

Learning Opportunities and Challenges in Online Classes during COVID-19: A Study in Dhaka City

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Abstract: *The COVID-19 pandemic forced several Bangladeshi private universities to move from in-person to online classes. This paradigm shift has facilitated a unique window of opportunities to harness the untapped potentials of e-learning practices in Bangladesh. However, it has posed a myriad of coping challenges for Bangladeshi students. This exploratory research was conducted to identify the seized learning opportunities along with the critical challenges experienced by the students while learning from online classes at a private university of Bangladesh. This research adopted a mixed methodology of combining both qualitative and quantitative approach for holistic insights. Quantitative data was collected through an online questionnaire survey on a representative and diverse sample size of 745 participants from ten different departments. Semi-structured in-depth interviews consisting of closed and open-ended questions were conducted on 20 respondents for in-depth findings. Primary findings demonstrate the underutilized potential of online classes such as adaptive personal learning, peer learning, gamification, collaborative problem solving, synchronized and asynchronized communications etc. The primary challenges include inadequate infrastructural arrangements, lack of uniform and coherent guidelines, non-existence of incentives, limited access to devices, interrupted internet connectivity, poor speed of internet, high data price, limited or no prior orientation to online learning tools and techniques, tedious online class schedule, increased summative and formative tests, fatigue from overusing virtual platforms and physiological issues such as eye-strain, backpain, headache, dizziness from prolonged online classes, absence of face-to-face socialization etc. Based on these findings, this study recommends a few pragmatic strategies to harness the untapped opportunities of online learning and further ensure the viability and sustainability of online education in Bangladesh.*

Keywords: *E-learning; opportunities; online classes; Bangladesh; COVID-19.*

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1. Introduction

Online classes emerged as an elegant inevitability due to the COVID-19 pandemic. Owing to that pandemic, almost all countries were forced to close their schools affecting 1.57 billion students worldwide (UNESCO, 2020). In response to that stagnation, higher educational institutions all over the world started to consider a paradigm shift from their century-old methods of traditional classroom to the contemporary e-learning practices (Maatuk et al., 2022). Online classes were once considered as a passing fad with skepticism but became the new-reality for coping with the new-normal environment. In Bangladesh, from March 17, 2020 until September 11, 2021, schools were closed continuously for a total of 543 days (Ahmed, 2022). Being unable to conduct face-to-face classes due to COVID-19 pandemic, online classes turned out to be the only viable alternative to resolve the challenge. However, research conducted on e-learning practices in Bangladesh have revealed that in many online courses, teacher-student interaction with relation to material or given activities is still quite minimal (Sarker et al., 2019). E-learning was still at its nascent stage where only a handful of Bangladeshi universities had their own online learning platform. On March 23, 2020, the University Grant Commission of Bangladesh suggested all public and private universities of Bangladesh for introducing online education during the pandemic (UGC, 2020). But having no other alternative, many private universities in Bangladesh started taking online classes without adequate preparation (Roy, et al., 2023). The transition from face-to-face classes to online classes has introduced many unexpected new challenges alongside the expected opportunities for the students. In Bangladesh, online classes have opened new windows of opportunities as well as new challenges for four million students in over five thousand tertiary educational institutions (Ahmed, 2020). Online education in this regard brought great breakthrough within the institutions and organizational framework at large. But lots of opportunities as well as challenges were seldom addressed in academic spheres. On the other hand, as a part of changing global order particularly in pedagogical transformation, Bangladesh has to develop its logistics and supportive agencies as well stakeholders in policy formation and execution to make compatible and sustainable of this mechanism. This study seeks to explore the untapped opportunities of online classes and identify the primary challenges faced by the students at tertiary level in Bangladesh.

2. Literature Review

An extensive literature review reveals multidimensional opportunities and challenges of online classes.

