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Online-Teaching as a Reaction to the Impact of Covid – 19 on Higher Education in Bangladesh: Issues of Inequality of Access & Education Quality



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ABSTRACT

There is a growing body of literature on online teaching documenting inequality of access and quality concerns experienced by students and their parents in pre-pandemic time. COVID-19 pandemic forced students to experience these issues more acutely and affectively, which calls for in-depth studies on the effects and consequences of online teaching in terms of access and quality since COVID-19 pandemic. Studies capturing the learners' struggle with inequality of access to and education quality of online teaching during COVID-19 are still rare. This study explores learners' experiences of online teaching introduced by universities in Bangladesh in time of COVID-19, and finds students tangled in a Sisyphean struggle with access and quality learning. Insights from the study may shed light on the issues to be considered for online teaching in post-pandemic contexts.

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1. Introduction

There is a growing body of literature on online teaching (e.g. Williamson, Eynon, and Potter 2020; Beckman, Apps, Bennett, and Lockyer 2018; Robinson 2009; North, Snyder, and Bulfin 2008; Cranmer 2006) that raises concern about inequality of access and education quality online. Beckman et al. (2014) studied students' experiences with the use of technology in two Australian secondary schools where students were each provided with a laptop at school while some of them had laptops at home and some did not. Those who could use the technology only at school were less privileged compared to those who had laptops at home, and this affected their performance. Hollingworth et al. (2011) and Cranmer (2006) in their study set in England illustrate how parents without PCs at home struggled to support their children's education. To gain internet access from the resource centres they had to incur additional costs. Similar challenges on their use of technology, as Robinson (2009) illustrates, were experienced by the most economically underprivileged American teenagers in an agricultural belt of California. Besides these influencing factors related to economic conditions, markers of class like parents' level of education and occupation, as North et al. (2008) found in Australia, influenced young people's digital tastes and use. Thus, studies mark that not all people are well connected. Highlighting the prevalence of digital inequalities even in the developed countries, they illustrate heterogeneous and complex network of influencing factors which are related to larger social inequalities.

Studies also argue that inequality of access has "deleterious consequences" on quality of learning. For example, Robinson (2009) underscores that insufficient or low-quality access to internet hinders learners "from developing more sophisticated" search skills. As a result, "they are unable to extract maximal benefit from the limited resources at their disposal." Moreover, there are concerns about the quality of learning through online teaching in general, since education is not simply "about 'content' being delivered downstream, but about [ensuring] more open, agentive, and productive spaces for both learners and educators" (Williamson et al. 2020).

These studies were set in developed countries like England, the United States and Australia in pre-pandemic times. Use of technology and online resources was meant to complement the regular onsite classes. Students who did not possess the technology at home could avail the facility at school (see Beckman et al. 2014; Robinson 2009; North et al. 2008; Cranmer 2006). In contrast, in developing countries like Bangladesh, the ICT facilities required for online teaching are hardly available (see the section "Context" for detail). COVID-19 forced educational institutions to go online, as online teaching emerged as a ready-made solution for universities worldwide to address disruptions caused by campus closures due to the COVID-19 pandemic (Moorhouse 2020; Murphy 2020; Wolf and Uribe 2020). Consequently, online synchronous classes replaced the regular onsite classes, leaving students no alternative to online synchronous classes from home. Many had little or no access to internet, or low-quality access at home. This forced them to experience the issues of

inequality of access and education quality online “more acutely and affectively” (Williamson et al. 2020). Williamson et al. (2020) argue that this situation calls for in-depth studies on the effects and consequences of online teaching since COVID-19 pandemic (p.107). Though yet very few, there are studies like Adarkwah (2020) that examines barriers to and the effectiveness of online learning in developing countries like Ghana since the inception of the COVID-19. However, studies capturing the learners’ struggle with inequality of access and education quality online are still rare. As an attempt to address this gap, this explores students’ experiences of online education in time of COVID-19 in Bangladesh, a developing country. Insights from the study may shed light on the issues to be considered for online teaching in post-pandemic contexts in developing countries.

