident in taking online exams on time even though they were taking online lessons and exams for the first time. The more digital the country becomes, the easier it becomes to create digital citizens and contribute to the management of everything published online that stands on virtual platforms (Khan et al., 2021). Amid the crisis, the online class had created a strong bond between students and teachers. As a positive outcome that helped students to avoid all kinds of fears that remained when they are going through an unprecedented coronary crisis.

The amounts and methods assigned to the internet environment are limited to exercises on the evaluation of online learning. Online group projects can be an effective teaching and learning tool. As my research and suggested teaching strategies show, students can learn successful strategies for group participation that will serve them well in their online and face-to-face courses while preparing them for the world of work. When students are not supported by their instructors, they can develop maladaptive skills that hurt the group project process and potentially cause feelings of dread or avoidance when they are put into group situations. Instead, instructors should apply best practices acquired from current literature on pedagogy, technology, and adult learning to online group projects (Finan et al., 1999).

The idea that online learning could alter academic education by lowering the cost of high-quality learning chances for students who don't have access to traditional schooling parallels previous aspirations for technologies like radio and television. If such a revolution is to emerge, it is not still too close. Strong data indicates that students with inadequate academic backgrounds and other risk factors struggle the most in full-swing online courses, causing additional socioeconomic disparities than in traditional classroom settings (Baum and McPherson, 2019). When courses are fully online, research that focuses on course completion rates rather than test scores often reveals poor results (Baum, 2020). Students in fully online courses have lower grades than students in traditional classroom settings, according to recent randomized controlled trials of semester-long college courses, but there is no considerable difference in outcomes between students in settings that blended technology with classroom experience and students in fully face-to-face courses (Figlio et al., 2013).

Blended technology requires computer learning to make it efficient to the fullest. Primarily, computer learning systems were grounded on a behaviorist philosophy of education. Learning is a change in behavior carried on by external environmental cues (Thorndike, 1914). Behavioralists assert that
observable conduct, and not what is going on in the learner’s mind, reveals whether or not the learner has learned something. In response, some educators assert that not all learning is evident and that there is more to learning than behavioral change (Skinner, 1974). Behavioral learning theories have been transformed by cognitive learning theories (Pavlov, 1927).

Cognitive psychology asserts that learning requires the use of memory, intention, and cognition and that reflection is crucial to learning (Craik and Lockhart, 1972). Cognitive theorists view learning as an internal process and argue that the quantity learned is contingent on the learner’s processing capabilities (Craik and Tulving, 1975). The learning capacity is contingent upon the amount of effort expended during the learning process, the processing depth, and the learner’s prior knowledge structure (Ausubel, 1974). Recent trends have drifted towards constructivism. Constructivist theorists assert that learners interpret the information and the world depending on personal reality, that they acquire knowledge by perception, synthesis, and analysis, and then personalize the information into their own knowledge. Learners acquire knowledge most effectively when they can contextualize it for practical usage and personal relevancy (Cooper, 1993).

Educators have the issue of designing instruction modules for both machines and people and determining how the two can interact. For instance, if a machine’s instructions change, the wireless capabilities of the machine will allow the updated instructions to be downloaded into the machine’s memory. When a student interacts with the recently updated machine, he or she will be told that the technique has changed and guided through the procedure by the machine (Siemens, 2004).

A comprehensive review of the behaviorist, cognitivist, and constructivist schools of thought reveals multiple overlapping ideas and principles. All 3 schools of thought may be used in the design of online learning resources. The 3 schools of thought can serve as a taxonomy for learning. The what (facts) can be taught using behaviorist methods; the how (processes and principles) can be taught using cognitive tactics; and the why can be taught using constructivist strategies (higher-level thinking that promotes personal meaning, and situated and contextual learning) (Ertmer and Newby, 2008). Identifying the attributes that contribute to the quality design of web-based training using a variety of instructional design approaches. They identify components from each of the behaviorist, cognitivist, and constructivist schools of learning and analyze connectivist theory to assist designers in applying it to navigate the design of learning materials (Janicki and Liegle, 2019).

Behaviorism, or behavioral learning theory, is a trendy concept that focuses on ‘How students learn.’ Behavior is learned from the environment, according to the behaviorists. This learning theory asserts that intrinsic or inherited characteristics have hardly any effect on behavior. All behaviors are acquired through
interaction with the environment, according to behaviorism. For educators, behaviorism is crucial as it determines how students react and behave in the classroom, and it implies that teachers can have a direct influence on how their students behave. It also helps teachers recognize how a student’s home environment and lifestyle can impact their attitude, allowing them to observe it objectively and attempt to improve it. In behavioral learning theory, positive reinforcement is crucial. Students tend to abandon their responses if they do not appear to be performing without praise, encouragement and incentives (Khan, 2021). Similar concepts are underlying behavioral and social learning theories. The social learning theory, on the other side, takes a step beyond and argues that internal psychological processes have an impact on behavior (WGU, 2020).

The learning theory of cognitivism is concerned with how the mind absorbs, classifies, retains, and retrieves information. It works similarly to a computer in processing data. As a result, cognitivism views learning as an internal mental process rather than an externally visible behavior. Students' ability to grasp their learning using sophisticated psychological processing is emphasized in cognitive learning theories. The inadequacy of behaviorist learning theories of rigid stimulus adequately explains how learning occurs and is considered to have produced cognitivist learning theories (Michela, 2015). Memory, reasoning, evaluation, abstraction, motivation, and metacognition are all internal processes of cognitivism. Learning is viewed through the lens of information processing, with the learner using diverse types of memory during the learning process. Before being processed, emotions are received and stored in the sensory store (Ausubel, 1960). Information only lasts for a fraction of a second in the sensory store, and it is lost if it is not moved to working memory right away. In online education, learners must be able to pay attention to the learning materials as they transfer from the senses to the sensory store and then to working memory. The amount of information transported to working memory is determined by how much attention was paid to the incoming information and whether cognitive structures were in place to process it. Working memory has a 20-second lifespan, and if the information isn't processed quickly enough, it won't be transferred to long-term memory for storage (Kalat, 2007).

Learners, according to constructivists, are active rather than passive. The individual learner perceives and integrates what is acquired through the senses to develop knowledge, rather than receiving it from the outside or someone else. The student is at the center of the learning process, with the teacher assisting and facilitating. Rather than being taught, students should be allowed to develop their knowledge (Duffy and Cunningham, 1996). Physical and mental learning activities are both elements of the formation of knowledge. Constructivists place a strong focus on situated learning, which doesn't see learning without context (Hung, Looi, and Koh, 2004). Online learning should include teaching activities that allow students to contextualize their learning. If the material must be used in a variety of contexts, learners should be taught using multi-contextual learning methodologies. One-way instruction is losing ground in the aspect of learning (Tapscott, 2009). Each learner has a different viewpoint based on their prior knowledge and ideals. This indicates that each student's subjective perceptions of the same lesson, teaching, or activity
may result in diverse learning outcomes. This principle appears to be in contrast to the notion that knowledge is socially created (Mcleod, 2019).

Any approach of teaching and learning that emphasizes the linear transfer of knowledge from teachers to students stands a good chance of underestimating the effectiveness of student-teacher and student-student interaction in the learning process. This can be a considerable challenge in traditional face-to-face classrooms as well as online programs, particularly in introductory courses with a high student-to-teacher ratio (Baum and McPherson, 2019). According to the perception of adolescent children, it becomes boring when the duration of online classes is long. But adapting with the perception of the students class duration can be reduced as well as per research. It’s possible to decrease class duration without compromising students’ learning (Figlio et al., 2013). But even if the class duration is made short and the best techniques for generating online classes are followed, eliminating the offline classroom and transferring instruction entirely online appears to result in lower course completion rates and lower outcomes (Bowen et al., 2014). So, it’s not entirely possible to replace offline classes, but it can be considered as a supplement for those students who require them. Learning with a community rather than as an individual produces better results. The lower outcomes for students who listened to lectures online rather than in a classroom with other students imply that it’s not just personal attention that helps students learn, but also being in a social environment. It’s also feasible that some students prefer the more regulated scheduling of classroom courses (Joyce et al., 2015).

For the long run digital education system of Bangladesh needs a lot of improvisation, it didn’t perform as a method entirely bad during the pandemic. Regardless of the general success of online students, the ability of technology to break down barriers to educational opportunity and close gaps in educational attainment between socioeconomic groups is contingent on how well at-risk students perform in this setting (Alpert et al., 2016). An increasing set of evidence indicates that taking courses entirely online increases the gap between success and failure. The loss of personal interaction with instructors and other students has the greatest impact on students with poor academic backgrounds (Figlio, 2016). Although grades and other outcome metrics for entirely online classes may be comparable in some situations, less-prepared students and those from vulnerable groups may be at a considerable disadvantage in the absence of the classroom framework. Students who have had more extensive exposure to technology and who have strong time management and self-directed learning skills are more likely to adapt effectively to online learning than others (Baum and McPherson, 2019).

In an online course, a single teacher can reach thousands of students, giving anybody with internet access. This infinite reach has significant advantages for schools that lack educators. However, there is emerging evidence in high schools and universities that the growth of online education is harming a particular category of students those who are most in need of skilled classroom teachers. Participating in an
asynchronous class without an engaged instructor requires high levels of self-motivation and self-regulation. However, implementing the positive aspects of online classes for weaker students such as the opportunity for students lacking the self-confidence to participate in online discussions and some of the individualization made possible by technology into courses and programs that maintain a significant level of face-to-face interaction has the potential to create better outputs (Dynarski, 2018).

Multiple studies have concluded that online certificates are considered inferior to those from traditional classroom programs by employers. They are most concerned about the absence of interaction and, in particular, face-to-face communication between students and instructors. Employers appear to be more sympathetic to online degrees for entry-level positions than those at higher levels. These negative perceptions undoubtedly contribute to reduced career opportunities and lower rates of return on investment for online students (Baum, 2020).

As education is currently constrained by educational institution capacity, it is naturally only available to a portion of any society, and another portion of any population is ultimately left out. Education is a vital tool that individuals and society may utilize to address existing challenges and seize future opportunities. The digital revolution has the opportunity to address these limitations by providing unprecedented access to free, open, and high-quality educational resources to a global audience (Gaebel et al., 2014). What to know, how to know, and who you know make a lot of difference in today’s world of competence. Because of the increasing availability of the internet and smart gadgets, access to education is now more accessible than it has ever been (Blessinger and Bliss, 2016).

Digital media and accessible educational resources have expanded the horizons of both students and teachers, redefining the educational landscape (Ponti, 2013). Lifelong learning has grown increasingly significant around the world because it promotes economic growth and individual participation in society (Blessinger and Bliss, 2016). But, at the same time, access to learning is a fundamental quality indicator of educational systems that ensures that all students have access to education and learning environments at all times and in all places. Educational processes must support inclusion and equity for all learners by ensuring access in order to transform learning and teaching. Online education commits to encouraging widespread access and participation by presenting relevant learning and professional development possibilities in learning processes. To improve educational quality, we must redefine learning and teaching environments to ensure motivation, equality, learning progress evaluation, and innovation (Gazi, 2011).

2.3 Theoretical Framework
One of the sub-fields of anthropology is educational anthropology, with a distinct history and a secure presence in several prestigious academic institutions (Mullooly and Sturges, 2008). Although the origins of educational anthropology are significant, modern educational anthropology is essentially a byproduct of social and cultural anthropology as it emerged in the 1920s (Eddy, 1985).

In an article arguing against genetics as the sole explanation for educational success gaps, Vanderwalker linked anthropology and pedagogy, urging anthropologists to apply their knowledge to such issues (Vanderwalker, 1898). In The Mind of Primitive Man, Boas explored adolescence among 'Primitive people' to show no essential difference in the modes of thinking of primitive and civilized humans (Boas, 1911). Franz Boas' choice of studying adolescence among primitive people for Margaret Mead's fieldwork in 1925 represented a shift of the anthropology discipline toward studying a new set of problems attributed to the contemporary world in the United States. Margaret Mead suggested in her book Coming of Age in Samoa (1928) that comparing American civilization to 'Simpler' societies can help us understand our educational techniques. In American anthropology, the study of culture and personality was solidified by the mid-1930s. Mead and other pioneers in this discipline paid close attention to how their work might be applied to educational issues.

