

Effects of Online Learning on Tertiary Level Students during COVID-19 Lockdown: A Case of Khulna University, Bangladesh

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Abstract: The purpose of this study was to identify the effects of online learning on tertiary-level students during the COVID-19 lockdown. The Khulna University students who studied any discipline and belonged in the 3rd year and 4th year were considered participants in this study. In-depth interviews and focus group discussion methods were applied to this study. By using convenience sampling, the researchers collected the data from 21 respondents. The findings of this study identified some positive and negative effects of online learning. Students got some benefits from online learning, such as students could spend their valuable time with their families, and online learning was very helpful for completing their courses and semesters on time. They have also faced some problems, such as economic hardship, internet disruption, discomfort, poor academic results, physical and mental health problems, and so on. If any pandemic or disaster happens in the future, online learning will be a prominent source for continuing education. For this reason, the study suggests that funding for online education, proper internet connectivity, and access to devices should be taken into account to manage online education for tertiary-level students.

Keywords: *Effects, COVID-19, Education, Online learning, Tertiary level*

Introduction: In late December 2019, a Coronavirus was first detected in the human body in Wuhan, China [1]. The World Health Organization has declared the outbreak of novel coronavirus-2 (nCoV-2) a pandemic and a worldwide public health emergency, and the entire world is trying to combat it. In the five months after the virus was first detected in December 2019, around two million people have been identified as confirmed cases of coronavirus illness in 185 nations around the world [2]. COVID-19 has disrupted all aspects of the world, including economic, social, political, and cultural aspects. COVID-19 is expected to have a significant influence on the world economy, with the possibility of a global recession. The abrupt closure of several industries and industrial farms created significant supply chain disruption. Many wealthy countries give social assistance to the most vulnerable citizens. However, the situation was rapidly worsening. The pandemic triggered the world's worst economic downturn in history, with more than a quarter of the world's population at the time being quarantined [3]. Since the start of COVID-19, not only the economic but also the social aspects have been disturbed because all educational institutions have been closed, which has harmed all pupils [4].

During the pandemic, most countries have adopted internet or satellite television platforms to provide education. However, this was not sufficient to match the varying levels. Although wealthy nations (first and second-world countries) were making significant progress with online education, the rest of the world continues to suffer, especially third-world countries [5]. Besides, we should discuss education in the time of COVID-19 between developed and developing countries. In that case, we will see that the impact of the pandemic was negative on education, resulting in a lower rate of school enrolment, educational inequality, poor achievement, poor school assessment, and so on [6]. According to Bangladesh's perspective, the online learning system is an unusual approach that creates challenges in learning, such as most students not being able to understand class contents and class lectures taking more time clearly. Besides, mobile networking and internet systems are very miserable in rural areas. University students suffered from psycho-social conditions because of financial problems at the time of COVID-19 [7]. Not only national students but also international students are suffering more from hypertension in case of education during the pandemic. The COVID-19 pandemic has also had a terrible impact on higher education for international students as universities closed their campuses and countries shut their borders in response to lockdown measures. Although higher educational institutions rapidly replaced face-to-face lectures with online learning, these collapses affected the pupils' physical and mental health. This study assessed the effects of online learning on tertiary-level students' during the COVID-19 lockdown.

Conceptual framework and literature review: During the COVID-19 lockdown, online classes were a great source for students to pursue education. However, several researchers point out some downsides of online learning. Figure 1 shows the conceptual framework for the effects of online learning on tertiary-level students during the COVID-19 lockdown. By reviewing several kinds of literature, four themes have been identified by the researchers as a conceptual framework for the effects of online learning on tertiary-level students during the COVID-19 lockdown. There are- physical health, mental health, financial crisis, and networking disruption. These are given below-

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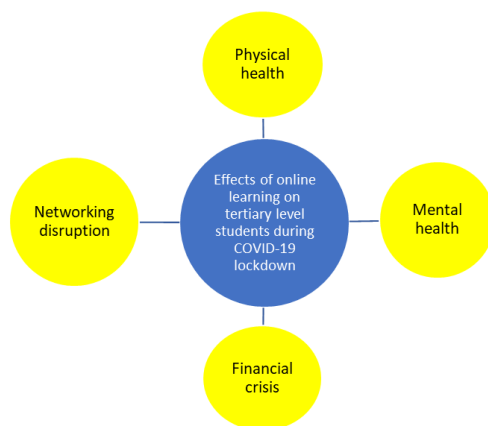


Fig. 1: Conceptual framework on the effects of online learning on tertiary level students during COVID-19 lockdown.
Source: The researchers' construction.