2. Context

Bangladesh leverages ICT in education “with the overall goal to enhance access to and improve the quality of education” (Ministry of Education, Bangladesh 2019, 23). ICT is considered as one of the transformational forces that ensure access to information and enhance the quality and effectiveness of learning. With a target of one computer in each class, the government of Bangladesh is gradually equipping educational institutions, especially schools and colleges, with computers and multimedia projectors. In this regard, progress has been made which, according to the *Progress Review Report 2019 of the Masterplan for ICT in Education in Bangladesh 2012-2021* (Ministry of Education, Bangladesh 2019), is still very limited. As access to ICT is limited, ICT education in Bangladesh, as it appears, merely introduces students to the technology. The present standing of ICT in education in Bangladesh, as it appears, can only introduce students with the technology (Mortuza 2020). Students cannot effectively use the tools for educational purposes. Unlike schools, the universities usually have computer labs that the students can use for educational purposes.

Strong internet connectivity is ensured in the university computer labs. Beyond the university computer labs, the metropolitan areas enjoy broadband connection, while semi-urban and rural areas rely on mobile network-based internet services which are extremely slow and expensive (Ministry of Education, Bangladesh 2019, 55).

At the individual level, according to the Bangladesh Bureau of Statistics' *Multiple Indicator Cluster Survey 2019*, “37.6 percent of households in the country had access to the internet by any device and only 5.6 percent had a computer or tablet” (Ahmed 2020). A UGC (University Grants Commission of Bangladesh) survey on plans for higher education institutions to conduct online classes during the COVID-19 pandemic, however, found that 86.62 percent of higher education students in the country possessed smartphones through which they could access online classes, though many had problems with internet-related expenses. Thus, more than 13% students did not have smartphones for access to online classes.

Generally online teaching is rare in Bangladesh where face-to-face teaching is the norm. However, to address disruptions caused by campus closures beginning 18 March 2020 because of the COVID-19 pandemic, many private universities in Bangladesh, in line with the global trend, introduced online teaching. Universities in Bangladesh are not equipped with the tools necessary to offer lessons online (Ahmed 2020). So, they used available free online tools like Zoom and Google Meet (for synchronous video conferencing), and Google Classroom, Messenger, WhatsApp, etc. (for sharing materials, posting assessments, and providing feedback). When it gradually appeared that the campus closures might be extended, the University Grants Commission of Bangladesh (UGC) urged all universities, both public and private, to run online classes from July 2020.

In response, concerns were raised by public university authorities that many of their students could not afford internet access (“Have to consider students” 2020). In addition, Bangladesh is one of those countries that enjoy very poor internet speed. Internet in Bangladesh is accessed mostly through mobile operators who can hardly “ensure threshold internet speed anywhere outside the capital.” Therefore, synchronous online classes did not seem very realistic (Wadud 2020) for university students who, according to Ashkari (2020), were mostly from rural areas. Besides access, the quality of online teaching emerged as an accompanying concern, since online teaching was a completely new phenomenon in Bangladesh, both for students and teachers (Mortuza 2020; Hasan 2020). Also, educational institutions did not have the infrastructural and technical capacities necessary for online education (Mortuza 2020; Ahmed 2020).

Thus, online teaching as a reaction to the impact of COVID-19 on higher education in Bangladesh raised concerns about inequality of access and quality education. However, there is a dearth of empirical research on Bangladesh on issues of inequality of access and quality of online learning/teaching. This study attempts to capture students’ experiences of inequality of access and quality of online learning/teaching in higher education in Bangladesh during COVID-19 pandemic.

3. The Study

This study draws on the case of online teaching of an undergraduate program in a private university in Bangladesh during the COVID-19 pandemic to capture students’ experiences of online teaching in terms of inequality of access and quality education. The university campus was in Dhaka, the capital city of Bangladesh. A number of students were from Dhaka city, while many were from areas adjacent to the capital city, with others from remote areas of the country as well. Students from remote areas lived around the university campus when the university was open, but with the COVID-19 closures, they left the city for their respective homes.