Educational anthropology's early years took place in the framework of disciplinary improvements in theory and research methods that expanded anthropological studies of contemporary individuals in a dynamic and unpredictable world. Because of their possible role as a scientific tool for managing crucial social problems, a foundation-based economic support system greatly emphasized the development of the social sciences (Eddy, 1985).

Beginning in the mid-twentieth century, American visionaries such as George and Louise Spindler and Murray and Rosalie Wax broadened their focus to encompass the transmission of culture and disparities in the education of different ethnic groups inside the United States. Young academics, some of whom were former schoolteachers, formed a new sub-discipline called the anthropology of schooling to use cultural relativism to deconstruct inadequacy explanations for school failure (Foley, 2002). During the 1960s, however, ethnography of education arose from the post-war years' generation of sociologists associated with the 'Chicago School' (Becker, 1999). Chicago's Symbolic interactionists considered fieldwork crucial to understand human behavior and some of them focused on fieldwork in educational contexts (Atkinson et al., 2001).

Anthropology and education should not be disregarded as a minor subfield concerned with a tiny aspect of the mainstream discipline. Its fundamental concerns are anthropological: how humanity evolves across
time, how these alterations become humanity's concrete environment, and how earlier transformations constrain what may be constructed while opening new opportunities for additional transitions (Varenne, 2007). For more than a century, the core of anthropology has been concerned with concerns about anthropology and education. Hewett, for example, authored two papers (in 1904 and 1905) pushing for broader recognition of the need for anthropological knowledge for educational employees (Singleton, 1970).

As there are overlaps among educational anthropology, qualitative sociology of education, and related topics, their tools and concepts, it'll be wiser to consider them as a whole to conduct a study on education from the anthropological aspect. The similarities between the parent disciplines, anthropology and sociology, can be traced as the source of the overlap. Anthropology is defined as 'The study of humanity's past and present' in the United States (American Anthropological Association, 2019). A comparative approach, an understanding of local community engagement and local interpretation; a holistic assessment can lead to ethnography, the primary methodology of anthropology. It's used to investigate modern humans (Anderson-Levitt, 2015). Empirical studies of education arose in the United States from two distinct origins. On the one hand, Margaret Mead's 1928 book Coming of Age in Samoa sparked an interest in cultural anthropology, specifically the study of cultural transmission within the culture and personality school.

Ethnography is now widely used as a study approach in the United States by linguist, sociologists, anthropologists and other educational scholars. I wouldn't refer to my study as a complete ethnography due to a lack of resources and time. But I indeed maintained all the necessary measures that make an ethnography fruitful. I tried to understand the context of my research participants and analyze their insights which were relevant to my study. I have used the theoretical framework of cultural relativism, the concepts of culture and personality school and the symbolic interactionist approach[4] of the Chicago School.

2.4 Conclusion

Educational anthropology, as a subfield of anthropology, has a lot to offer the education sector in terms of anthropological contributions. From its beginning to its current applications, educational anthropology has progressed in sync with human life's transformations. To understand the learning disparity, researchers in this area rely on cultural relativism and a symbolic interactionist approach to explore in a comparative manner. Behaviorist, cognitivist, and constructivist theories have all had an impact on the evolution of online material, and they will continue to do so. Behaviorist approaches may be used to teach facts (what), principles and processes (how), as well as real-world and personal applications and contextual learning.
There is a movement toward constructive learning, in which students are given the opportunity to make their own meaning from information offered in online sessions.

[1] A smartphone is a wireless electronic device that connects to the internet and enables the user to do different sorts of tasks.
[2] A novel virus is a virus that has not previously been recorded.
[3] Constructivism means that the learner creates meaning for himself from experience, and that meaning is determined by the interaction of existing knowledge and new happenings.
[4] Symbolic interactionism is a theoretical approach to interpreting the human-society relationship. Symbolic interactionism's primary premise is that human behavior and interaction can only be comprehended through the interchange of meaningful communication or symbols.

Methodology And Field Research

3.1 Introduction

In the anthropological study, the research field is crucial. Because in the case of qualitative research, anthropology considers the collection of information from the ground as one of the main bases of research. Research's success is predicated on the collection and analysis of data using certain research procedures. I have collected data using multiple methods for my research. I have chosen not only primary information as the main source of research, but also used secondary sources for the convenience of research. Choosing fields, obtaining, and interpreting data are important aspects of anthropological research as well. I chose the Chandina sub-urban location for my research. It provided me with the opportunity to see and comprehend both urban and rural concerns. It was also handy for me to conduct my study there because my hometown is not far away from there. It assisted me in comprehending the local dialect and culture. Because of my background, the participants saw me as an acquaintance.

3.2 Sources of Data Collection

The primary task of a researcher in the event of data collection is to identify the data collection source. In most cases, data is gathered from two different types of sources. Both criteria were used in my research -

a) Primary source

b) Secondary source
3.2.a Primary Source

In my research, I have gathered data through having in-depth conversations with research participants, establishing rapport with them across multiple sites, doing participatory assessments, and using a variety of qualitative research approaches which include individual interviews, focus group discussions, and case studies.

3.2.b Secondary Source

Not only primary sources, but also deeds and documents can be used while producing an ethnography (Comaroff and Comaroff, 1992). For the convenience of my research, various secondary sources such as the report of the Bangladesh Bureau of Educational Information and Statistics, BRAC, 10 Minute School's User Analysis Report, journals, TV reports, documentaries, the internet, etc. have been used.

3.3 Research Methods

Anthropology differs from other branches of social science in its research methodology. In the primary stage, anthropologists studied people from other cultures, then the peasant society and the otherness in their own society. Anthropology's scope of the study has evolved throughout time to include urbanization and the household. To keep up with the changing topics, research approaches have evolved as well (Basham, 1978).

Various methods are used to collect data such as qualitative and quantitative in anthropological research. These research methods directly assist the researchers to get insights and analyze those from different aspects. Although in my research, I have tried to collaborate quantitative and qualitative data, I focused and relied more on the qualitative data for my interpretations and research findings as I tried to conduct the research from an anthropological perspective. For the procedures I followed to conduct this research, it can be considered as a mixed method.

3.3.1 Qualitative Research
To comprehend concepts, views, or experiences, qualitative research involves gathering and evaluating non-numerical data (e.g., text, video, or audio). It can be applied to get an in-depth understanding of a subject or to generate new research ideas. Grounded theory, ethnography, action research, phenomenological research, and narrative research are all widely used qualitative methodologies. These have certain similarities, but their goals and attitudes are quite different (Bhandari, 2020).

In my qualitative research, a variety of approaches and methods such as interviews, participatory assessment, case study, explanatory analysis, FGD (Focused Group Discussion) etc. were included. Qualitative research is performed to learn about people's perspectives on life. While qualitative research has a variety of methodologies, they always focus on preserving rich meaning when evaluating data. That's why I relied on qualitative research for this study.

3.3.2 Quantitative Research

The process of gathering and interpreting numerical data is known as quantitative research. It may be used to look for patterns and averages, make predictions, evaluate causal linkages, and generalize results to large groups (Bhandari, 2020). I have gathered quantifiable data through a number of online surveys also. It was required to reduce the risk of Covid 19 becoming a health hazard. The online surveys got a lot of responses. It enabled me to see thousands of responses in a much clear light.

In my quantitative approach, I used the descriptive research method as this doesn't start studying with a pre-emptive hypothesis. Descriptive research aims to explain the current state of a variable that has been identified. The goal of descriptive research is to explain and interpret the existing state of individuals, places, circumstances, or events. The researcher in descriptive research does not usually commence with a hypothesis; nevertheless, after accumulating data, she or he may construct one (Pedamkar, 2020).

3.4 Selection of informants

In order to conduct research, one has to choose informants from among the people who are being studied. I explored the impact of Covid 19 on the digitization of education in Bangladesh. As a result, I had to focus primarily on the students who were already enrolled in formal education. I tried to find people who had
experienced all three phases of education in Bangladesh: pre-pandemic, pandemic, and post-pandemic. I've also studied the perspectives of other stakeholders like teachers, parents, online educators etc.

3.5 Sampling Methods

When conducting research on a group of people, it's nearly impossible that someone will be able to collect data from every single one of them. Rather, we choose a sample from a population. The sample is the number of people who will actually take part in the study (McCombes, 2022).

There are two distinct types of sampling methods -

a) Probability Sampling

b) Non-probability Sampling

3.5.a Probability Sampling

Random selection is used in probability sampling, which allows researchers to make strong statistical inferences about the entire group. Probability sampling is divided into four categories -

i) Simple random sample

ii) Systematic sample

iii) Stratified sample

iv) Cluster sample

3.5.b Non-probability Sampling

Non-probability sampling entails making non-random selections based on convenience or other criteria to make data collection easier. Non-probability sampling is divided into four categories –
i) Convenience sample

ii) Purposive sample

iii) Snowball sample

iv) Quota sample

In my research, I have used purposive sampling. It's also known as judgment sampling, which comprises the researcher using their experience and expertise to select a sample that is most relevant to the study objectives. It's frequently used in qualitative research, especially when the researcher wants to learn more about a certain phenomenon rather than making statistical inferences, or when the population is small and specific. The criteria and rationale for inclusion and exclusion in a solid purposive sample have to be clear (McCombes, 2022).

As field informants, I selected 12 female and 23 male students aged 14 to 17, 5 online teachers, and 5 guardians. I conducted interviews with students and their parents in various locations to guarantee a diversity of experiences and perspectives. To facilitate my study, I chose the office of 10 Minute School, the largest EdTech company in Bangladesh as well. It had a significant influence on digitalizing education in Bangladesh during the COVID 19 pandemic. As an employee of this company, I had access to its internal data and analytics, and I did so with authorization. This can be considered as 'Auto-ethnography'[1]. In addition, I conducted couple of online surveys that collected a total of 1,013 responses. So, in a nutshell, my research methodology can be addressed as the mixed method as it included both quantitative and qualitative approaches.

### 3.6 Interviewing

The interviewing method has been used as one of the strategies for collecting information in my research. There are 3 main types of interviews -

a) Formal interview

b) Informal interview

c) Semi-formal interview
The formal interview is taken based on a set of previously set questions. A structured questionnaire is purposively used in this regard. There are a variety of biases that can be induced into survey research using formal interviews and questionnaires. The systematic use of informal interviews is one potential technique to check for such bias (Moeller et al., 1980). The informal interview is to bring up the information through a conversation without fixing any questionnaire priorly. Also, the semi-formal interview is the middle ground between formal and informal interviews. In this case, the researcher keeps some questions in his or her mind but does not speak directly to the questions (Ellen, 2003).

3.7 In-depth Interview

I attempted to conduct in-depth interviews while maintaining a semi-structural research methodology. I've extracted information from people through long conversations. In this way, the informants didn't feel any pressure. They felt free to express themselves. Despite the fact that I followed a strategic checklist, there was no written questionnaire designed specifically for these respondents.

3.8 Case Study

The case study technique has a long history of application in medicine, law, anthropology, political science, psychology, and social work. The education sector has also acknowledged the value of utilizing a case study approach to better understand the dynamics behind particular aspects and elements of practice. All stages of education, from pre-school to adult, involve several issues that may be better handled using the case study method (Merriam, 1985).

The case study is a comprehensive and detailed account of the respondent's experience and personal life. The case study technique assists in the development of an objective for the research. In this approach, the individual's experience and background are critical. Case studies are crucial in my research because they helped me understand what students experienced during the COVID 19 pandemic, how they attempted to cope, what they needed, what applications and software they used to continue their education during the pandemic, and how it affected their mental and physical health, personality, and cultural practices.
While utilizing a case study method, validity, reliability and generalizability should be addressed. These topics can be more easily discussed before considering the characteristics of a case study. A case study provides a framework for examining complex social units with several variables (Merriam, 1985). A case study helps to understand an individual's perspective to analyze the scenario according to his/her context. It emphasizes contextualization which is a strong element of a qualitative study.