A. Opportunities of online learning

The compatibility between traditional teaching pedagogy with contemporary e-learning practices is often a matter of debate. Many articles published globally acknowledged the effectiveness of online education during the pandemic. In response to the growing debate, a recent observational study (Paul et al, 2020) was conducted with a sample size of 79 e-learning classes where the researchers found that interactive, self-paced, repetitious, and customizable features of e-learning technology can advance at least five constructivist pedagogies namely active learning, student-centered learning, peer learning, personalized learning, and differentiated learning. Many universities throughout the world, however, are adopting these e-learning platforms because of their multifaceted opportunities for example teacher-student engagement in forums, encouraging peer-to-peer interactions and creating learner communities (Camus et al., 2016; Northey et al., 2015). Moreover, e-learning can also facilitate soft-skills development among students. In an increasing global business environment where team members belong to different countries, virtual teaming skills has become one of the key job requirements. Evidently, e-learning can promote virtual teambuilding experiences as revealed through research (Kim et al., 2005) on over 100 students enrolled in a top-ranked online MBA program were interviewed and surveyed and it was revealed that. Along with the enhanced ability to work in teams, e-learning also facilitate communication, leadership, and time management (Gay et al., 2020) through the integration of group assignments in large courses. Learning management system such as Google Classroom can help improve group dynamics by ensuring ease accessibility, and collaboration (Heggart and Yoo, 2018). Furthermore, students taking greater numbers of online courses were more likely to engage in quantitative reasoning than traditional classroom students (Dumford et al., 2018). Off-campus online interactions between the teacher and students strengthens the cognitive domains as such interactions provides them with new opportunities to collaborative learning (Islam, 2021). In comparison with

face-to-face classes, students generally perceive online courses to be significantly more flexible (Platt et al., 2014). Students have more control over the pace and timing of their studies in online courses compared to face-to-face courses and reported it more convenient and cost-efficient (Leasure et al., 2000). Another research conducted on a sample of 2196 students from 29 Austrian universities found students praising online learning for its potential to disseminate learning materials clearly and coherently and facilitate self-regulated learning (Paechter et al., 2010). Another sociocultural study recognizes the individual and collective micro shifts among students in terms of perspective-taking and thinking through a synchronous collaborative learning in online spaces (Sobko et al., 2020). Their perceived usefulness of online courses depends on general impressions, consistency, and teachers' responsiveness (Aristovnik et al., 2016). According to Wilson and Greig (2017), students' interaction with the online component increases their practical abilities because of watching appropriate instructional videos.

B. Challenges of online learning

The hasty transition from face-to-face classes to online classes may put many students in shock. Bangladeshi students who never had any prior experience of online classes might respond negatively to the transition. Their initial resistance to this change may also be triggered by the fear of decreased educational quality in the online environment as found by a recent survey (McCooles et al., 2020). Another study concludes that many students feel uncomfortable and distressed by this online learning strategy (Al-Tammemi, 2020). A study conducted in Bangladesh during COVID-19 pandemic reports that online classes are creating mental pressures for some students (Ramij, 2020). In Ghana, students faced challenges in switching to online lectures while adjusting in new online assessment methods and increased workloads (Owusu et al., 2020). Many students perceive online classes inferior to traditional system. There is little reason to expect that Bangladeshi universities will be immune to those identified pedagogical challenges such as the quality assurance, standards of teaching, documentations of performance, verified examinations, certification and the recognition of grades (Ansah et al., 2020) when they try to make radical changes through these new practices of online classes. The effectiveness of any online course highly depends on the skills and experience of the teachers. Lack of online teaching experience

and inadequate preparation time hinders the performance of teachers in an online-based system (Bao, 2020). Teachers face a steep learning curve and sometimes underutilize the potential of online learning management systems by restricting them only to share reading materials rather than synchronous and asynchronous interaction with the students (Sarker et al., 2016). Adaptation and integration of information and communication tools have been a challenge for many teachers as they still lack ICT skills and required pedagogical training on how to teach online (Buabeng, 2012). Furthermore, Martin et al. (2020) conducted a survey on one hundred instructors and found that instructor's online presence, connection, engagement, and learning are the four key determinants for successful facilitation of online courses. In Bangladesh, these four attributes have never been considered as the primary qualities for becoming a university teacher. Therefore, students may find it difficult to stay virtually connected with their teachers as it is a new cultural dimension in teacher-student relationship in Bangladesh. High power distance between teachers and students in Bangladesh may prove to be counterproductive for teacher-student communication in virtual world. Another research carried out in Saudi Arabia indicates that e-learning is mainly affected by cultural issues rather than costs of internet access. (Solangi et al., 2018).

