

# **E-learning in Bangladesh: Challenges and Overcoming Strategies**

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## **Abstract**

The COVID-19 pandemic has significantly changed the world's educational system. Many governments have enacted regulatory measures to decrease social gatherings and increase social separation to control the infection. E-learning has quickly gained popularity as a different teaching and learning method worldwide, including in Bangladesh. The objective of the current study was to identify the outcome, challenges, and overcoming strategies of the E-learning platform from Bangladesh's perspective. The relevant publications were searched from several databases for 2020 to 2022. The search words used were e-learning, distance learning, e-teaching, the COVID-19 pandemic, corona virus, online teaching, and Bangladesh. According to the literature, academics and students face a few learning and teaching obstacles, especially in developing countries like Bangladesh. Poor internet connectivity, lack of devices, poor interaction between teachers and students, insufficient skills of the teacher, etc., are the most common factors that hinder the success of e-learning in Bangladesh. The government should take the necessary steps to nourish the e-learning methods to improve this country's education system.

**Keyword:** Bangladesh, Barriers, COVID-19, E-learning, Outcome.

## **1. Introduction**

The coronavirus disease 2019 (COVID-19) was declared a pandemic disease by the World Health Organization (WHO) on March 11, 2020 (WHO, 2020). COVID-19 has severely disrupted the education process and health care frameworks all over the world. Due to the virus's high contagiousness, it is difficult to continue studying at institutions in person, which has had a major impact on traditional education. The altered situation puts people in danger of getting fatal illnesses, which creates enormous challenges for education because teachers must effectively deliver lectures.

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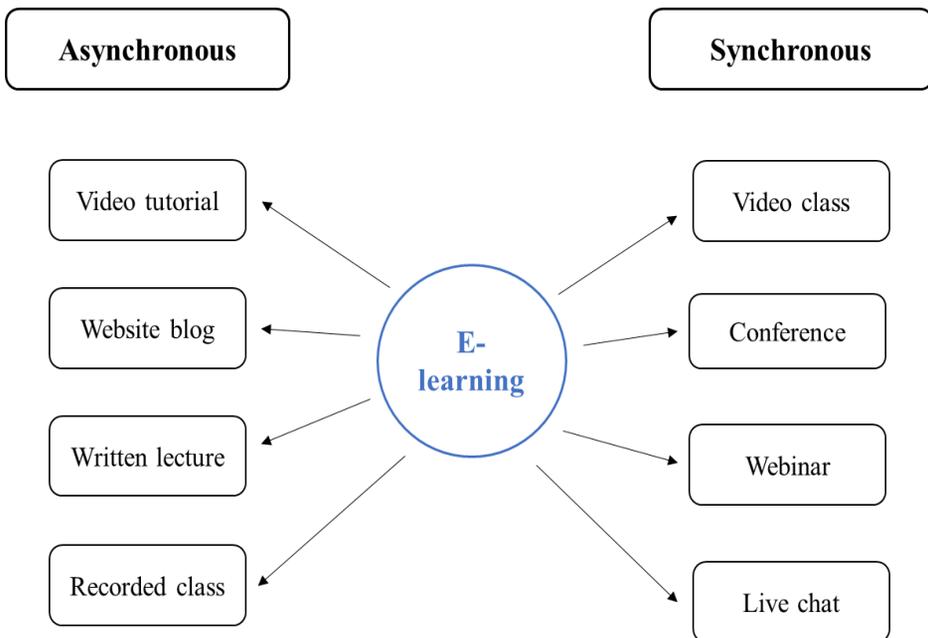
Bangladesh also faced an entire case of 2,026,908 and 29,371 deaths till October 03, 2022 (Worldometer, n.d.).

To control the transmission of the virus, different preventive measures were taken, including travel restrictions, remote office activities, border controls, isolation of confirmed cases and close contacts, quarantining visitors from affected countries, area lockdowns, social distancing practices, use of personal protective equipment, and educational institution closures (Anwar et al., 2020; Ayouni et al., 2021). Students must also obey social distance rules and adhere to the requirement to stay at home. As a result, a different education system must be created that offers students the chance to learn continuously while also preventing delays brought on by the pandemic (Ross, 2020). Bangladesh enacted a general lockdown on March 26, 2020. Every educational establishment stopped conducting offline teaching and switched to e-learning overnight (Jashim, 2022). In Bangladesh, COVID-19-associated school closures impacted close to one million instructors and 37 million students (UNICEF, 2021). Because of the coronavirus outbreak, there is a widespread sense of a high death toll, which is accompanied by scepticism and fear. Due to the current scenario, many countries worldwide are tempted to close the gap and lessen the harm to children. Bangladesh also experienced a high rate of mortality and morbidities due to COVID-19 infection (Islam et al., 2021). The government's primary response involved TV-based educational campaigns. According to a survey from May 2020, almost 55% of Grade 9 stipend recipients lack access to TVs. Only 43% of children choose to watch TV educational programs, the primary source of remote learning, while schools are closed, even among those who do. There were no obvious differences between the genders of the pupils when it came to whether they watched the broadcasts the previous week (World Bank, 2021).