3.9 Focus Group Discussion

A focus group discussion is effective if its participants debate the subject among themselves. However, there is an outsider, the moderator, who is responsible for the group and the issues to be discussed, as well as an observer. Excessive moderator control limits the desired group interaction; too little control and the topics may never be discussed (Agar and MacDonald, 1995).

Focus group discussion is a sort of social research in which a group of participants is formed and conversations are done with objectives in mind. A researcher serves just as a mediator. In my research, I conducted two FGDs. Both of the FGDs consisted of separately 6 boys and girls. I simply tossed questions and acted as a mediator on specific topics.

3.10 Research Field

Since exploring ‘Primitiveness’ and ‘Barbarism’ lost their legitimacy as anthropological goals, fieldwork or field research has become a distinguishing feature of anthropology and quickly became the defining characteristic of anthropology. In ethnography, a researcher must travel to the field to do fieldwork. It is also highly encouraged in mainstream anthropology. Modern ethnography has not originated with the practice of blending human narrative with objectified description. Ethnography has a long history to be distinguished (Pratt, 1986).

Generally, the term 'Field' refers to a broad geographical area within which the researcher does fieldwork. Through the work of Malinowski and Radcliffe-Brown, British functional anthropology began developing as
a separate subject shortly after World War I, but until the immediate period after World War II it could not obtain a solid academic position in universities. Fieldwork and field research fueled anthropology to grab this position.

The colonial power structure enabled the focus of anthropological study to be accessible. It facilitated persistent proximity between the observant European and the ‘Native’ non-Europeans. It allowed the type of human connection necessary for anthropological research, but ensured that the intimacy was one-sided and transitory (Asad, 2011). Many anthropologists undoubtedly believed that their understanding of indigenous people enabled them to negotiate on their behalf. Nevertheless, these individuals rarely questioned the fundamental relationship of privilege, placing them in a position similar to that of many liberals in our own culture, who try to alter a system from the inside from which they gained tangible benefits. Nonetheless, within a social structure, the participants' attitudes are likely to be considerably influenced (Lewis, 1973).

Fieldwork and its related form, ethnography, have probably never been more crucial to the discipline of anthropology than they are today, both intellectually and professionally (Gupta and Ferguson, 2010). The role of the researcher in the colonial field was to reproduce the power relationship between the researcher and the researcher on behalf of the ruling class. But now it has derailed from the previous objective. In the postmodern and post-structuralist times, researchers started researching their own society (Asad, 2011).

In the anthropological study, the term ‘Field’ is very essential. This ‘Field’ has also been the subject of a number of theoretical-ideological criticisms. The way people thought about the ‘Field’ altered drastically throughout the postmodern period. In postmodern and postcolonial theoretical thinking, the field is a range and a field. Hyperspace[2] or cyberspace[3] challenged postmodern imaginary map conceptions (Haraway, 1991).

A ‘good’ field location is determined not just by financing and clearance factors, but also by its potential for resolving discipline-related challenges and controversies (Gupta and Ferguson, 2010). The scope of field and research should not be determined by maps or geographical location, rather it should be judged on the basis of ideology (Gupta and Ferguson, 2010). Even though I selected a few specific locations for the fieldwork, my fieldwork was not confined to those. In terms of study, I've opted to focus on the usage of online mediums and platforms for educational purposes, which can be classified as a compilation of postmodern theoretical considerations. This spectrum transforms researchers into inhabitants of another realm. Anyone who has conducted fieldwork or studied the phenomenon understands that one does not
simply stumble onto a field site in order to have a deep and meaningful relationship with the natives (Gupta and Ferguson, 2010).

3.11 Research Area

I chose Chandina which is an Upazila of Comilla District as my research area for the convenience of transportation and access to my target group who belong to a sub-urban group. The purpose of choosing a sub-urban field was to get a glimpse of both urban and rural people. The distance from Dhaka to Chandina is 77 km. There is a direct bus service from Arambag, Motijheel to Chandina, Cumilla.

From Arambag to Chandina, any bus can reach the studied area in 1.5 hours to a maximum of 2 hours. From the Chandina bus stand, rickshaws are available to go to the chosen field. The highway is adjacent to the main road of Chandina. I chose Chandina Women's College, Chandina Pilot High School and Chandina Al-Amin Islamia Kamil Madrasah as my fields. Besides, I considered the office of an EdTech company, 10 Minute School as another location to gather information and insights from online educators.

3.12 Research Unit

According to my research context, the unit of research is the individual students, parents and educators. Because it was crucial to engage with them about their perspectives in order to comprehend how they approached learning in the midst of a pandemic.

3.13 Research Experience

There is a significant difference between thinking at home and gathering insights from the field. My fieldwork days were composed of a variety of encounters. Before going into the field, I assumed that everyone would be able to obtain information regarding the digitalization of education if I could explain them easily. But when I went to the field, I witnessed a completely different picture. My research focused on 3 of the educational institutions of Chandina, Cumilla and the office of 10 Minute School. The first location
I went for the study was Chandina. Then I went to the office of 10 Minute School for further information and insight.

The students mistook me as a government official who was gathering data for further assistance or anything linked to policy making. I described my study's purpose and background to them. It became much easier for me to communicate with them after they realized I was also a student like them. I also discussed the issues I faced due to COVID 19 and my observations regarding that. As a result, after the initial ice-breaking, the situation became more accessible, and I didn't have much difficulty continuing my study later on.

While conducting my study, I discovered that the difference between pre-pandemic social reality and pandemic perception regarding smartphones is significant. It was forbidden to use smartphones on the premises of educational institutions, and students who were spotted were punished. As a result, the guardians viewed smartphones unfavorably and disassociated those with education. They didn't think smartphones were necessary for schooling. However, during the pandemic, the educational system transformed everyone's perception. People realized how virtual platforms such as Zoom, Google Meet, Discord, etc. can be used to learn with smartphones. After reopening educational institutions, carrying smartphones in educational premises are not seen as a punishable act. So, the rigidity has been changed.

Beyond everything, conducting this research has expanded the span of my understanding and acquaintance. My capacity to communicate with people and use that relationship for research goals has improved. I've read a lot of books and research texts. All of those have helped me to improve my theoretical understanding and sync it up with reality. In a nutshell, my research has enriched my theoretical, academic, social, and personal horizons.

3.14 Conclusion

Methodology is crucial while performing research. This is a strategical way to discover anything. In this chapter, I outlined the strategies I used in making my study credible and presentable. Both quantitative and qualitative studies have been included in my research and through this combination, I wanted to ensure that everything is heard from every stakeholder to analyze. In my research, I collected data from both primary and secondary sources. When speaking with adolescent children, I took extra precautions. Because children of this age are quite sensitive, I have prioritized the extensive interview strategy in this situation. I tried to break the ice by talking for a long period about various topics so that they could talk freely without feeling embarrassed. In addition, there were separate FGDs for males and females. I conducted separate
interviews with parents and educators as well. The most essential factor in my field selection was the ease with which information could be obtained and the lack of hurdles to entering the field. Moreover, my field introduced me to both urban and rural flavors together.

[1] 'Autoethnography' is a research and writing methodology that attempts to explain and evaluate the personal experience to comprehend an issue.
[2] Hyperspace (Also known as null space, subspace, over space, jump space, and other terms) is a science fiction notion referring to higher dimensions and a faster-than-light mode of interstellar travel that appears in scientific works.
[3] Cyberspace is a term that refers to a vast network of interconnected digital technologies.
[4] The use of digital technologies to alter an existing paradigm and create new value-producing opportunities is known as digitalization.

**Demographic Profile Of The Informants**

**4.1 Introduction**

A researcher might reach a conclusion as a consequence of his or her research based on the information received from the informants. In this scenario, the respondent's social status, values, employment, age, and other factors influence the information s/he provides. Although individuals from almost every context were affected by the COVID-19 pandemic, I focused my study on adolescent students to see how it affected their education. For the research, I picked both field research and online survey. When I started my study, it was tough for me to visit any field due to the pandemic and that's why I decided to proceed with online survey. Eventually, I started my journey online, but when gradually the situation of the pandemic improved, I decided to extend my study with field research.

I visited Chandina of Cumilla twice for my field research and there I chose 35 adolescent students, 5 educators, and 5 parents to get their insights. On September, 2021, I conducted an online survey on 10 Minute School's social media groups to collect data from users and evaluate it to obtain a greater understanding of their views toward online education. The survey included 1013 users from diverse backgrounds.

In this chapter, the data collected from the field regarding the gender, age, employment of the informants or their parents, educational qualifications, technology used, daily routine, family hierarchy, and other characteristics are portrayed and discussed. Simultaneously, I intended to find out the online research
participants’ demographics and needs, spending patterns, and English proficiency levels using my online survey. Because earlier analysis of 10 Minute School indicated that language learning was the area where I could cater to people of different backgrounds.

4.2 Educational Institutions and Gender-based Comparisons of the Field Informants

From the figure 4.1 we can see the numbers of participants in my field research sorted with their gender. I couldn't find anyone who was willing to address self anything other than the binary spectrum of gender. Though I got to interview more male participants in my field research, female’s voice was not unheard. I found their daily lives had differences depending on their gender.

4.3 Grade-wise Comparison of the Field Informants

For my research, I have chosen adolescent students to assess the effects of the transitions on them because they have lived through all three stages of the pandemic, pre-pandemic and post-pandemic. Though students of different grades differ with their maturity perspectives, I didn't choose a wide range of students for keeping my study objective and focused on only the adolescent children. But, from my experience, I saw even though students who are studying in the same grade, can be senior or junior according to their age. On the other hand, same-aged students study in different classes. This happens due to many reasons such as their preparation to start school, parents’ willingness and perspective regarding education along with other socio-economic reasons.

4.4 Age Distributions of the Field Informants

Adolescent children are the primary subject of my study. I chose students aged 14 to 17 years old among the adolescents. The research also includes 5 teachers and 5 parents as informants. As there are certain age differences between teachers and parents, there are also differences in perception, thoughts, behavior, duties, and lifestyle among those aged 30 to 48. As a result, adolescent children's views toward online education differ from those of their parents and teachers.

For social research, understanding the age set of the participants is very crucial as it is an indicator of people's perspectives. From my experience, I saw many technological tools are accepted quicker by the
youth than the previous generation. That's why figuring out the age set of my research was one of my concerns.

4.5 Occupation of the Field Informants' Parents

A student's economic and social position can be determined by his/her parents' occupation. A child's surroundings are controlled by the family. There are some distinctions between a doctor's home environment and a farmer's home environment. This is why knowing the parents' profession is crucial for this research.

4.6 Educational Qualifications of the Field Informants' Parents

I felt it was important to study parents' educational backgrounds because educated parents are more aware. And, to the extent feasible, they maintain contact with the children, the types of friends and acquaintances they have, as well as the surroundings, which includes the study. These factors have an impact on a child's decision-making and socializing.

It should be mentioned that 6 of the parents could not pass the Secondary School Certificate (SSC) examination. Mothers are in greater numbers in this category. Even though it turns out that there is a wide range of educational qualifications among the informants' parents, there are no illiterates among them.