David et al. (2020) identified the lack of internet access and problems in mobile networks as the primary constraint of using online learning platforms in low-income countries. The lack of adequate investment in ICT infrastructure has led to the high cost of internet services and this has impacted on the expansion of e-learning programs. Infrastructural limitations in technology are a harsh reality in developing world. Availability of electronic devices and uninterrupted access to affordable, high-speed internet are pre-conditions for the expansion of online classes in Bangladesh. However, a recent study found the lack of technological infrastructure as the primary challenge for online classes amid COVID-19 outbreak (Ramij, 2020). Their logistic regression model reveals that high cost and low speed of internet are two major hindrances behind online education in Bangladesh. Similar findings were found in another research done by Owusu et al. (2020) where Ghanaian Student's reported unavailability of electronic devices, no internet access and high cost of internet as major challenges of online learning during COVID-19 in Ghana.

Parallely in Pakistan, online learning could not produce desired result as a vast majority of students during COVID-19 are unable to access the internet due to technical monetary constraints (Adnan et al., 2020). The diversity of shared learning materials by the teachers is an influential factor in determining the success of e-learning. A recent study (Staler et al., 2020) found that students enjoy the freedom of choosing their preferred learning materials as many of them prefer online lectures, course notes, primary literature but in contrast majority of them do not prefer podcasts and knowledge review quizzes. As Bao (2020) pointed out, the lack of appropriate study materials taints students' attitude towards online education. COVID-19 pandemic gave very limited amount of time to the teachers for developing adequate learning materials to meet the diverse needs of students. Those Bangladeshi students with high demand for diverse study materials from their teachers, may not be satisfied with the quantity and quality of provided learning resources. Rigid structure of traditional education system, traditional assessment methods, restrictive curricula and restricted organizational structure have been identified as system level barriers whereas old or poorly maintained hardware; lack of suitable educational software lack of ICT mainstreaming into schools' strategy are the school-level barriers (Buabeng et al, 2012). Both categorical constraints are ground realities in Bangladesh where the true potential of online classes may remain underutilized due to these structural bottlenecks.

3. Methodology

This study is based on analytical and prospective in explanatory oriented based on both primary as well as secondary data whereas a mixed methodology of combining both qualitative and quantitative approach adopted. The research was conducted among the students at Daffodil International University, a private university with about 20,000 students located at in Dhaka, Bangladesh. This university was selected as it is one of the pioneers of e-learning practices in Bangladesh (Sarker et al., 2019). This university has a full-fledged e-learning Management system where teachers initiated a total of 1647 courses with 16000 active students (Kazal & Rahman, 2020). Quantitative data was collected through an online questionnaire survey on a representative and diverse sample size of 745 participants from ten different department students and teachers. Semi-structured in-depth interviews consisting of closed and open-ended questions were conducted on

20 respondents for in-depth findings. Simple random sampling technique was adopted for the online survey. Slovin's formula was adopted in order to determine the appropriate size of sample (Slovin, 1960). For a population of 20000 students at 95% confidence interval with 5% margin of error, the minimum recommended sample size was 377. However, a diverse sample size of 745 participants from ten different departments of five faculties namely Faculty of Engineering, Faculty of Humanities and Social Sciences, Faculty of Science and Information Technology, Faculty of Business and Faculty of Public Health participated in the survey for better representation of the realities. The collected data was processed in multiple objectified tools based on the quest for a real picture of opportunities and challenges that students were facing during online classes. The qualitative data is endorsed with quantitative data simultaneously whereas content based numeric response with qualitative responses inserted as per thematic junction. Since data is analyzed, recommendations came after findings hence opportunities and challenges regarding online class operation assessed based on stakeholders' feedback both students and teachers.