Physical health: Social media use has increased among adolescents as students move into digital platforms from traditional educational platforms. For online learning, the pupils spend more time in front of screens. However, excessive time spent on screen is linked with both physical and mental health problems such as poor sleep, laziness, anxiety, hypertension, etc. [8]. When compared to the time before the pandemic, pupils reported less physical activity. More than 44.6 percent of respondents reported spending more than 5 hours of screen time on online study, and the majority of students reported increasing screen use compared to before the pandemic. Almost 39 percent of pupils reported not getting enough sleep. This research found that school closures significantly impacted school-aged children's health behaviors during the COVID-19 pandemic, including decreased physical activity, increased screen time, and irregular sleeping patterns [9]. Online classroom teaching was the most popular activity on digital devices for lengthy periods, followed by online browsing, web series, and movies. The most prevalent ocular symptoms observed in youngsters owing to digital device use were headache and rubbing of the eyes. Before the COVID-19-related lockout, the majority of parents denied the prevalence of ocular symptoms [10].

Mental health: Online learning has a bad impact on tertiary level students, such as isolation from class friends and teachers, the complications of using the online platforms, inadequacy of guidance and counseling, and the inability to talk and interact with peers and their lecturers for instance, has proven to be a major cause of stress among this group of students [11]. Most students said COVID-19 had a harmful influence on their schoolwork. During their social distancing/isolation, most students said they suffered from a lack of social connection and communication [12]. Students were found to lack several elements of social networks, such as interaction, friendship, social support, co-studying, etc. As a result, students were more likely to suffer from mental illnesses such as sadness, stress, and loneliness. Several factors were linked to poor mental health outcomes, such as COVID-19-related concerns, social isolation, a lack of connection and emotional support, and physical isolation [13].

Financial Crisis: The COVID-19 pandemic has had a significant negative impact on the subsistence of Bangladesh's marginalized population. Due to the ongoing pandemic, many individuals working in the informal sectors have lost their jobs and income, and unemployment and poverty have grown in both urban and rural areas across the country. Parents' loss of jobs and income negatively impacted children's studies. When parents' income is insufficient, they can't contribute properly to their children's studies [14]. Adults who kept their paid jobs during the COVID-19 lockout had much lower depression levels than those who lost their jobs [15]. Parents' and children's perceptions of the difficulties of quarantine are a critical element that impairs their well-being. The influence of quarantine on children's behavioral and emotional difficulties is mediated by parental stress, both individual and dyadic. Parents who have had greater trouble dealing with quarantine are more stressed. This, in turn, exacerbates the difficulties of the children [16].

Networking disruption: Due to the lack of sufficient devices, absence or limited access to internet networks, lower-level interest in online education, disruption in electricity, and so on, students from school to university levels faced difficulty adapting to the recently introduced online education system [17]. During the pandemic, a majority of the students took online classes, and most stayed at home to complete their studies. They may encounter difficulties during online lessons, with the major issues being a poor internet connection and a lack of logistical assistance. A few believe the method does not help pupils close the educational gap [18].

A short review of available literature shows that most previous studies focused on worldwide or Asian contexts. Although only a few studies have been carried out in Bangladesh's national context, sociological research on the effects of online learning on tertiary-level students during the COVID-19 lockdown in southern Bangladesh is insufficient. As far as the researchers have gone, no extensive research on this topic has taken place in the Khulna locale. A complete understanding of provocative issues like the effects of online learning on tertiary-level students during the COVID-19 lockdown can contribute to national policy formulations on education in the pandemic situations. It can help to overcome the challenges of online education.

Materials & Method: The study was explanatory. A qualitative approach was used to complete this study. The study's main purpose was to interpret online learning's effects on tertiary-level students during the COVID-19 lockdown. This study used in-depth interviews and Focus Group Discussion methods to collect data. The research was conducted at Khulna University under Khulna District. Khulna University comprises 29 disciplines under 8 schools in which undergraduate, postgraduate, and doctoral students' study. Khulna University was purposively selected as the university was renowned and situated close to the researchers. The Khulna University students who studied in any discipline and belonged in 3rd year and 4th years were considered as the participants of this study. Students from the Sociology discipline of Social Science School, Pharmacy discipline of Life Science School, Computer Science and Engineering discipline of School of Engineering and Technology, Sculpture discipline of Fine Arts School, and Bangla discipline of Arts and Humanities School were selected for data collection. Convenience sampling was used to collect the data. A total of 21 participants were selected for this study, and data were collected through face-to-face communication. Among them, 13 students were selected for in-depth interviews (IDI), and two FGDs were formulated with the combination of 16 students. Among FGD 16 students, 8 students were included in in-depth interviews. Another 8 participants were new to FGD. That is why the sample size was 21 (13 in-depth interviews+8 new participants of FGD). Since the researchers applied convenience sampling to conduct this study, they have chosen the participants according to their convenient. The period of data collection was from August to September 2022. The researchers faced challenges during data collection and maintained precautions due to the COVID-19 pandemic. Checklists were developed for qualitative study by reading different reports, journals, articles and literature. The corrected interview schedule was primarily used for data collection through pre-test. After pre-testing the data, some problems were identified and corrected. Finally, a corrected interview schedule was used for data collection. On the other hand, secondary data were collected from BBS, books, journals, daily newspapers, etc. Analysis was done using thematic analysis.