The university started online classes from the beginning of the COVID-19 closures. Like most other universities in Bangladesh, it hardly had the hardware and connectivity support necessary for

running online classes. Hence, the faculty members were advised to use the zoom app for interactive synchronous classes and other resources like emails, e-learning, google classroom etc. for sharing the recordings of the classes and the teaching learning materials with students.

The undergraduate programme, which was the focus of the study, organized several zoom counselling sessions at the beginning to orient students with online teaching. Students, in those sessions, reported that some could not afford access to internet. Some did not even have devices, though students in private universities were generally considered to be from well-off families, because private universities are quite expensive in Bangladesh. However, to avoid academic disruption, there was no other alternative to running online classes. In response, most of the students managed to attend the classes, while some remained absent. Likewise, teachers were also forced by the pandemic to teach online, though they were not well-equipped for adopting a completely unfamiliar mode of teaching.

Based on information reported in the counselling sessions, student cases were selected through purposeful maximum variation sampling (Glaser and Strauss 1967; Merriam, 2009) with the aim to “represent the widest possible range” of the experiences of access and quality education online [See Table 1 below] (Merriam 2009, 79). They were initially selected from three areas they dwelt in, namely, Dhaka city, towns outside Dhaka city, and remote villages, since strength of internet connectivity, as students reported, varied geographically. Mariam, Samira, Kanta, and Raisa (*all names in the original have been changed*) were chosen from students dwelling in Dhaka city where strong internet connectivity was available. Enam, Tarek, Jesmin, Faiza, and Dina were from students living in remote villages where internet connectivity was very poor, while Arif and Muna were from students living in towns outside Dhaka city where internet connectivity was better than that in the villages. Each of them had additional features that made them unique. Mariam and Samira had strong broadband Wi-Fi connection, while other students used mobile data. Tarek, Muna, Kanta, and Enam expressed concerns about the cost involved in internet connectivity. Raisa and Arif had devices with limitations, while Dina didn't have any device. Besides the students, three teachers namely Shahana, Hasan and Amir were interviewed to complement students' experiences in terms of quality education. Shahana conducted the classes with a smart phone, Hasan with a laptop and Amir with a desktop. While Hasan was digitally well-versed, Shahana and Amir were shocked to use the devices for teaching.

Table 1: Variation of Students' Access to Online Teaching

	Dhaka City	Adjacent to Dhaka	Far from Dhaka	Strong connect	Mobile data	Financial Hardships	Device with limitation	No Device
Mariam	x			x				
Samira	x			x				
Kanta	x				x			
Raisa	x				x		x	
Arif		x			x		x	
Muna		x			x	x		
Enam		x			x	x		
Tarek			x		x	x		
Tripti			x		x			
Faiza			x		x			x
Dina			x					x

The selected participants were interviewed using Zoom app on a one-on-one basis towards the end of the semester. Student interviews were done in their mother tongue Bangla, so that they could respond spontaneously and comfortably. The teacher interviews, on the other hand, were done in English, because they preferred English. The interview questions were “open ended” and “exploratory” to enable the participants to offer their perspectives on the issue (Merriam 2009, 91). The purpose was to see how they struggled with the online classes and how inequality of access and quality education played out in their experiences. The data from the interviews were coded according to access and quality learning and categorized into emergent themes.

4. Research Findings

The findings are presented thematically under two rubrics namely *inequality of access* and *quality education*. A critical discussion follows the findings. The paper ends with a section on conclusion and implications for higher education in the post-pandemic ‘new normal’ situation in Bangladesh.

1. Inequality of Access

The participants referred to issues connected to inequality of access like affordability of devices, cost of internet connection, weak and unstable internet connection, power outages, and unfamiliarity with the use of devices.

Affordability of Devices

While other students owned devices necessary for internet access for online classes, Dina did not because of finance. As such, she could not attend classes. Only once did she attend an online departmental student meeting, on a borrowed smartphone, to communicate her situation. Eventually,

she dropped the semester. Faiza, another student, encountered a similar problem initially. As there was a lockdown, her father could only go out to collect the smartphone after one month, when the lockdown was slightly relaxed.