4.7 Daily Routine of the Adolescent Children of the Field Study

Because the informants were unable to attend school or college due to the pandemic, they spent the majority of their days occupied with online platforms, whether for study or recreation. The students' routine was not always rigid and shifted from time to time due to the interruption of lockdown and other unpredictable events. Table 4.1 shows a gross outline of their everyday activities.
<table>
<thead>
<tr>
<th>Time Range</th>
<th>Male Students' Activity</th>
<th>Female Students' Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am to 11:59 am</td>
<td>Getting fresh and online class</td>
<td>Getting fresh, household chores and online class</td>
</tr>
<tr>
<td>12:00 pm to 3:00 pm</td>
<td>Household chores, lunch, rest</td>
<td>Household chores, lunch, rest</td>
</tr>
<tr>
<td>3:01 pm to 6:00 pm</td>
<td>Playing near home/online and hobbies</td>
<td>Hobbies and helping parents with household chores</td>
</tr>
<tr>
<td>6:01 pm to 9:00 pm</td>
<td>Assignments and studies</td>
<td>Assignments and studies</td>
</tr>
<tr>
<td>9:01 pm to 11:59 pm</td>
<td>Dinner and helping parents</td>
<td>Dinner and helping parents</td>
</tr>
<tr>
<td>12:00 am to 2:00 am</td>
<td>Facebook and other social media</td>
<td>Facebook and other social media</td>
</tr>
<tr>
<td>2:01 am to 7:59 am</td>
<td>Sleeping</td>
<td>Sleeping</td>
</tr>
</tbody>
</table>

Table 4.1: Daily routine of the students of the field research during the COVID-19 pandemic (N=35) (Source: Fieldwork, 2021)

Both male and female students were engaged in their studies, as can be seen. They spent their free time on Facebook, playing video games, and chatting. Aside from that, female students were expected to complete extra household chores. Adolescent children suffered from insufficient sleep as a result of their extensive usage of the internet during the lockdown. It also had an impact on their daily routine. They had nothing to do at their house during the first few days of lockdown. Initially, online classes were not started. As a result, they used to help with domestic tasks and devote time to various hobbies. They had to struggle to adjust to their new daily schedule after a certain period when their online classes began. Because of the transitions, their sleeping cycles were interrupted. If we look at the time spent by boys and girls, we won't find any substantial differences. However, the situation was not the same when the coronavirus was nonexistent.

Ashik (15), who lives with his parents and brothers, attends Chandina Pilot High School. He was unaware of the risk until the lockdown began. He went to the playground instead of staying at home. However, he did not have many friends. Then he realized the severity of the threat to his health due to COVID-19. He began playing online games to pass his time and became infatuated with them. He didn't mind the sleep delay at first, as he didn't have anything essential to do in the morning. However, when his online classes began, his parents forced him to go to bed early because he had classes in the morning and wouldn't be able to focus on his studies due to a lack of sleep. He also suffered regarding time management during the
lockdown days. This case study helps us to understand how the adolescent children had to struggle to adjust with a new routine and set their daily tasks according to any end goal.

4.8 Classification of the Field Informants’ Families

The family's social class structure is crucial in shaping and developing a human's understanding and philosophy of life. Because the attitudes of the high and middle classes differ from those of the middle and lower classes. In society, there is a tradition known as the ‘Middle-class mentality’. These practices are not followed by the lower classes. They are occupied with earning a living. As a result, all classes have different lifestyles. So, it was important for me to understand the class structure of the informants' families. The classification of the informants is given below in table 4.2.

<table>
<thead>
<tr>
<th>The Class Structure of Families</th>
<th>Monthly Family Income</th>
<th>Informants' Quantity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Class</td>
<td>Above 30,000 BDT</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>Middle Class</td>
<td>15-29,999 BDT</td>
<td>24</td>
<td>68.57%</td>
</tr>
<tr>
<td>Lower Class</td>
<td>Below 15,000 BDT</td>
<td>11</td>
<td>31.43%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>35</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Table 4.2: Classification of the families of the field participants (N=35) (Source: Fieldwork, 2021)

4.9 Usage of Different Mobile/Web Apps by the Field Informants

The diversity of web/mobile apps is the primary instrument for online surfing. These apps offer entertainment as well as educational and global news updates. This study's adolescent participants used a variety of internet tools to stay connected with relatives, friends, acquaintances and educators at all times. Their usage of different web/mobile apps is shown in figure 4.6.

4.10 Internet Usage Time Range of the Field Informants
Adolescent students frequently use the internet whenever they get the opportunity. Figure 4.7 is showing how long the participants spent on average per day on the internet.

Figure 4.7 doesn't only show how much time adolescent children spent on internet for their education, but also it includes their time spent for entertainment and socialization. We can see most of the children used 5-6 hours per day on average and that almost one fourth of their day. Using excessive time on internet means higher screentime as well which can create physical and mental problems in the long run.

4.11 Demography of the Online Survey Informants

The majority of those who took part in the online survey were between the ages of 18 and 24. Males made up 59% of the participants, while females made up 40%. The users from Dhaka were the most active (35%). A large percentage of users (42%) came from different Zilla cities. Most of the participants were students (86%). 60% of consumers utilize Wi-Fi and spend between 300 and 500 BDT per month on the internet. When it comes to learning English, users are less diligent. The majority of participants (21.6%) aspire to learn the language in one month. Figure 4.8, 4.9 and 4.10 illustrates the age, gender and location distribution on a sequence.

4.12 Preferable Learning Timeline of the Online Survey Informants

The participants can be divided into two groups based on how much time they have available or are willing to devote to achieving a sufficient level of English fluency. 70% of those who took part said they wanted to learn English in 1-3 months. Approximately 23% of participants intend to do the same thing in a 6-12 months period. This data helps to understand in which timeline participants of this survey want to acquire a skill that’s needed for them.

4.13 Willingness to Spend for Online Learning of the Online Survey Informants

People from various contexts and socioeconomic backgrounds find online learning to be more convenient if it comes to the point of pricing. Table 4.3 illustrates how willingness to pay for online learning varies by
division and profession.

<table>
<thead>
<tr>
<th>Division</th>
<th>Profession</th>
<th>Below 100 BDT</th>
<th>100-200 BDT</th>
<th>200-300 BDT</th>
<th>300-400 BDT</th>
<th>400-500 BDT</th>
<th>500-1000 BDT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dhaka</td>
<td>Students</td>
<td>85</td>
<td>26</td>
<td>48</td>
<td>31</td>
<td>47</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>11</td>
<td>1</td>
<td>8</td>
<td>10</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Chattogram</td>
<td>Students</td>
<td>65</td>
<td>22</td>
<td>44</td>
<td>32</td>
<td>36</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>8</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Other Divisions</td>
<td>Students</td>
<td>88</td>
<td>30</td>
<td>53</td>
<td>36</td>
<td>36</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>10</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 4.3: Willingness of the online participants to spend for online learning (N=1013) (Source: Online Survey, 2021)

When it comes to online learning costs, there is a clear deficiency among my research participants. I can divide my research participants into a few divisions based on the findings. Residents of megacities such as Dhaka and Chattogram are willing to pay in two tiers. Cities from other divisions also offer two tiers, but at a reduced cost: 100-200 Taka and 200-300 Taka. Even when divided by Division, the majority of participants share the same attribute of spending roughly 100-200 taka per month to learn anything online.

4.14 Online Survey Informants' Internet Usage Comparison

Wi-Fi users, whether Divisional or Sub-urban/Zilla city users, spend more time on the internet on a monthly basis than mobile data users among the online survey participants. Wi-Fi users exceed mobile data users in divisional cities. Sub-urban areas, on the other hand, have more mobile data users, whereas Zilla area consumers are divided, but rely more on Wi-Fi. Figure 4.11 shows the internet medium and figure 4.12 shows the monthly internet usage of the participants.

4.15 Preferable Medium for the Online Survey Informants
Participants from different backgrounds have different perceptions and preferred medium of online education. Though they know about the different mediums and modules of online learning, they prioritize their willingness to learn online in one medium over other. Figure 4.13 shows that most of the participants of the online survey prefer live class as their learning component.

4.16 Observations

In Bangladesh's education sector, online education is making waves. The COVID-19 pandemic enhanced digital literacy, but the adapted capacity during the lockdown is now assisting learners across the country to unleash their skills. Consumers are now prepared to pay for online courses. The higher the price for a course, the higher the course completion rate. Although many people are still outside of the Wi-Fi zone, they strive to stay connected by purchasing mobile data. When attending online classes, people of all genders exhibit nearly equal involvement. People have their own preferences for what they want to study and prefer to have their favorite instructors teach them. Learners frequently view free classes before deciding to purchase an online course. The cost of learning something new has decreased significantly as a result of online courses, yet internet pricing remains a barrier for ambitious learners.

Hanif (17) is a university admission aspirant. He completed his HSC with a short syllabus given by the government. During the lockdown, he couldn't rely on the lessons provided by his college. So, he took online tuition at comparatively cheaper prices from different online coaching at the last moment before his exam. He considered those online classes as beneficial for him as he got his expected result in the HSC exam. This shows us that students have the flexibility in online to choose their own instructors and complete their syllabus at their own pace.

Traditional education is not replaceable by online education yet. Academic institutions will adapt and alter in reaction to emerging new technologies, but won't sacrifice the traditional teaching method entirely soon.

4.17 Conclusion

The informants’ age, gender, school, occupation, and educational qualifications are depicted in this chapter. The information gathered from the field and online survey was also used to paint a clear picture of the socio-economic situation of the respondents using tables and figures. How a learner learns and pursues his/her learning outcomes depends on his/her socioeconomic background. This is why it is important to
know the demography of the research participants for educational research. The online survey respondents were generally satisfied with the service they received, but there is scope of implications for improving academic and career support. The research can serve as a foundation for future research into how age and context affect learning. Despite the fact that the online survey was largely conducted using quantitative methods, further qualitative research can assist in understanding how pedagogy should be created and implemented in light of the learners' behavior.

**Educational Situation In Bangladesh**

5.1 Introduction

We need to comprehend the volume and ratios of various factors and elements to study the transitional period of disruption during the COVID-19 pandemic and its repercussions to grasp the overall situation. If we wish to estimate the impact of the pandemic on Bangladesh's education system, we need a clear picture of how large the data set of students, teachers, academic institutions, and other variables is. To have a better picture of Bangladesh's digital adoption in the education ecosystem, we'll need to rummage through several data points and try to infer insights from them to figure out what happened and what might happen in the future.

5.2 Research Philosophy

We need to look at the empirical data because empirical data can reveal scientific information and principles, according to the research paradigm of positivism[1] (Pickett and Burrill, 1994). As a result, positivism has been associated with primarily quantitative research approaches in the natural sciences, such as analytical investigations or controlled experiments, and randomized educational trials in education. While this philosophical approach to research has received some criticism, many educational researchers believe that observation and experiment studies are the only methods to completely verify their ideas (Schrag, 1992). The inadequacy of quantitative studies in educational research has been regarded as a shortcoming of educational researchers and their profession (Hessler, 1977).

5.3 Demography of Bangladesh

In January 2022, Bangladesh's total population was 167.1 million. Bangladesh's population increased by 1.6 million (+1.0%) between 2021 and 2022, according to the data. Bangladesh has a female population of
49.5% and a male population of 50.5%. At the beginning of 2022, metropolitan areas accounted for 39.7% of Bangladesh's population, while rural areas accounted for 60.3%. Between the ages of 13 and 17, 9% of Bangladesh's population belongs to this age group (Worldometer, 2022).

5.4 Academic Institutions in Bangladesh

According to a report of the Bangladesh Bureau of Educational Information and Statistics, the number of students in Bangladesh is on the rise. The report shows that there are multiple differences between academic institutions based on their nature (BANBEIS, 2021). As a result, education in Bangladesh is diverse. It varies depending on patronization (Government, private organizations and private proprietorship) and language (Bangla, English, Arabic). Female student ratios are higher in most of the categories than male student ratios, although the situation is reversed in teacher gender ratios (See details in the appendix). It enables us to infer that in the previous generation, male students outnumbered female students, leading to a shortage of female teachers today. However, as the female student changes are significant, the female instructor ratio may rise as well in the coming days. The cost of education varies depending on the patronization (Public/private), but in general, government-run academic institutions offer subsidized education and students are admitted to private or public academic institutions based on their socio-economic circumstances.

5.5 Right to Education in Bangladesh

If we look at Part II of the Constitution of Bangladesh, we will see that the right to education is mentioned as a Fundamental Principle of State Policy (FPSP)\textsuperscript{[2]}, which means that the state will build its laws and policies on these principles. Article 15 of the constitution mandates that the state will provide its population with food, clothing, shelter, education, and medical care, while Article 17 mandates that the state will take effective measures to achieve general education. Bangladesh's constitution requires the establishment of a uniform, mass-oriented, and universal educational system, as well as the provision of free and compulsory education to all children for a specific amount of time defined by law. It pushes the government to provide a suitable form of education to satisfy society's demands, as well as produce citizens who are adequately taught and motivated to meet those goals (Badruzzaman and Mian, 2015).