The thematic analysis followed some sequential steps. The first step was translating their audio-recorded statements into English because the interviews were in Bengali. Then, the researchers read and identified the themes. After identifying themes, the themes were restructured. The final step was to set up the coded statements under broad themes. The most significant quotes were selected to exemplify each theme.

Results and Discussion:

Results

Researchers have identified two major themes under some categories regarding the effects of online classes on tertiary-level students during the COVID-19 lockdown: 1. Positive effects and 2. Negative effects.

Theme 1: Positive Effects

According to a government decision, direct educational operations have been stopped in Bangladesh due to the devastating effects of the COVID-19 pandemic. Then, Bangladesh's University Grants Commission (UGC) enabled public and private universities to participate in online classes for continuing education. Admittedly, online classes are an excellent way to continue teaching and educating during this pandemic. This theme consists of two categories: a) completing their course and semester on time and b) providing an opportunity to spend quality time with family members.

1.1 Completing their course and semester on time

Online education supports them very much. During the COVID-19 lockdown, public universities were closed. If the government did not turn on online learning, completing the semester promptly would not be possible. Without online learning, students would fall into a session jam. Khulna University conducted online exams during this pandemic that were very helpful for completing their courses and semesters on time. Their bright future would be spoilt if online classes were not turned on.

A participant of FGD shared an experience and mentioned that-

"Online education was so supportive in crisis moments. We benefited more from online classes during the lockdown; we took online classes and completed our academic year and all courses. During the pandemic, there was no option other than online classes. The online classes were the best option for continuing our education during COVID-19."

-FGD, participant 4

Another participant of IDI mentioned that-

"Online classes were effective. I think online class was the best alternative method during the pandemic. Online classes and exams were conducted online, which was conducive to complete our academic session promptly."

-IDI 5, 22 years old

1.2 Providing an opportunity to spend quality time with family members

Since most public university students study far from their families, they cannot spend more time with them. However, online classes allow them to continue their courses from home, increasing their solidarity with family members.

A participant of IDI disclosed that-

"Online classes were good, and I got sufficient time to spend quality time with my family. Before COVID-19, I stayed in the university hall, and my family lived far from the university. So, during the lockdown, I got more time to attach myself to my family members."

-IDI 2, 24 years old

Theme 2: Negative Effects

Online classes have a negative impact also. Students must contend with various difficulties in transitioning to online classes. In this study, respondents faced some problems with online classes. This theme includes some categories: a) financial hardship, b) internet disruption, c) technical problems, d) uncomfortableness, e) poor academic performance, f) physical health problems, and g) mental health problems.

2.1 Financial hardship

Economic hardship was one of the problems during the lockdown. Many people lost their jobs because the job sector shrunk during the lockdown. The financial crisis impacted not only the household but also study life. Students faced more problems when universities suddenly closed because of the pandemic. Many students managed their families by providing tuition, but the pandemic affected all facilities.

A participant of FGD stated that-

“My father worked in a printing company before the pandemic. However, the lockdown curtailed my father’s job; he was the only person in my family earning money. At that time, my uncle gave my father all the support. I couldn’t handle all these problems and couldn’t concentrate on my studies.”

-FGD, participant 5

Another participant of IDI disclosed that-

“I don’t have a father, and besides my studies, I paid tuition and supported my mother and my younger sister. My uncle had a great contribution to my family. But I lost tuition, and I couldn’t provide support to my family. I couldn’t support myself, and I had to borrow money from my uncle to pay my semester fee at my university. That was so pathetic for me.”

-IDI 7, 23 years old

2.2 Internet disruption

Internet disruption was a common problem among the respondents during online classes. They did not get a strong network connection in their village homes, so despite their will, they could not join their class regularly and timely. This hampered their concentration. They did not even understand the academic course clearly, and they lost their attendance marks.