Students like Raisa and Arif had devices to access the internet, but their devices had limitations. For example, Raisa's device did not support audio and video chat. She could only listen to lectures but could not share her ideas. It took her about a month to overcome the limitations. Arif, however, had to go with these limitations throughout the whole semester.

Cost of Internet Connection: A Luxury

The cost of connectivity was a concern for most of the students. For instance, Muna used to tutor students to manage her educational expenses, but because of COVID 19, she lost that income source. She had trouble meeting her regular educational expenses, let alone the extra cost of the internet. She expressed her concern: *"It's going to be difficult for me to afford the regular education expense. How will I manage the extra cost of the internet?"*

Enam, another student, also could not afford the extra internet costs incurred for online learning because during the pandemic, his father, the sole breadwinner in his family who worked in Malaysia, could not send money home. So, he had to miss classes for about a month. He added: *"It (i.e., internet connection) needs Tk. 1500 – Tk. 2000 per month which is quite a big amount in COVID-19 situation."*

Similarly, Kanta missed some classes, because she could not buy internet data. She found it insensitive to ask her parents for the cost of the internet. She said, *"How could I ask for the cost of the internet? You see, I could see my parents struggling financially, before my eyes, because of the pandemic situation."* By contrast, students like Mariam and Samira did not have to miss any class as the internet was part of their regular lifestyle.

Weak & Unstable Internet Connection

Students like Mariam and Samira in Dhaka city could access Wi-Fi and enjoyed stable internet connections, while the other students in villages or nearby towns or in Dhaka city, generally availed access to internet through mobile data plans. Kanta and Raisa living in Dhaka city and Muna and Arif living in towns outside Dhaka city used mobile data to attend classes. Though they sometimes experienced unstable internet, they managed to attend the classes quite regularly. However, Faiza living in a remote village said that internet was so weak inside her house that she had to find an open place on the bank of a pond some distance from her house to get connected. She said, *"Even there I used to be often disconnected. Sometimes it happened that I was connected but could not hear the teacher's voice."*

Tarek living in another remote village said that he had to go to an open place on the road near their house. Even there, connection was not strong enough. Frequent buffering was a regular phenomenon. He added that though recordings and materials of the classes were uploaded so that students could download them when convenient, weak internet connection made it difficult for most of the students in villages to download the class recordings and materials. Uploading assignments was much more hazardous and costly.

Power Outages

In addition to the poor connectivity, there was the problem of power outages, a regular phenomenon in Bangladesh. The frequency and duration of power outages increased as the rainy season started in June and interrupted Wi-Fi connections. However, the gravity of the interruption was different between the cities and the villages. Samira lived in Dhaka city. She could not attend some classes because her Wi-Fi was disconnected due to power outages. On the other hand, Faiza living in the village recounted: *“Once there was no electricity for two days. I could not charge my mobile phone, was not connected. So, I was unable to attend the online classes on those days.”*

Unfamiliarity with the Use of Devices

Students like Muna struggled with the use of the devices and apps for online classes. Her unfamiliarity with the use of devices was a barrier for her to benefit from online classes. Occasionally it took her some time to access the classes and as a result missed important issues discussed in class. However, with the help of her classmates, she gradually overcame her problems.

II. Quality of Education

Besides the themes connected to inequality of access, several themes having implications for quality education emerged in the interviews. These themes included the adverse learning environment, frequent interruptions, lack of interaction, teachers' devices, and teaching environment.

Adverse Learning Environments

Students like Mariam had a good environment for attending online classes. Her parents arranged a separate room for attending classes and told her to keep the door of her room shut so that she was not disturbed by household noises.