Ethical consideration: This study is self-funded, and a maiden research work based on the unique investigative design and practice of the highest range of integrity and transparency. Data is collected through a conventional method in which participants are assured to feel free and confident with enough comfort as assured that their credentials will be used only for research as well as the provided information will be kept confidential and secure, not for any other use involving potential harm or the possibility of violence. Interleaving their direct observation, comments, and any other objects will be done anonymously to secure their personal security and dignity.

Demographic profile of respondents: A detailed demographic profile of respondents is given in Table-1.

Table-1: Participants' Profile

Background	Number of Participants		Male		Female	
	Student	Teacher	Student	Teacher	Student	Teacher
Bachelor of Business Administration (BBA)	7	5	7	3	-	2
Civil Engineering (CE)	29	-	24	-	5	-
Computer Science and Engineering (CSE)	306	3	254	2	52	1
Development Studies (DS)	18	10	15	8	3	2
Electrical and Electronics Engineering (EEE)	53	1	47	1	6	-
English	128	3	36	-	92	3
General Educational Development (GED)	3	1	3	1	-	-
Law	52	1	22	1	30	-
Pharmacy	12	-	7	-	5	-
Textile Engineering (TE)	107	6	103	4	4	2
Total = 745	715	30	518	20	197	10

In total, 715 students and 30 teachers took part in the survey to contribute their perspectives on the issues. Semi-structured interviews were conducted on 20 selected participants from five different departments based on convenience sampling for further in-depth analysis of preliminary findings. Prior experience in using online tools is a crucial issue for assessing the readiness as well as compatibility with needed logistics. On the other hand, online based students' engagement in diverse perspectives particularly classroom interaction, smooth communication, receiving teaching materials, taking examination also another vital assessment indicators that reflect the experience and competitiveness among the students which impact on their satisfaction and study effectiveness.

Feedback collected from students the platforms or tools that they use for online learning.

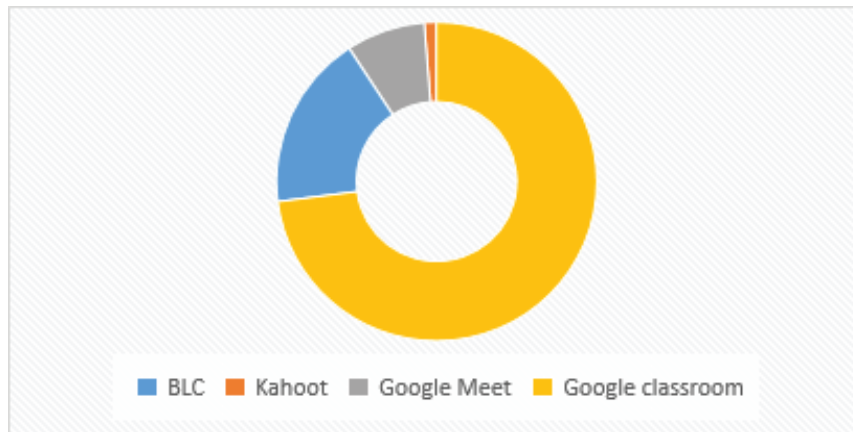


Figure-1: Prior Experience in Using Online Tools

Figure-1 demonstrates the significant majority of 705 (94.89%) students reported to use google classroom while the remaining utilized other platforms. The number of the Blended Learning Center (BLC) users were 172 (23.1%); Kahoot users were 12 (16.1%), and the total Google Meet users were 77 (10.3%). Some other online communication tools such as Zoom, Skype, WhatsApp messenger have also been used by the students. Evidently, the students are familiar with wide range of online learning tools and their prior user-experience should have helped them to adapt to online classes during COVID-19 pandemic. However, the significant 94 percent (698 out of 745) of respondents has been using those tools for 1 to 3 years to some extent which may not be adequate for optimum utilization of those platforms since they have used those tools as a supplement to face-to-face classes not as a replacement.