5.6 Primary Education in Bangladesh
The Compulsory Primary Education Act 1990 (implemented in 1993) was the most notable piece of legislation, as it mandated primary education be free and compulsory for all children in Bangladesh. The devotion to extending primary education was reignited in the 1990s, and as a result, the Bangladeshi primary educational system drastically improved during this time (Rose et al., 2014). The Compulsory Primary Education Act 1993 established the five-year primary education program free in all government schools and made education for girls in rural locations free up to 8th grade. It also implied additional interventions, such as the Female Stipend program, Food for Education (FFE), and, most recently, the Primary Education Development Program (PEDP II), a six-year program that began in 2000 and strengthens access, reliability, and effectiveness in the primary education sector (Badruzzaman and Mian, 2015).

The National Education Policy of 2010 is a revised version of the Education Policy of 2000. This program resulted in some significant changes in the educational system. The first major reform was the mandatory attendance of a one-year pre-primary school for children aged 5 and up, as well as the restriction of admission tests in class 1.

By 2018, the second significant reform appeared to be the extension of primary education to Class 8 rather than Class 5. This was done to make it easier for students from low-income families to finish their education. This policy also prohibited any individual or NGO from running primary education facilities by requiring them to obtain a permit from the appropriate authority (MoE, Bangladesh, 2010). The NEP highlighted the importance of all educational streams teaching some common mandatory subjects. It also introduced significant modifications to the examination structure and public examinations.

5.7 Rise in Education

Bangladesh's primary and secondary school enrollment is consistently growing. According to the government of Bangladesh's Household Income and Expenditure Survey (HIES), the gross enrollment rate (GER) in primary schools have increased to 101% since the country's independence in 1971, while secondary school enrollment has more than doubled to 63%. In addition, in both primary and secondary education, Bangladesh attained gender parity (well in advance of its 2015 MDG) (World Bank, 2013).

5.8 Education System in Bangladesh
Bangladesh's public education system is one of the most centralized in South Asia. Bangladesh's education system is centralized financially and administratively across all segments, in contrast to Pakistan (where provincial governments predominantly supervise education), India (where local governments are constitutionally assigned predefined administrative control over schools), and Nepal (where community groups manage schools). Considering the centralization of the system and a lack of coordination among ministries, a diverse range of educational stakeholders have boosted access to primary and secondary education (World Bank, 2013).

5.9. Quantity-based Teacher-Student Comparison in Bangladesh

According to the Bangladesh Bureau of Educational Information and Statistics data, the teacher-student ratio per institution varies depending on categories. The student-teacher ratio varies depending on the category of academic institutions. Secondary education lacks teachers in proportion to the number of students, and English medium institutions can provide students with the largest ratio of teachers. Colleges are inadequate in comparison to other sorts of educational institutions. As a result, the average number of students per college is the largest, although English medium schools have the fewest students. English medium schools, on the other hand, have a considerable number of teachers in comparison to their students. Although madrasah education has the smallest number of teachers per institution, the student-teacher ratio is fairly acceptable (BANBEIS, 2021).

Bangladesh as a country has millions of students who are enrolled in different classes and pursuing their study. But often time, they don't get proper guidance from their academic institutions to learn properly. Generally, we can see the renowned academic institutions’ students do better on average than other institutions. As there are no admission tests in preliminary stage of schools and students get admitted into schools by lottery, we can depict that the learning quality differs majorly by the quality of instructors they have.

Figure 5.1 dictates that English medium schools have the lowest ratio of students in proportion to its teachers and that's 2.9%, and the same variables’ ratio for the Bangla medium schools is quite high and that's 24.5%. Secondary and college (Higher secondary) education have the highest ratio of students in proportion to their teachers. In Bangladesh, many of the academic institutions do not have adequate numbers of teachers. It occurs due to multiple level of problems. Firstly, the pay scale is not adequate for the school teachers. Secondly, there is a tendency in our youth to get into BCS exam and secure a job. But, as a 9th grade on the national pay scale they can join in the colleges in Education Cadre, not in the schools. Generally, if a person wants to be a school teacher, s/he needs to pass another exam called Primary Assistant Teacher Recruitment exam. A primary school teacher gets his/her salary in the 11th to 13th grade in the national pay scale. This disparity creates reluctance to join in as a school teacher in Bangladesh.
Figure 5.2 shows the comparisons of average student numbers per institution based on their category. As previously mentioned, the college category had the highest peak, while English medium schools had the lowest average number of students per institution. There are multiple reasons for the lower number of students in English medium rather than Bangla and Arabic medium. Typically, parents cannot afford to send their children to English medium schools because of the higher tuition rates. Moreover, English medium schools are not widely available in Bangladesh. There is a gap between the supply and demand regarding academic institutions. In the cities, there are more students than the capacity of academic institutions. On the other hand, if we see at the rural areas, the scenario is not the same there. In many cases, we see an unequal distribution of school and colleges. So, students have to travel a long way to attend their academic classes. Parents tend to send their children in the academic institutions which are relatively renowned.

Figure 5.3 compares the average number of teachers per institution depending on their classification. English medium schools had the maximum average value, while secondary education and madrasah education had the lowest average number of teachers per institution on average.

5.10 Bangladeshi Students’ Demography

According to BANBEIS (2021), the number of students varies in different grades. In 2020, there were 15,962,911 students in Bangladesh studying in grades 6 to 12. This information is crucial in determining the effect of the COVID-19 pandemic on them, as well as the severity and adoption strategies. We can depict the gender comparison of the secondary students (Class 6-10). It is apparent that the number of female students in Bangladesh outnumbered the number of male students in 2020. There were 6,971,196 girls and 5,763,875 boys in secondary education (See details in the appendix).

BANBEIS (2021) has reported the gender ratio of secondary (Class 6-10) students in 2020. Although no other gender’s function, number, or statistics are included in the official data of the government of Bangladesh, 54.74% of girls and 45.26% of boys were in secondary education then. represents the gender ratio of secondary (Class 11-12) students In 2020. As per the binary gender mentioned in the government statistics, we can see there were 48.85% girls and 51.15% boys in the higher secondary segment. This helps us to infer that the dropout rate from school is higher among girls rather than boys as the disparity between the ratio of girls and boys is 9.48%. Girls’ amount was quite higher than the boys’ number in secondary education. Though in the higher secondary segment girls are still slightly behind boys in the ratio (2.3%), their dropout rate is alarming. This causes due to child marriage and other social factors. The gender contrast of higher secondary students is also significant and deserves attention (See details in the appendix). The number of male students in Bangladesh in 2020 was clearly higher than the size of female students. In higher secondary education, there were 1,572,781 girls and 1,647,000 boys.
The total number of students with special needs by type in 2020. In all, there were 29,566 students with special needs in schools, 6,744 in colleges, and 9,248 in madrasahs, which summed to a total of 45,558 in all categories. Physical disability had the highest number of individuals, whereas cerebral palsy had the lowest number (BANBEIS, 2021).

The gender distribution of students is shown in figure 5.4. As males exceeded females in almost every sub-category, the overall number of male students with special needs outnumbered the females.

5.11 Bangladeshi Adolescent Children's Perception of Online Education

Figure 5.5 shows that 8% of the students who participated in classes via remote learning techniques, mostly through Sangsad TV[3], found them utterly beneficial. It was generally beneficial to learning for 56% of the students that took part. Only 4% of the students who took part in the survey thought it was useless or ineffective at all (Brac.net, 2020).

Fatema (14) is a student of Viqarunnisa Noon School and College. She's very enthusiastic about extra-curricular activities apart from her academics. She was told by her school's clubs that she can join them after being promoted from class 5. But, when she was about to join the clubs, the pandemic started. Her school remained closed for a long time according to the government circulars. Though the teachers and the governmental authorities focused on academics, they didn't bother with extra-curricular activities. This scenario shows that online education was not considered as a regular operation by any of the stakeholders. Rather they took it as an apparent solution to adapt to the pandemic. That's only they operated only the essential part of the education through online. As a result, it is apparent that, despite the varied experience with online education, extracurricular activities have faded their role during the lockdown.

5.12 Conclusion

In this chapter, I have presented the existing data that we have regarding academic institutions, gender ratio, teacher-student ratio, internet access, and perception of online education. It helps to get an overview of the scenario of education in Bangladesh. Various matric and numeric help us to get the research
findings we are looking for. Before digging deep into qualitative research, these numerical values will give us an overview of the whole situation.

[1] Positivism is a method of studying society that emphasizes the use of scientific evidence such as experiments, statistics etc.

[2] The Fundamental Principle of State Policy (FPSP) addresses the principles of nationalism, socialism, democracy, and secularism, as well as the principles derived from them.

[3] Government of Bangladesh. Telecasted class lessons on Sangsad Bangladesh Television during the lockdown due to Covid 19. It's a Bangladeshi state-owned television channel, which is the sister concern of Bangladesh Television.

The Educational Challenges Of Adolescent Children

6.1 Introduction

The global impact of the COVID-19 pandemic was felt in many sectors, including education. However, it is not unreasonable to state that those with resources and infrastructures around the world adapted to the rapid transformation. Online education was not new to the world, but it received a massive boost as a result of the efforts to keep social distance from hygiene concerns. However, educators and students around the world faced significant obstacles in adapting to new technologies. In this chapter, I'll go through the challenges that participants in 2 of my Focus Group Discussions addressed that were faced by Bangladeshi students and teachers during the pandemic.

6.2 Digital Literacy

Bangladeshi teachers and students were introduced to online classrooms for the first time in their lives during the pandemic. They encountered challenges in responding to this trend since generating learning and learning experiences in virtual classrooms differed significantly from traditional classrooms to technology-based education. The majority of the teachers and students were unfamiliar with the technology. They might have used smartphones or the internet before the outbreak, but most of them had never done educational kinds of stuff with those. Another issue with those technologies was the frequent updates of features. Ratul (15) said, "More updates with more complicated features appeared as soon as we became accustomed to the functions of an app, and we had to struggle once more." Low digital literacy is one of the technical difficulties related to computer and smartphone handling. Additionally, students and
teachers need to download apps such as Google Meet, Zoom, PDF reader, and others. Because of the lack of experience, it appeared to be difficult at times.

6.3 Internet Issues

Mou (15) said, “Due to limited internet connectivity, in the beginning, connecting to online classes was difficult. Although the speed was slow, the cost was high.” During the lockdown, the majority of students and teachers had internet problems. Students use mobile internet, which disrupts Internet connectivity due to poor internet signals, therefore internet facilities are still infrequent in rural areas. In addition, internet access in our country remains incredibly expensive. Mobile operators who sell internet data packages frequently fail to meet the promised bandwidth speed. Even if consumers are dissatisfied with internet services, they have no other option.

6.4 Time Management

One of the most tough situations that teachers experienced during the pandemic was finding enough time to prepare lesson materials. They had to conduct classes on Zoom/Google Meet for the first time in their lives. It wasn't easy for them to talk for hours without writing anything down. As a result, they began using Microsoft PowerPoint/Google slides to create lecture materials that could also be presented in class. However, because they were unfamiliar with the technologies, they had to spend a significant amount of time producing lecture presentations. This led them toward stress.

Adolescent children also struggled with time management. They had no prior experience dealing with such a situation. They had tons of assignments to complete, which the Ministry of Education provided and instructed to keep them on track. However, they frequently found it difficult to keep up with homework and online classes. Ashik (15) said, "I had no choice but to study. I was constantly preoccupied with assignments and online classes. I used to forget to eat lunch and take a bath until my mother reminded me."

Figure 6.1 shows a survey of time distribution patterns during lockdown conducted by Brac, which included 1938 students. They were engaged in a variety of extracurricular activities in addition to academics. The
majority of students (55%) assisted their parents with household chores. In their spare time, 27% of students spent time talking with family, friends, and relatives. People spent 19% on their phones, browsing the web, and playing online games. 18% of students spent their free time on creative or leisure activities like reading books, painting, singing, making toys, or caring for pets.

It is clearly visible that students were bogged down with household chores mostly and had little space of time to do something productive. They often spent their leisure time playing online games and gossiping. Saima (14) said, "We could not sleep adequately during the lockdown as we were obsessed with our online activity and there was no coming back."