However, the places from where Kanta, Jesmin, Enam, and Tarek attended online classes were not learning friendly. Kanta sometimes had to go to her neighbors' for a good internet connection, though she did not feel like going there. She said, *“It was difficult to concentrate on the class as members of that house were moving around me.”*

Jesmin, living in a town outside Dhaka, was from a well-off family. She had a separate room for study, but she had to go to the rooftop for access to internet. Under the scorching sun, she held an umbrella with one hand and the device with the other. Despite this, her younger brother frequently asked for her help during her class.

Enam experienced a stunningly adverse environment for learning. He had to go to the open bushlands behind their house for better internet connection. The place was used for grazing cows. He said (laughing), *“sometimes mooing of cows surpassed the teacher’s voice”* implying that mooing cows distracted him, making it difficult to concentrate. Similarly, Tarek’s learning environment was also distracting. He had to go to the road nearby his house to stay connected; curious passersby stood around observing him, making it difficult for him to concentrate on the lesson.

Frequent Interruptions

Weak internet connections troubled many students. Jesmin claimed she was disconnected several times during a lesson. Interruptions caused students to miss much of their lessons. Even though Enam felt the need for the class to be repeated, he did not request a repetition because he thought that repetition would break the tempo of the class and would trouble those who were not cut-off. Interruptions were so disruptive to learning that Tarek protested: *“I could merely ensure my attendance. Frankly, I hardly learnt anything from online classes.”*

Lack of Interaction: A Dead Class

Inevitably, students attended online classes with videos turned off due to weak internet connections. Otherwise, they had to experience buffering. In many cases, the teachers also kept their video off to avoid buffering. The environments students were in also compelled them to keep not only their videos off but also their microphones mute. Otherwise, the online classroom would be chaotic with multiple live scenes like the one Tarek experienced on the road and Enam experienced with the mooing of the cattle.

The circumstances forced the teachers to resort to teacher-centred lecture-based classes with little interaction, leading teachers to ask if they were speaking to students or to a dead screen, as Shahana added, *“It was tiring to teach a dead class.”*

Teachers’ Devices & Teaching Environment

While some teachers had laptops or desktops, others had to resort to their smartphones for classes. Shahana used a smartphone that hardly supported online teaching. She could not even share PowerPoint slides or video clips on screen.

What is more, teachers like Shahana and Amir were new in handling the gadgets for online teaching. They struggled with the new apps. They were supported by colleagues like Hasan who were digitally well-versed, in order to teach. However, their unfamiliarity with handling the gadgets and online teaching barred them from using them in an expert way to make lessons interesting and effective. This made Shahana, an experienced expert teacher, feel that she “*was a novice*”. Furthermore, many teachers taught from their homes without private spaces, in the presence of their children and family.

5. Discussion

Students’ experiences of online teaching reveal the hardships encountered, compounded by inequalities of access to the internet and affordability of devices. Thus, some students like Dina had to consider skipping a semester because they could not afford online devices, while others who were ‘privileged’ had their own devices. Only the “haves” had the privilege to attend the classes and survive. Thus, inequality of access generally appears in the categories of “have-nots” and “haves” (Selwyn 2004). While this dichotomous categorization makes the cruelty to the “have-nots” noticeable, it presumes that the “haves” are a uniform entity, and thus “homogenizes the experiences” of the individuals in that entity (Robinson 2009, 490). However, as this study illustrates, while most students’ devices supported online classes, students like Arif and Raisa had the devices with limitations that barred them from video and audio chats. They could merely “listen” to the class. These students’ experiences render the construct of inequality of access as a continuum from “less haves” to “more haves.” Or, in line with Selwyn (2004) and Robinson (2009), inequality of access to internet emerges in this study as a continuum from “no access” to “more access.”