A participant of FGD stated that-

“After a few months of the pandemic, online classes started, but most students faced internet disruption because many lived in rural areas. The internet was disrupted as I was in Satkhira’s rural area, so I couldn’t attend all the online classes daily. Even I had to walk miles to miles or climb trees to get the mobile’s internet.”

-FGD, participant 2

An IDI participant said that-

“I could not regularly join online classes because of the slow internet.”

-IDI 11, 23 years old

2.3 Technical problem

Some participants’ phones were so old that they could not attend class regularly. Their phone’s network connection was abysmal. It was a highly disturbing situation for them.

Another participant of IDI said that-

“I could not regularly join online classes because of a technical problem with my mobile Phone. During online classes, sometimes, my mobile phone didn’t work properly because my mobile phone set was too old.”

-IDI 6, 25 years old

2.4 Uncomfortableness

Online classes were a new learning method for tertiary-level students during COVID-19. The respondents faced an adaptation problem with online classes. They did not understand online classes properly, and it was tough for them to concentrate in class for several hours.

A respondent of FGD mentioned that-

“I just attended online classes and kept my audio mute; otherwise, any noise could come out. I didn’t respond to teachers properly because this method was new for me, and I felt uncomfortable in online classes.”

-FGD, participant 8

2.5 Poor academic performance

Online classes have saved students from COVID-19 and were cost-effective. Students could participate in their normal courses via online school utilizing various tools such as Microsoft Teams, Google Classroom, Zoom, etc. As the socioeconomic condition of all students is not the same, there is a difference in using modern equipment. That is why it creates negative effects on academic performance. Some of the respondents even had no mobile phones.

A Participant of IDI expressed that-

“All students’ familial socioeconomic condition was not so good, and my family was facing economic hardship too. I had to pay tuition for my family and myself, but after the lockdown, I lost my tuition, which negatively impacted me. Since I couldn’t buy internet for online classes, I had poor results after online classes. I couldn’t submit a one-course assignment, which was one of the reasons for my poor CGPA.”

-IDI 13, 24 years old

2.6 Mental health problem

The COVID-19 pandemic has suddenly changed the nature of our social interactions. Face-to-face interaction was decreasing because of the pandemic. People were using social media to communicate with them. As a result of the change to online education during the pandemic, it was clear that the virtual environment prompted students and teachers to reconstruct their identities. Students and their parents or guardians were given more responsibilities for ensuring learning activities, while their possibilities to ask for or receive advice from teachers were reduced. Due to the abrupt change, many students were unprepared to manage their learning in a place that provided them with less daily engagement with their peers and lecturers. A participant of IDI stated that-

“During online classes, the interaction among students was shallow. I also got frustrated as I spent more time at home without social interaction with friends during COVID-19.”

-IDI 3, 21 years old

Assignment submission was a problem for most of the participants during online classes. A few participants had no laptops, so they had to write down assignments in notes. Then, after clicking a photo, they had to submit their assignments. As a result, they suffered from anxiety because it took a long time, and they got frightened about mark distributions because of the differences between hand notes and computer notes. A participant of IDI disclosed that-

“I was so anxious about my hand notes. Because my laptop was not working, I had to upload handwritten assignments. My phone’s photo quality was not good, and most photos had to be taken repeatedly to ensure clarity. I was affected by COVID-19, and my body and mind both were restless, and I had to complete a project work. This was a difficulty for me. I felt distressed because of all these reasons.”

-IDI 6, 25 years old

During the pandemic, students also spent most of their time playing online games. As a result, their mood was always irritable. One of the participants of FGD said that-

“It didn’t feel good to be always at home. I always argued with my little brother for no reason and spent more time playing games. I couldn’t concentrate on my online classes.”

-FGD, participant 4

2.7 Physical health problem

A few participants were COVID-19 positive during the pandemic. They faced numerous physical problems such as fatigue, joint pain, chest pain, muscle pain, dizziness, breathing problems, and so on. There had a long-term effect on those who were affected; they talked about dizziness after getting cured of COVID-19. A participant from FGD informed that-

“I attended the online classes through my mobile phone. When I attended classes, I used headphones. Without headphones, it was too difficult to understand the class lecture clearly. However, the excessive use of headphones and mobile screens negatively affected my head and eyes. I suffered from headaches, and it hampered my sleep.”