According to the same survey statistics, female students (65%) were more involved in domestic activities than their male counterparts (44%). Male students spent more time chatting (30%), talking on the phone, using the internet (23%), and playing online games (23%) at a higher rate than female students (14%). Apart from family activities, hobbies were the only activity in which female students spent more time (21%) than male students (16%). Both genders, on the other hand, spent about the same amount of time watching television (9%) (Brac.net, 2020).

6.5 Lack of Proper Assessment

There was no appropriate way to assess students during the lockdown, such as traditional exams. Though universities in Bangladesh, particularly private universities, created their mechanism for proctoring online exams, it was not applied at the school or college level. Students were given assignments to complete and submit in a handwritten copy within a certain period. HSC 2020 students were promoted without taking traditional examinations, and their grades were published as an average of their previous public exams. All the other students who were in different classes were promoted to the next class as well. In general, this situation was addressed as ‘Auto promotion’.

During lockdown Students in their classes were not paying attention to the teachers. Kishor (15) said, “I couldn't concentrate in my online classes because I was concerned about what would happen if there were no exams.” Due to a lack of adequate assessment systems, students and teachers gave up hope in education. As most Bangladeshi educators and students focus on exam-based learning, this problem was inevitable.
6.6 Anxiety and Stress

A survey of Bangladeshi students was done in the second week of May, from May 6 to May 12, 2020, to see what they thought regarding 'Basic information', 'Depression', and 'Anxiety'-related data. According to the results of the study, 392 students (82.4%) had mild to severe depressive symptoms, while 389 students (87.7%) had acceptable to high anxiety symptoms. More than 60% of the students were male (67.2%), with the remainder being female. One in every three students was from a rural area (35.1%) in this study (Islam et al., 2020). Shamsunnar (41) is a housewife. Both of her children were adolescents during the pandemic. Her children were with her for the maximum time of a day and during the lockdown. So, she got the chance to see the change in her children closely during the pandemic. She thought her children were stressed due to the transitions. They had to sacrifice their sports and other social activities with their friends. They used to get annoyed with simple things. It made her tense a bit as well. But, according to her, they started behaving like the previous time once they got used to the changes. This reality shows us the anxiety and stress faced by adolescent children. But, eventually, it improved with many of them once they successfully adapted to the transitions.

Another report, conducted by Brac in 2020 in the context of the COVID-19 crisis, is worth mentioning. Despite good messages from parents and teachers, the students were scared. "We can't claim that students are not afraid," a high school teacher said. She also added, “As a teacher, I make every effort to contact them in order to inform them about the virus. I tell them to keep their distance from others, wash their hands with soap, and stay at home. Even still, some of the students are nervous.” According to the report, the research included 1,938 participants from high schools. Almost one-third of students become quiet and irritable. 28% refuse to read or play, 28% are afraid of strangers, and 25% are hesitant to communicate with strangers. 20% of students are afraid of being alone at home (Brac.net, 2020).

6.7 Ineffective Learning

Many adolescent children found online learning to be ineffective. When a child learns something while interacting with others, he or she is more likely to retain it. The majority of the online classes were one-way.
The teachers delivered their lessons, and the students attempted to comprehend them. As a result, individuals did not always find online learning to be beneficial.

The majority of adolescents from Chittagong hill tracts didn't understand anything throughout the Sangsad TV classes. The vast majority of the students lacked access to a television at home. Furthermore, although Bangla is not their native tongue, it was used as the medium of instruction. As a result, they were unable to comprehend the lessons and found them ineffective (Brac.net, 2020).

Figure 6.2 shows a survey report of Brac among 855 adolescent children regarding the effectiveness of distant learning. Many adolescent children found online learning to be ineffective. When a child learns something while interacting with others, he or she is more likely to retain it. The majority of the online classes were one-way. The teachers delivered their lessons, and the students attempted to comprehend them. As a result, individuals did not always find online learning to be beneficial.

It was highly effective for 8.4% of students who participated in classes through distant learning methods, primarily through Sangsad TV. 56% of the students who participated thought it was useful to their learning. Only 3.7% of those who participated in the survey thought the procedure was ineffective (Brac.net, 2020). While a significant percentage of students found distance learning to be beneficial, a large number of participants did not. In comparison to traditional studies, the discrepancy between different economic classes was greater. Students suffered from a variety of problems and were unable to process what they had learned. While other elements influenced their evaluation of the efficiency of distant learning, one of the most important factors was the procedures of distant learning, which they regarded as difficult. Dilip (16) said, "I don't understand my lessons in online classes. I don't feel like learning without communicating with my teachers directly."

6.8 Conclusion

Assessment and evaluation activities in the current infrastructure must be strengthened to make online learning a robust ecosystem for students, as they are a critical part of distance education. During the transition, adolescent children were dissatisfied with the services they obtained through online classes. It is a reflection of not just the ineffectiveness of online learning methods, but also a combination of other socio-economic factors. Academic institutions in online education are required to produce high-quality content. It should be emphasized that online education content is identical to that of face-to-face instruction; however, presenting content in the digital medium requires some extra consideration. The
educators were unprepared for the change at first. This had a direct impact on the retention and effectiveness of Bangladeshi adolescent children.

Social Impacts Of Online Education

7.1 Introduction

Culture is a complex system and is the accumulation of people's actions and attitudes in society. Individual conduct expresses the type or nature of culture. Adolescents get a variety of experiences from their cultural environment, which enriches their personalities as well as their cultural knowledge. In this chapter, the impact of the rise of online education in Bangladesh due to the pandemic among adolescent children and its impacts will be discussed and analyzed as per the collected data. With the introduction of modern communication systems along with online education, I will try to highlight changes in social and cultural issues, as well as the nature of social relations and their different elements. I'll try to demonstrate how adolescents' social habits and personalities are shaped by showing how online platforms are accelerating or altering the realm of social communication. Simultaneously, we will address how digital devices, social rituals and forms of entertainment influence adolescent children's perceptions of social behavior.

Social communication is used to practice social relations in any community. This is a type of social capital. A person's social network is more effective than economic capital in shaping one's identity in a society. The social contacts and social relations of a society's members are crucial to its sustainability. Due to the pandemic, people couldn't communicate properly in person and use their social capital to sustain. Bangladesh is a country of early marriage's high rate. Female students found it difficult to maintain their hygiene throughout COVID-19. Many of them were unable to utilize sanitary napkins due to financial constraints. Increasing numbers of female students were forced to work as sex workers due to economic hardships and familial obligations (Khan et al., 2021). So, the socio-economic condition became vulnerable for most of middle and low income families and adolescent girls suffered quite a lot for that. The outcomes of adolescents who learned socialization lessons over the internet during the pandemic will be studied in this chapter.

7.2 Internet in Social Communication

Children communicate with their acquaintances and friends via texting and phone conversations using digital devices. In this scenario, there was an opportunity to enhance that communication by using video
calling apps such as Zoom, Google Meet, Viber, WhatsApp, Messenger, and others. Though communication through these channels existed prior to the pandemic in Bangladesh, the situation accelerated online communication. The pandemic and online education were good enough reasons for adolescent children to convince their parents to pay for their internet because broadband internet is not available everywhere and mobile data packages are expensive in Bangladesh. When it comes to talking and texting, children prefer classmates, acquaintances, and relatives. They did it a lot of the time while taking online classes. As a result, some participants indicated that it was difficult for them to focus on the online classes because they were not directly observed by the teachers.

Munia (15) commented, "Every day, I talked on the phone for 3 to 4 hours. I spend the majority of my time conversing with my classmates. However, I frequently talk for an hour and a half with one of my friends late at night. I talk for 15 minutes maximum if I talk to my father. That's all there is to it. I don't spend much time with my relatives." Sagar (17) explained, "I talk to one of my female friends frequently. However, I rarely talk for more than an hour."

From the field data, I discovered that when it comes to phone conversations, adolescents prefer to speak with friends and classmates over relatives. Tonny (17) stated in this case, "Relatives are rarely discussed with. If relatives call twice a month, they are spoken to." Tushar, a 15-year-old ninth-grader, stated, "On a phone, sending an SMS is much easier. That's why I send text messages rather than phone calls. Mehrin (17) stated in this case, "I spend my days writing text. I can communicate with my friends in this way conveniently." Despite the many advantages of smartphone communication, children are unable to use these features in their social relationships. As a result, the scope and speed of their contact have greatly grown, but meaningful social communication and relationships have only developed to a limited degree.

7.3 Impact on Social Relations

Children are socialized through various familial and societal norms and customs, such as how the child will behave, how s/he will treat seniors, how s/he will treat juniors, and how they will interact with teachers, friends, and neighbors. The use of the internet produces behavioral changes in children. Any visitor to their house is a part of the social process of exchanging greetings. However, even after the lockdown, adolescents are so absorbed in the online activities that they are unaware of who is visiting their home or who is sitting nearby. The use of the internet has altered the type of social communication that has an impact on interpersonal relationships.
The internet is expanding the reach of communication. Children can now communicate with any friend or family member at home or abroad. However, as a result, direct communication is declining. They are becoming accustomed to communicating by phone conversations, SMS, and email, among other methods, rather than directly. As a result, the relationship's depth is decreasing.

In this context, Ila (15) said, "I usually go out for a walk with my friends in the afternoon. I used to meet them every day. After starting to use the internet heavily, now I sit on Facebook or listen to music." Adolescent children couldn't interact with their friends or even play, in order to maintain social distance. This caused them to be distressed psychologically (Khan et al., 2021). Akash (17) added in the same context, "Every afternoon, we used to play cricket with our friends on the school field. However, once I started using a mobile phone, I stopped playing regularly. At home, I play online games or use Facebook." Faisal (16) said, "My grandfather's house is at Dhamrai. I go once a year. I stay for two days. It doesn't feel good to stay." In the same context, Raisa (17) said, "Almost all my relatives live in Cumilla, yet I don't see anyone except for an occasion. I talk to my cousins on the phone from time to time."

Fatin (16) is a student of Cumilla Cadet College who lives in their residential dorm. When the lockdown started, he came back to his home in Dhaka and tried to focus on his studies from home. But as a residential student, he was used to being with his friends all day long. That's why his bond with his friends was quite strong. But due to the changed situation of the lockdown, he felt isolated from his friends. Though he kept communicating with his friends through mobile phones, he thought in-person communication and distance communication had a lot of differences. Moreover, he felt that he was able to learn his lessons quickly with his friends which was not possible through online education. The perspective of Fatin is not a unique one. Many adolescent children felt the same due to lockdown. Offline classes were important for them to learn their lessons collectively. They used to take help from each other when they were unable to get anything from the teachers.

The talks of informants reveal that adolescents do not communicate with their families. In many circumstances, however, a prosaic attitude can be observed in dialogues. In some circumstances, there is a lack of sincerity in connection with family. Excessive internet use has a visible effect on many people, lowering their feelings for relationships.

7.4 Impact on Friendship
Adolescents develop friendly relationships with their teachers, friends, relatives and neighbors. Children at this age are naturally physically and mentally active. Change makes them uncomfortable. Many topics are discussed openly with family members or grownups. Due to their good relationship with their friends, they can readily convey their feelings despite the inability to discuss them. Parents and other family members can become friends as well. Friendship has a considerably broader scope in the age of the internet. Friendships with people of all ages and genders can be formed via social media platforms such as Facebook, WhatsApp, and Twitter. Internet usage has boosted such communication, but the number of face-to-face meetings with friends, chatting, and going to the field have decreased. In this case, Akash (17) said, “Before getting into the online world, we used to go to the field with all our friends. It takes 22 players to play football, but we had so many friends that we had to play in two teams. Gradually, the number of friends decreased. I noticed that the friend started using his smartphone and he stopped coming to the field or playing games while sitting on the side of the field.” Ashik (15) shared a funny story, “My father bought me a phone so that I could stay home and engage in my online studies rather than roam around with my friends. But after getting the phone, I became so preoccupied with the phone that my father forcibly sent me to join my friends again. But when he came out and saw that I was sitting with friends, but playing games on the phone.” This incident explains how social activities are transforming simultaneously with the usage of the internet and other digital devices. Parents are in a dilemma that whether they should provide their children these technologies so that they can kept in touch, or they should be restrained to use for uncertain issues.