The more the students tried to overcome the hardships posed by online teaching, the more the inequality of access exposed its multiple facets. For instance, weak internet connection appeared as a challenge for village students, because it troubled them with frequent interruptions in online classes. Even well-off students like Jesmin had to experience hardships. They tried to overcome the hardships by going to outdoor places like on the rooftop, on the road, etc., as internet connection was better in open areas. But outdoors they were trapped into adverse learning environments. City students, however, enjoyed the advantage of stable internet connection. While students using mobile data in Dhaka city and in towns outside Dhaka sometimes experienced unstable connection, students with Wi-Fi connection in Dhaka city attended online classes comfortably and without interruption. Students’ experiences and struggles here expose inequality of access rooted in the city/village divide. These experiences of inequality were intensified by power outages. Although power outages were a common phenomenon throughout the whole country, students living in the villages were more affected than those in cities. For example, while Faiza in the village could not attend classes for two days because of continuous power outages, Samira in Dhaka experienced it for a few hours only. The

rich in the villages were not spared of the disadvantages, as in the case of Jesmin. Thus, the city-village divide mingled with social class making inequality of access a complex issue. The complexity was furthered with the findings, in line with Williamson et al. (2020), that all students were not “digital natives” as it is generally conceptualized. Muna, for example, missed part of lessons as she was unfamiliar with the use of the devices and apps.

Like Robinson (2009), this study reveals that the factors causing inequality of access also affected the quality of online learning, as students struggled with adverse learning environments, on rooftops or a roadside as the narratives of Jesmin or Tarek revealed. Furthermore, as students and teachers turned off their videos or microphones to avoid buffering or to avoid background noises from adverse learning environments, they had little scope to be involved in classroom interactions and group work that promoted student voice and agency (Brown 2001) necessary for quality learning for knowledge production (Freire 1968/1970; Giroux 2011). In addition, teachers’ unfamiliarity with the new mode of teaching, their lack of the right device and environment sometimes further aggravated the situation, which caused even the students with strong internet connection and good devices, as part of the system, to suffer. Thus, while Robinson (2009) referred to the deleterious impact of the use of technology on skills development, this study exposes the damaging impact of inequality of access on issues of learning environment, student voice and agency which are necessary for quality of education.

6. Conclusion & Implication

There is literature on online learning (Morgan 2020; Overstreet 2020; Davis, Gough and Taylor 2019) that prescribes how to make an online class interactive. They suggest adoption of multiple techniques like video uploads, assigning students with asynchronous critical work, etc. There are also prescriptions for counselling the students to humanise learning during COVID-19. The prescriptions are all made in the context of developed countries like USA where students enjoy a good learning environment and stable internet connection with well-configured devices. The inequalities of access in Bangladesh, as revealed in this study, did neither allow minimum interactive activities, nor support download or upload of videos and materials, nor provide a learning-friendly environment.

Indeed, one may ask, what counselling could mitigate the adversities students were forced into? Although students and teachers tried to overcome the adversities, they could not fully alleviate them. Instead, as the students tried to overcome the situation, the reality was they were tangled into a complex continuum of inequality of access rooted in existing societal inequalities. It appears as if they were caught in a Sisyphean struggle. [According to the Greek myth, God Zeus carried off Aegina, a mortal woman who was the daughter of Asopus. Sisyphus witnessed this kidnapping in his home city of Corinth. Sisyphus agreed to inform Asopus as to who had kidnapped Aegina if Asopus would give the citadel at Corinth a fresh-water spring. In making this deal and bearing witness against Zeus,

Sisyphus earned the wrath of the gods. Sisyphus is **condemned to roll a huge rock up to the top of a mountain**, only to have the rock roll back down to the bottom every time he reaches the top.]

The inequality of access, as this study reveals, has a deleterious impact on quality education. If online teaching goes on with the inequalities unaddressed, many students will academically fall behind, which ultimately will widen the existing social inequalities (Williamson, Eynon, and Potter 2020). And many of the students, like the students of this study, will be thrust into a Sisyphean struggle resulting in emergent educational and social crises. Therefore, online teaching in the post-pandemic ‘new normal’ education must address inequality of access and the accompanied quality issues in all their dimensions exposed in this study.

Authors’ Contributions

All authors contributed significantly to the research process.

Declaration

We declare that this manuscript is original and has not been submitted to any other journal for publication

Transparency Statements

The authors affirm that the data supporting the findings of this study are available within the article. Any additional data can be obtained from the corresponding author upon reasonable request.

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Declaration of Interest

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