4. Findings, Analysis and Discussions

A. The opportunities of online classes

The survey conducted among the 745 participants reflect the opportunities of online education. A very insignificant number of responses claimed about the

less effective of the online classes while majority speed up their learning through online tools used during the pandemic. One of the most cited positive aspects of online classes is the cost-effectiveness.

One student said: *“Online classes have saved my cost of accommodation, food and transportation.”*

This finding is in line with a similar study which found the cost and time-effectiveness, safety, and convenience as the primary advantages of online classes during COVID-19 pandemic (Hussein, et al., 2020). Many students reading at the different universities of Dhaka city belong to other districts, so they have to pay additional expenses for house rent, food and transportation. All these costs can be curtailed if they have the option for online classes. Flexibility to have easy access to learning materials is yet another advantage of online learning as perceived by the respondents. During the online classes, participants were flexible to join from anywhere using any device of their choice. Recorded video and audio lectures helped them submit their assignments accordingly.

One student voiced *“I missed multiple live sessions, yet I was able to successfully complete the assigned tasks because I had access to recorded lectures from live classes whenever I wanted.”*

Furthermore, another interesting insight into hidden potential of online classes was the creation of new windows of opportunities for higher student engagement and participation. Online classes can be considered as a blessing in disguise for introverted students who were struggling to fight their fear of public speaking. This opportunity is facilitated by the flexible access to online discussion boards let students enjoy more time to refine ideas and made them less nervous evidently by another study (Majid, et al., 2014).

During an interview, a student shared *“I participate more in online classes than face-to-face class. I do not feel shy talking online as the fear of judgement by my peers are lower.”*

Another interesting finding was the increase of peer-to-peer learning opportunities offered by online forums and group tasks. It has improved the soft skills of students as per their self-evaluation. This reaffirms the findings

from another study which explicated that online peer learning enhances students' academic achievement and promotes motivation (Razak et al., 2010).

Anonymous feedback received from a student on Online Classes

“Online classes offer more freedom in learning. When I joined the classes sitting in an open place under the sky it seemed to me that learning is not confined just inside the four walls. We had free will and we enjoyed our classes the way we wanted. So, I think, sometimes it is better not to have restrictions in terms of learning. I found my teachers more kind and friendly in terms of online classes which makes it easier for us to study well in this pandemic situation and I think it is the best ever gift of online classes. Earlier, we faced some unwanted problems created by us inside our classroom (side talking and making noise) which was really disturbing but in terms of online classes, we did not face this type of problem. Most of the time we did not take notes inside our classroom and sometimes teachers did not give us ready-made notes but in an online class, most of our teachers used to give us many helpful notes made by them. As our teachers recorded the online classes and uploaded these lectures on google drive, we had the opportunity to go through these video lectures again and again for a better understanding. In traditional system, if we missed any lecture, we would face many difficulties to cover that lecture but in terms of an online class, we didn't face that kind of problem as our teachers were kind enough to upload all the lectures.”

B. Primary challenges faced by students during online classes

COVID-19 pandemic forced students to shift from traditional to online classes with or without their consent. As the students had to other alternative but to adapt to online learning, many of them faced wide range of challenges to cope-up with the changing circumstances. Lack of preparedness for online learning was the most cited challenge by the students.

One student remarked “I wasn't ready for online classes, yet I was forced to learn online without any prior orientation to brand-new methods and tools. As we did not have any previous experiences, so we could hardly focus on the lectures of our teachers. We also faced some problems in terms of written quiz or assignments as we all were not experts in using Microsoft word.”

Inadequate preparation for adapting to online classes reaffirmed the primary obstacle of online learning in previous studies (Al-Amin et al., 2021). On the other hand, the pandemic forced many students under severe psychological stress which contributed to their lack of interest in online classes. They find it difficult to concentrate in online classes as some of their family members or close relatives were already affected by COVID-19.

One of the comments sums up the psychological and physiological challenges:

“My mother and elder brother were suffering from COVID-19, and both were admitted at the hospital. I found it extremely difficult to focus in my studies as I was under mental stress and fear of losing my family members.”