7.5 Culture and Linguistic Change of the Adolescents

A child's cultural learning is acquired from his or her family and social world after birth. The nature of her/his relationship with family members, the various customs of society, the customs or whatever, his/her language, clothes, and personal behavior will all be influenced by the culture. Culture, or civilization, is a complex approach that integrates people's acquired knowledge, beliefs, arts, ethics, legal processes, and other skills and habits as members of society (Tylor, 1958). Apart from this description, several cultural practices can be observed in various locations around the world. Bangladeshi culture is also distinct from that of the United States.

After birth, a child grows up in a cultural setting. His or her personality is created in such a way that the personality and cultural practices of a child in American culture and a child in Bangladeshi society are distinct. Personality is an integrated type of societal knowledge and experience. And, in order to comprehend a culture, one must observe how personalities develop in that society. Culture influences personality, but personality does not influence culture (Mead, 1928).
The internet has given the social and cultural practices of children a new dimension. As a result, there is a distinction in how a child's personality appeared before and after using the internet. The pandemic and the rise of online education have undoubtedly increased adolescent children's 'screen time', affecting social interactions, communication, social rituals, language, entertainment, and socialization. This part focuses on the effects of children's language.

Language is an essential component of culture that allows people to become more social. To comprehend a society's culture, one must first understand its language, literature, and so on. The language that children use on the internet or in text messages on their devices is crucial. This explains the shift in their vocabulary, the way they think about social behavior, the changes in their routines, the content of their talks, and the notion that they are creating new civilizations in the virtual world.

Due to the ease of access for students, EdTech companies like 10 Minute School, Shikho, Roots Edu, Ostad, Esho Shikhi, Shikhbe Shobai, Sohopathi, Thrive, Upskill, EduHive, etc held free live classes on Facebook during the COVID-19 pandemic. And that was the time when students from one region of the country could attend classes conducted by educators from other regions. This had a direct impact on their speech and accent.

Many of the adolescent children who took part in my research are being influenced by the language of Facebook. As Shubho (14) put it, "There are various statuses and comments on Facebook that come to mind all the time. And these are the ones that come out in the conversation all day long." Faisal (15) said, "I am obsessed with the status, comments and chatting on Facebook and at night I dream about these things." Asked what type of language is used on Facebook, Arif (17) said, "I also insert one or two English words into Bangla words." Mou (15) also added, "I write everything in Bengali on my device but I spell it in English." Rakib (17) said, "Writing a lot in a message is a hassle, so I write in the shortcut." Kishor (15) said, "Before it was difficult to write a message, many words would be replaced by shortening. Now, even though writing a message is easy that habit has remained."

The information provided by my informants indicated that the language they are accustomed to using online is not comparable to ‘standard’ (Known as Promito) or even any dialect of Bangla. As a result, when they are talking the Facebook-style, their language is becoming a form that does not match the 'traditional' Bengali language in any way. As a result, their language is changing.
They are also changing the language from English to Bengali. In this context, Dilip (16) said, "We often use a lot of funny things like 'Kemne Ki', 'Purai Oshtir', 'Purai Pankha' on social media." The examples given by him are using English 'how come', 'totally awesome', 'totally fantastic as a complement to such expressions in Bengali. Mehrin (17), said: "We have a lot of fun on Facebook. We also talk funny things when we talk to our female friends. But adults don't like the fact that we are always laughing."

Rebecca Jahan (42), a teacher by profession said, “Many of her students spelled ‘nite’ instead of ‘night’ in the exam script. It was not quite usual to make most of the students the same silly mistake.” Ratul (15) said, "I am accustomed to writing short spelling on my smartphone. It is very difficult to spell correctly in my exams."

Faisal (15) said," I find reading books boring. And Rabindranath, Sarat Chandra, their books are very difficult, I do not understand anything of their language." Shubho (14) said, “I used to read a lot of non-fictional books previously. But now with the advent of the internet, books do not seem interesting. Sometimes I try to read, but I don't enjoy it anymore."

In the context of this discussion of the studied children, it is understood that they are practicing a different language style on social media apart from studying. As a result, there is a lack of proficiency in many cases regarding their language or English language. Because they are writing in different misspellings. They are also making spelling mistakes in school assignments and exams. This is also very important in the practice of culture because as they become accustomed to writing, as such, their grasp on their language has decreased and in many cases reluctance towards language made them unable to read books, poetry and write non-fiction. It is difficult for those who are accustomed to using such language to pay attention to Rabindranath or Nazrul. It is difficult to say for sure whether the change in culture is due to the internet, but it is clear that they are in the process of integrating into the global culture through the internet and this is creating apathy about their own culture, literature and language.

7.6 Conducts in Social Ceremonies

Every community has its own religious beliefs and practices. In Bangladesh, Eid, Puja, Pahela Baishakh, Pahela Falgun, weddings and other festivals are held throughout the year. Young people are the heartbeat of these festivals. Giving cards to friends to exchange greetings at these festivals, visiting friends and relatives' homes for Eid/Puja, and hanging out with friends on Pohela Baishakh and Pahela Falgun are all Bengali traditions.
In the age of the internet, the way people exchange greetings has changed. Sending a text message on Messenger, WhatsApp, or SMS now completes the task of exchanging good greetings. Going to a friend's house for Eid Puja, Pahela Baishakh, or Falgun is regarded as politeness rather than going to a major Chinese restaurant. The global consumerist society has influenced this shift in adolescent children's social conduct.

When discussed in this regard, Shubho (14) said, "On Eid, Puja, Pahela Baishakh and friends' birthday, we forward the bundle SMS package of mobile together. And now, with more convenience, you don't even have to buy SMS to wish on Facebook." Saima (14) said, "I can't get out of the house without any occasion. It is foolish not to take pictures as there is an opportunity to get out in a hurry. And on any occasion, 200-300 pictures are taken all day long."

On the occasions of Eid, Puja, Pahela Baishakh, Pahela Falgun and other western culture-centric occasions like Valentine's Day, Friendship Day, etc., telecommunication companies offer attractive offers for business purposes. This increases the profits of these organizations and encourages the celebration of such festivals and days more online. On Father's Day, Mother's Day, and Friendship Day, without meeting or greeting them or talking to them directly, they give emotional status on social media. But most parents do not have a Facebook account, which shows that even among adolescent children, a culture of showing off or artificial love and formality has developed.

7.7 Social Values and Ethics

I did not attempt to establish that utilizing the internet is harmful to societal values in my research. However, I've found that some children do not receive social value education from their families, or they establish their standards based on their thinking, which may or may not be acceptable to the family or society. In society, social values and ethics are practiced to a certain 'standard'. Though there are numerous exceptions, social norms are quite influenced these days by online elements.

The family is the source of initial social ethics education for children. Teachers also have an impact on a child's values. As a result, children develop a sense of justice, religious convictions, social customs, social
standards, and respect for the opposite gender. But, due to the disruption of COVID-19, adolescent children faced a transitional phase of social norms and values.

Apart from online educational platforms, children can access various websites on the internet. This opens up the possibility of learning a lot about a lot of things, both known and unknown. As a result, the mindset that is widespread in the world influences their thinking. At this age, children are naturally curious. They desire to know and comprehend everything going on around them. Simultaneously, her/his physical and mental transformations become a source of fascination for him/her. In our culture, a child’s 'education' on sex is not institutional, nor even familial, but rather a kind of prohibited, hidden conversation with his/her friends and peers. Their curiosity rises as a result of smartphones and the internet, and they eventually become familiar with explicit content, which has a significant impact on the development of their social values.

7.8 Disparity of Perception Regarding Online Education

The results of entirely online coursework and assignments show both the benefits and drawbacks of online education. Online education is one of the fastest-growing segments of Bangladesh’s education system and for its growth, foreign investments are coming frequently. Surge, Sequoia Capital India's rapid scale-up program, has invested $2 million in the online educational platform 10 Minute School to enhance investment in products and technology (Hasan, 2021). Shikho, another Bangladeshi education technology (EdTech) firm dedicated in making high-quality education accessible and reasonable, raised $4 million in new early funding. This came up on top of the $1.3 million it raised in August 2021, bringing the total amount raised to $5.3 million (Dhaka Tribune, 2022).

Shamsunnar (41) a parent doubted the effectiveness of online education and said, "I have never seen students doing well without a proper attachment with books and teachers and without a proper routine." Meemnur (25) a Technical Product Manager of 10 Minute School said, "The way we think to revolutionize education is not often happening due to lack of resources. Currently, we are improving our learning materials to smoothen the users' journey." Teachers, intellectuals, companies, and the wider public, among others, are wary of the quality and usefulness of online education, which they believe is inferior to face-to-face education. Students in online education, particularly those who are underprepared and disadvantaged, underperform and have poor outcomes on average. In online programs, gaps in educational success between socioeconomic groups are considerably wider than in traditional coursework.
Some Bangladeshi students were found to be wasting their time on Facebook, television, and online series rather than concentrating on their studies. Students were frequently involved in needless gossip in several Facebook and WhatsApp groups, compromising their academic future. Although fresh graduates were supposed to secure employment, the COVID-19 pandemic made this unfeasible. Their deprivation also increased, which is having an impact on the country’s economy. A student of Daffodil International University committed suicide on 11th June, 2020 as a result of anxiety, stress, frustration, and familial pressure, which is unfortunate (Mamun et al., 2020).

Faisal (15) said, “Due to lack of money to purchase internet, I had to find Wi-Fi zone to download classes and couldn't always attend live classes.” Low-income households' monthly income was drastically reduced as a result of the circumstances. It was nearly impossible to educate their children and meet their demands with the limited funds available. During that period, parents did not have access to healthy food and were experiencing economic and social stress. As a result, given the current circumstances, parents are more prone to beat their children (Khan et al., 2021). Online education has failed to improve affordability in many instances, frequently costs more for internet and equipment, and does not offer a satisfactory return on investment for all. Student-teacher interaction is an important predictor of quality in online education since it leads to enhanced student satisfaction, learning, and outcomes. But, in a large online class, it becomes impossible for an educator to solve all the problems of students. Prova (24), a Product Manager at 10 Minute School said, "We are striving hard to enhance the CSat and NPS score of the participants. However, most of our users are not aware of these parameters." As a result, there is a distinct disconnect between the perspectives of producers and users of online education in Bangladesh.

7.9 Scopes of Improvement for Online Education

According to the findings of my study, stakeholders must take some initiatives to recover from the losses sustained by the lockdown and cope with online education. Hasmot (35) a parent of an adolescent said, "The problem with my son is he can’t find the necessary lessons when what are needed. He gropes like a blind". This is a problem for children who are not yet acquainted with online education. The government should expand online learning procedures and provide an opportunity for students with technological restrictions. Organized video lessons in a mobile app can solve this problem. Students across the country can use the app to find their required lessons.
Students with disabilities, ethnic minorities, students from rural regions, and madrasah students should all benefit equally from an inclusive curriculum and modified teaching method developed by the Ministry of Education and other relevant partners. Ila (15) said, "I understand during the class, but feel lost after getting back to my life beyond study. I don't know how to keep track of my lessons." To improve on this pointer, academic institutions and EdTech companies should ensure that teachers approach students at least once a week to guide how to continue their studies at home.

Mental health and its importance during any lockdown pandemic are essential for maintaining environmental harmony (Hemanth, 2020). Due to the unconsciousness regarding mental health, it was not very well taken care of in Bangladesh during the lockdown. But, as far as my study, some of the children were found who felt stressed, restless, demotivated, anxious and down for a long period of time. They were not sure how to utilize the spare time they were getting than their usual routine. NGO(s) and other organizations should step forward to distribute materials among teachers and students to help them avoid psychological stress and continue their education. Sampad (22) an online educator of 10 Minute School said, "This becomes very stressful for me to conduct online classes at a stretch. The thought of being recorded my every word and movement adds additional pressure." The Ministry of Posts, Telecommunications, and Information Technology may be a hotline number for students to submit any type of complaint, such as mistreatment, stress, or stipend, among other things. Mobile providers and the government should take the necessary steps to improve internet speed and distribute technological breakthroughs across the country, as well as remove barriers such as excessive internet prices. Teachers in academic institutions and online platforms should be more sympathetic to adolescent students. Due to a lack of resources for proctoring, online education frequently fails to assure adequate assessment of students. To address this, the Information and Communication Technology Division should plan to develop its system in the coming days to conduct transparent and fair online exams.