-FGD, participant 1

Another participant of IDI said that-

“During the pandemic, I always laid down on my bed and played online games. That is the main reason for my fatness. I was overweight, and now I am working out to reduce this weight because I can’t perform physical work efficiently due to my overweight.”

-IDI 10, 23 years old

Discussion: This qualitative study’s findings revealed that most participants were anxious when the lockdown for the pandemic started. A few participants faced a lot of barriers in online education because of the new method of learning, lack of modern equipment, high internet cost, technical problems, lack of social interaction, and so on. When online classes started to support students’ academic careers, most participants faced internet disruption because many students lived in rural areas. Also, this internet disruption made their academic life miserable. A few participants couldn’t stay home during online classes; they had to come out of the house or out of their locality and go where internet service was good. A participant mentioned that they had to climb up a tree because of an internet problem. These findings were matched with a few previous literatures [11,17,18]. The present study showed that low socioeconomic status greatly influenced online education because high internet cost was one major barrier to not continuing all online classes. The socioeconomic status of students’ households influenced students’ monthly academic expenditures. Since their daily necessities meet up was a hard situation, their high internet cost was the most luxurious need, and this study disclosed this issue. Internet cost was an additional cost for educational expenditure, and all students couldn’t bear the cost. Students did not run the all-time video option as the video option could incur extra internet costs. Students only run

audio options for online Zoom classes [19]. Students' access to internet information was limited due to power outages, faulty infrastructure, and high internet charges. They also discovered that there were a significant number of students with inadequate access to technical resources [20]. This analysis matched the current study's findings since some participants did not have a laptop or a smartphone, which constituted a barrier to online education. The present study showed that online classes contributed to social isolation among students due to a lack of reciprocal contact. The usage of e-learning has led to a feeling of isolation and a lack of contact among students. The lack of human communication in online learning increased stress and anxiety levels. Participants enrolled in online classes, although there was little social interaction among friends. Aside from that, their mental health was not in great condition. Participants suffered more from loneliness and frustration. This study was matched with a previous study [13]. The present study showed that a few participants were sleepless and distressed. Physical and mental conditions were affected negatively by the pandemic. Participants disclosed that a few participants were addicted to video games. Another participant talked about fatness that was gained during lockdown because of not getting out of the house. During the COVID-19 lockdown, all participating youths' mean Body Mass Index (BMI) increased considerably, which was true across all educational subgroups. Increases in the frequency of overweight and obesity in the overall population, particularly among high school and undergraduate students, were also observed [21]. The present study's findings resemble the previous study [14, 21]. The present study explored that during the lockdown, one of the issues was financial trouble among respondents. Because the job market shrank during the lockdown, many people lost their jobs; a participant talked about his father, who lost his job. The economic crisis had a negative impact not only on personal finances but also on the academic careers of the participants. Many participants lost their tuition, which was the strength of their economic support because it seemed that university students met their basic needs by providing tuition as the schools and colleges were closed; that's why university students lost tuition. Then, they started spending their time playing online video games. These things impacted on the mental health of them. This finding was connected with previous literature where students' mental health was significantly affected by their inability to focus on their education, increasing use of social networking sites and digital communications, altered sleep hours throughout the pandemic, more personal care time, and changes in plans [22]. Also, the present study claimed that a few parents lost their jobs and suffered from economic hardships, so they couldn't help their children by providing academic support. That hurt participants' minds. This study was matched with previous studies [14, 15].

The findings of this present study agree with the four effects mentioned in the conceptual framework. This study has some novelties, too. Most previous studies emphasized the negative impact of online learning during COVID-19. However, the present study discovered a few positive effects of online classes during COVID-19. These online classes were so supportive that students got sufficient time to spend quality time with family by attending online classes from home; their academic career was not hampered due to a shift to the online learning process; with the help of online learning, university students completed their courses timely even though they sat for online exams that were very helpful for avoiding their session jam.

Conclusions: The main objective of this study was to identify the effects of online learning on tertiary-level students during the COVID-19 lockdown. The researchers have identified some positive and negative effects of online learning for students. The main advantage of online learning was the opportunity to spend their invaluable time with their families, which was highly helpful in finishing their semester on time. In contrast, the drawbacks were financial hardship, poor internet connection, depression, technical problems, absence of access to mobile phones or laptops, raised idleness and obesity, poor academic results, and so on. Although COVID-19 has been over, the necessity of online learning may arise at any disastrous moment. For this reason, researchers recommend that the government should increase the funds to support poor students, ensure strong internet services in rural areas, and provide internet services for students with little money. Teachers and parents must be properly trained in using education-related digital technology.

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