Apart from the psychological aspects, several students also pointed out the physiological challenges such as eyestrain, backpain, headache, dizziness because of more than five hours of online classes per day. These findings match with previous findings from a cross-sectional survey showing that students vision, hearing, balance and overall health can suffer from prolonged screen use during online classes with detrimental effects ranging from minor to severe (Dessai, et al., 2023).

Some students felt that the lesson-plan and reading materials were not suitable for online classes. Several students felt that the syllabus put excessive load to the students. They had to submit more assignments than usual, and the number of formative and summative tests increased in online classes compared to traditional face-face classes. This could be attributable to the sudden shift to online classes within a few days leaving teachers with not enough time for redesigning their lesson plans (Bao, 2020).

A student reported *“In my locality, load-shedding is a norm rather than exception. Wherever the outage occurs, I don't have internet as the towers do not have backup generators.”*

Technical challenges frustrated many students to stay engaged during an online class. Mobility was restricted and many mobile recharge shops were closed during strict lockdown imposed by the government. As majority of Bangladeshis use pre-paid packages so students had to go outside their home for mobile recharge to buy data package. On the other hand, many students reported that they neither had a personal computer nor a smartphone so they either had to buy or borrow any of those devices to join in online classes. Prices of electronic devices are still relatively higher in Bangladesh so many students cannot afford to buy them.

A student shared “My father was not getting his salary and family was already in financial stress due to COVID-19 so it was not possible for me to buy a laptop under the circumstances. Furthermore, to continue our online classes, I required a huge amount of data which has become an added financial burden for us. There is no suitable and affordable data package to cater the needs of attending online classes for students.”

Disruption in internet connectivity was yet another challenge faced by many students especially those who are living at the villages. High speed broadband internet is only available at the city areas but in rural villages students had to use mobile data sometimes at 2G speed. Students living in remote, rural areas were commonly affected by connectivity issues ranging from frequent line-drops to total disconnection due to outage. Affordability of internet is also a challenge given the high data-price charged by the mobile operators. This corroborates students experience the first-level digital divide because of the cellular internet's poor access and high cost (Badiuzzaman et al., 2021).

5. Conclusion and Recommendation

The primary findings of this study identify challenges which can be categorized into three board perspectives i.e., policy, organizational and pedagogical level and each of these levels needs to act actively to overcome the barriers. Firstly, from a public policy level there should be a coherent policy guideline for the conduction of online classes so that a standard quality is assured across all the universities of Bangladesh. A robust policy framework would instill confidence among all the stakeholders and increase acceptance of e-learning practices. A clear policy guideline will help teachers to maintain uniformity and ensure the same standard across the institutions. Similarly, a few suggestions were drawn up for the policy makers to further decrease the bandwidth price and provide affordable internet packages for online classes. Secondly, from an organization level every university authority should arrange series of workshops for students on how to use an online learning platform to maximize its different features. It is expected that attending any workshops would make the students better equipped to adapt to the new challenges of online learning. Correspondingly, there should be a website containing all instructions and videos on the usage of learning management system ready to be accessed at all times. Universities may introduce adequate monetary and non-monetary

incentives to reward the best performing students and encourage others to follow. Thirdly, from pedagogical perspectives the teachers must provide quality and timely feedback to the students to keep them engaged and motivated in online classes. It will be better for the teachers to keep the duration of their online classes under an hour to retain learners' concentration and avoid fatigue during online classes. The respondents suggested to introduce 45 minutes long classes instead of the existing 90 minutes long classes per week. The shorter duration can be more effective for active learning and participation by the students. At the same time, this study recommends teachers to upload class materials before the class which gives students opportunities to identify their problems prior to join online classes. Additionally, this study encourages teachers to open a question-answer section on the online discussion forum to exploit the opportunities of asynchronous mode of interactions with the students and keep them motivated. Increased interactions between students and teachers would certainly help to solve myriads of coping challenges in the early days of online classes. Finally, pro-active attitude from all stakeholders of online classes is essential to create a strong sense of ownership and empower them to embrace the true potential of online learning at the universities of Bangladesh.

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