7.10 Transition to the Normal Life

After reopening academic institutions, both teachers and students tend to face some problems. Students are seen as not as attentive as the previous time and get tired of in-person classes quite often. Akash (17) said, "Physical classes seem lengthy and boring and we are not able to do anything else to listen to the teachers in the classroom."

Adolescent children are getting stressed thinking about their results in the upcoming exams also as they think their basic concepts are not good enough. Faisal (15) said, "I don't know how to!" By offering extra lessons and leisure activities and providing incentives for instructors to take extra care of the students, this problem can be mitigated as well. Also, exam questions should be simplified and the syllabus should be minimized to ease the burden on students.
Curriculum specialists should incorporate COVID-19 and other pandemic awareness lessons into the curriculum, as this virus is predicted to spread internationally for a long time in different variants. The government should allocate adequate money for each school and college to build the necessary infrastructure and provide teachers' training so that online and offline sessions can run simultaneously. The government, non-governmental organizations (NGOs), civil society, and the media should all work together to design and implement a coordinated strategy and action plan.

7.11 Future of Online Education in Bangladesh

Bangladeshi EdTech companies are concentrating on creating 3D videos on tough topics to easily explain them. Live lessons in mobile/web apps using their servers can assist students in remote places with limited connectivity. The web platforms' production quality is steadily improving. It will attract more people to stay connected in the coming days. Ayman Sadiq (29), the CEO of 10 Minute School, said, "I would like to start the plan with Augmented Reality with the resources we have and make a perfect app for learning everything in Bengali for 2-6-year-old kids as well."

The number of students in offline lessons is limited. However, online programs can address this issue by accommodating a large number of students in a single class. Students can communicate with the top educators from across the world at a reasonable cost. Online education also offers an advantage in recording classes, which allows students to review with the use of a rewind button. The growth of online education in Bangladesh is very fast. In the coming days online classes won't replace offline classes, but certainly, be a supplement for effective learning for adolescent children.

7.12 Conclusion

On the one hand, online education and internet usage strengthen social ties, kinship, and friendship, while on the other side, relationship depth decreases. Because adolescents prefer to communicate through Facebook chat, SMS, and phone calls. As a result, while maintaining links with distant relatives and friends, direct communication and contact with the outside world have decreased, resulting in generation gaps.
Previously, communication required sending a letter, telegram, or mail to a distant cyber cafe. However, with an internet-connected device, all of this work may now be done at home. Parents or older relatives, whether they are being used for instruction or amusement, are not well familiar with these technologies. On many occasions, adolescent youth do not have access to the world of communication. As a result, a generational divide has emerged. The world's news, science, literature, global politics, and economy may all be updated via the Internet. Furthermore, educational technology has enabled both the diffusion and restriction of explicit content. It has an impact on adolescent children's personalities and can sometimes degrade morality.

**Conclusion**

Technological advancements along with the scope of online education have generated huge waves in human life and it will earn historical significance. The development of new technology and equipment is gradually altering people's work habits and having a significant impact on their way of life. In the context of 'Digital Education,' information technologies such as the internet, cellphones, computers, and a range of other associated technologies are being introduced, and the use of various types of information technology is increasing at a rapid rate across the country.

Education technology combines communication, the internet, and entertainment in one package. When students enjoy their lessons, they are more likely to receive them effectively. That is why, to retain students in online classrooms, online instructors place a strong emphasis on entertaining. Adolescent students were reliant on mobile/web applications for fun while receiving online education through various mobile/web apps. They began to spend their locked-down days on Facebook, playing online games, and in various ways using their devices. While adopting these technologies for online education has become a symbol of social status and smartness for them. Their online presence has become an integral part of life, where friends and family awaken this sense of social standing. These technology-dependent devices are the tools for creating human relationships with individuals in the information age. Online education has also changed the way we communicate nowadays with teachers or students. Not only are communication facilities being rebuilt, but also human relations. The sense of time and place is continually evolving as a result of this simple method of sharing information technology. Several initiatives have been made in recent years to improve education through the use of communications and technology breakthroughs. Behaviorist, cognitivist, and constructivist theories have all influenced and will continue to influence the development of online material in different ways.

I ended up taking all of the essential procedures to ensure a successful research. I attempted to comprehend my research participants' contexts and examine their ideas that were related to my study. I applied the Chicago School's symbolic interactionist method, the cultural relativism theoretical framework
and the concepts of culture and personality school. I tried to conduct a comprehensive assessment that can be led by ethnography, the core methodology of anthropology.

Adolescent children in Bangladesh were one of the most vulnerable groups during the COVID-19 pandemic. Along with all other sectors, they suffered with their education. The government tried to provide them education with distance learning and online classes. But due to the lack of resources, digital literacy and training it was not quite fruitful always. But the students who got the opportunity to learn online, have mixed feelings. In my study, I tried to sort out their perspectives and where they want improvement regarding education.

Between space and time, there are distinctions in the structure of the human mind. Parents have different perspectives about how adolescents use the internet to exhibit their identities through entertainment and updates. Parents believe that using the internet would distract children from studying and that they would fall in love at a young age. As a result, they are reluctant to purchase digital devices such as smartphones. Working parents, on the other hand, are unable to devote time to their children's education. Again, homemakers are unable to keep company with their children since they are preoccupied with household tasks all day. As a result, parents are now obligated to provide digital devices for their children's online education. Children utilize their smartphones not only for online schooling, but also for entertainment. The children try everything they can to get the phone from their parents and apply various strategies. For them, online education has become one of the most compelling reasons to make their parents purchase a smartphone.

Children's physical and emotional health is being impacted by online education. Prolonged screen time leads to vision and hearing loss, weight gain, and health issues like insomnia. As a result, children are unable to concentrate on their academics and spend time exhausted and fatigued. Besides, adolescents are attending offline classes while sleep deprived due to the pandemic's habit of being awake till late at night. They have become so reliant on technology that direct communication and the desire to play with friends are decreasing. Even when in a face-to-face conversation, no one is talking to anyone; everyone is busy with the phones as if everyone is together, but no one is with anyone.

This new educational technology has simplified learning while also broadening the scope of social interactions. The ability to conduct synchronic sessions has been made possible by live video features on Facebook and other platforms. It has also broadened the scope of learning by allowing people to communicate with others from all over the world while sitting at home. As a result, it was only natural for social relationships to shift. However, it is clear from conversations and observations with research
informants that people communicate with friends, families and educators via phone calls, video chats, and texts.

Despite the fact that contact is maintained, direct communication is declining. And while informants are accustomed to interacting via phone calls and text messages, asking direct questions in offline classes is uncomfortable. Adolescents are naturally hesitant to talk to people who are not close to them. The discomfort is amplified by the transition from offline to online and then back to offline. This has an impact on the mental development and social interactions of the children.

Children's socialization processes shape their social relationships. Adolescence is the optimum time for a child's personality development and socialization. When s/he should be learning social factors, the child is playing video games, Facebooking, listening to music, or messaging on his smartphone. All of this is increased due to the rise of online education.

Socialization has an impact on social interactions, friends, relatives, and family bonds. Despite having thousands of Facebook friends, they do not form friendly relationships or communicate their emotions in everyday life. A tendency to brag about and exaggerate is being built. This causes children to feel lonely and frustrated. Relatives can be reached via Facebook, phone calls, or WhatsApp, but because they are not seen in person, an artificial relationship forms. Many characteristics of the virtual world have an impact on social connections. Children, in other words, blend two worlds to form their own. Children are trapped in a mental world that is neither real nor imagined.

Children's cultural behaviors are influenced by their use of smartphones during online schooling. Language, entertainment, discussion content, social conventions, daily habits, and other factors all play a role. Apart from studying, children of this age utilize various types of applications to retain communication through text writing and continue to exchange messages with friends throughout the day. Large words are shortened to make sentences and phrases easier to write. Smaller forms of words are utilized not only in text writing, but also in exam paragraphs and occasionally in conversations. The language of photo comments on Facebook is contaminating Bengali language vocabulary and affecting children's capacities and mentality.

When online education is used to support students who require additional learning opportunities to stay on track, the promise of equality and openness can become a reality. Online education is used to support students who require additional learning opportunities to stay on track. The promise of equality and
openness can become a reality if relevant stakeholders look into this with a view to ameliorating. Collaborative approaches can minimize the difference between the gap between dropping out and keeping on track. Retention and dropout rates, which affect transition and the number of years it takes to produce a graduate at a specific level of education, are used to evaluate an education system's internal efficiency. Without access to online education, the adolescent students of Bangladesh would have lost 2 academic years due to the pandemic.

Teachers in institutions of higher education with limited resources may benefit from online learning as a supplement to regular classroom education. Freelancer educators can make a profit from online education as well, which makes new ways of thinking and teaching subject matters. Whether we expect huge breakthroughs or little advances in learning as a result of online initiatives, the values of inclusiveness entail a huge dimension, which may rely on online technology that facilitates interaction. Bangladesh's education system, like most other countries around the world, has undergone a significant transformation since the outbreak of the COVID-19 pandemic in March 2020. My research looked at how teachers, students, and parents responded to online education during the COVID-19 pandemic at the high school and college levels. The educational impact of the COVID-19 crisis was incredible. The swift impact of COVID-19 across the country had left many children experiencing untimely school closures, which has led to the conversion of physical classroom learning to online learning. However, the scenario produced more serious issues, such as the digital divide, in which students had limited or no access to digital devices. Despite the government broadcasting classes on TV and radio and placing online classes in some schools, many students who participated in online classes lack adequate technological resources.

Based on the information provided by the informants, I tried to analyze my observations. The respondent's social standing, values, employment, age, and other characteristics all influence the information he or she delivers in this scenario. Although the COVID-19 pandemic affected people from all walks of life, I concentrated my research on adolescent students to investigate how it impacted their schooling. I focused on gathering information of the informants' age, gender, school, occupation, and educational situations. The data acquired was also used to create a comprehensive picture of the respondents' socioeconomic condition using tables and figures. The socioeconomic background of a student influences how he or she learns and pursues learning goals. This is why, knowing the demographics of the research participants was crucial for me.

My research was carried out at Chandina, Cumilla of Bangladesh, at a few academic institutions, where schools were conducting online classes but were dubious about key issues such as lack of infrastructure, limited funding, and lack of student involvement, among others. Because of inadequate internet connections, repetitive lessons, and a lack of clear instructions, students had lost interest in participating in online programs. Given these flaws, this research recommends that community members, particularly
parents and social volunteer groups should build resilience regarding this sort of disruption in education. Strategic methods such as implementing a new policy for a specific amount of time and involving community members, which could facilitate growth in reducing the pandemic's online learning vulnerabilities. The collaboration of many stakeholders will facilitate the identification of all possible online education vulnerabilities and obstacles in Bangladesh. Along with the central plan of distance learning via online and offline classes, community members will indeed ensure their presence in every detail of the online and offline classes, such as serving as a medium for parent-teacher communication, keeping up with local administration, and organizing social awareness and volunteer campaigns.

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Declarations
A statement of ethics approval - I hereby declare that the paper entitled 'Online Education Trajectory during the COVID-19 Pandemic among the Bangladeshi Adolescents' is approved with research ethics by the department of anthropology of Jahangirnagar University, Bangladesh. A statement on participant consent - I take all the responsibilities that participants and their parents were aware of the fact that they were being a part of this social research and their names are mentioned with prior consent. A statement regarding potential competing interests - I assure that there are no potential competing interests in this social research.

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![Pie chart showing internet expenditure among online survey participants]

- Live Class: 42.3%
- App: 34.6%
- Recorded Class: 23.0%

Figure 14

Figure 4.13: Preferable medium for online education among the online survey participants (N=1013) (Source: Online Survey, 2021)

![Pie chart showing preferable media for online education]

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- Secondary Education: 28.8%
- College Education: 27.3%
- English Medium School: 2.9%
- Bangla Medium School: 24.5%

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Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- Appendix.docx
- Questionnaire.pdf