Several universities adopted online teaching methods using different free and paid platforms. However, Bangladesh Research and Education Network (BdREN) offers university teachers free online video meeting facilities (zoom). Using this platform, up to 300 participants can join in a meeting at a time with the facilities of whiteboards, breakout rooms, chat, screen sharing, annotation, polling, etc. (Bangladesh Research and Education Network [BdREN], n.d.). Some institutions use their private platform for online-based education. A number of articles have been published in Bangladesh regarding the e-learning status and the student's response to the new teaching methods. Many of these articles focus only on a particular institution and discuss the challenges of e-learning for that specific region. Therefore, we summarize the difficulties of e-learning and their strategic solutions in light of the published data. In this work, the current scenario of e-learning methods and challenges are discussed that will be helpful for the planning of a better education system.

### 1.1 E-learning

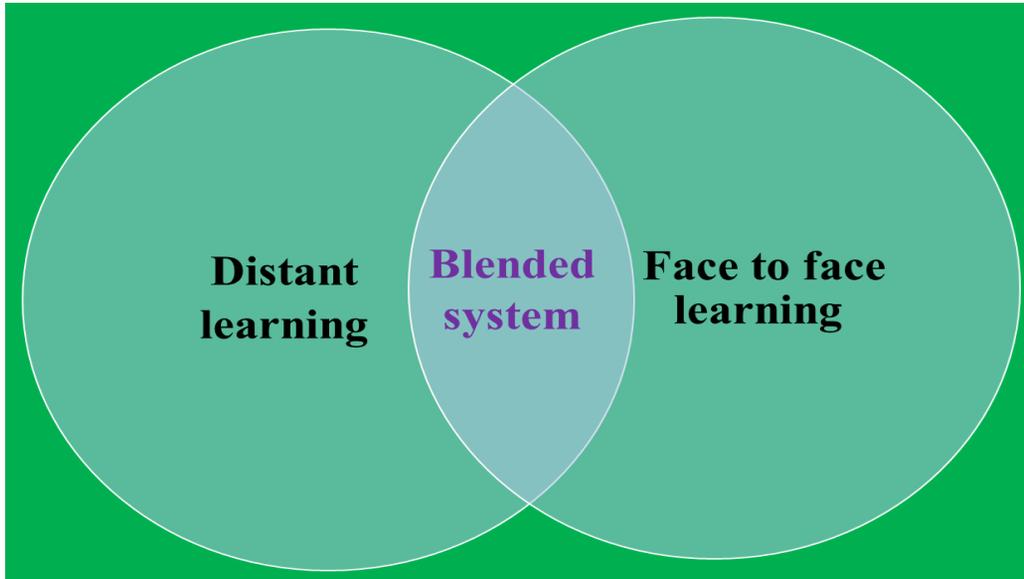
A form of education known as e-learning involves students using their personal computers, laptops, or smart phones to access the internet when away from their academic institutions (Anastasiades et al., 2010). This is helpful in some cases where face-to-face education is not feasible; there needs to be more accommodation for the participants, distant locations of the participants from the institutes, etc. This learning method is also called distance learning, online teaching, video class, etc. E-learning has a role in academics due to the internet and technological advancements. This method can be divided into asynchronous and synchronous learning. Through online platforms like conferences and chats, synchronous learning encompasses direct connections among learners and instructors, whereas asynchronous learning involves indirect interactions (Ko & Rossen, 2017; Ogbonna et al., 2019; Tarman, 2020). A list of different e-learning methods is shown in Figure 1.



**Figure 1:** Mode of e-learning. Source: Fabrizz et al., (2021).

However, a newer concept has emerged in the post-COVID-19 education system. This method employs offline and online education strategies (Figure 2). Many institutions divide the weeks into offline days and online days. Face-to-face education continues offline, while distance learning continues online. Online learning resources offered a conducive environment for autonomous learning. During the pandemic, the learners felt the necessity of offline classes deeply. The blended approach would improve students' information retention compared to conventional classroom instruction.

Therefore, even though it necessitates appropriate capacity-building measures, the proposed approach has proven to be workable and efficient (Li et al., 2021; Sharma et al., 2022).



**Figure 2:** Blended system of learning. Source: Hubackova and Semradova, (2016).

## 2. Methodology

To find pertinent studies, a thorough literature search using well-known databases was carried out. The database for the journal collection included Google Scholar, Science Direct, Web of Science, Science Online, Scopus, SAGE Journals, and Springer Link. With the help of a search filter, only studies released in 2020-2022 were identified. Moreover, reference lists of primary search results studies were used to find other related studies. COVID-19 pandemic, corona virus, online education, e-learning, distance learning, e-teaching, Bangladesh, and higher education were the search phrases utilized. Inclusion and exclusion conditions were created for choosing the most pertinent papers. Studies on that tended to e-learning, online teaching, and higher education during the pandemic in Bangladesh were eligible for inclusion. From the first search, 350 articles were compiled, with Google Scholar producing the greatest amount. Only 150 items out of 350 were chosen for the final evaluation (excluding non-scientific writings such as magazine articles, trade publications, etc.). The last determination for the literature study depended on the abstract, which needed to meet the following measures: published on an accredited source (journal), acceptable methodological standard, and clearly defined research objective related to the current study. For the final review, only articles with full text were included.

### **3. Result and Discussion**

#### **3.1 Challenges for E-learning in Bangladesh**

According to a study, the learning environment, students' psychological status, technical resources, the design and outline of the course, the amount and accessibility of the course materials, and the interaction between the teachers and students all play a role in effective and successful online learning in Bangladesh (Islam & Habib, 2021). The top three barriers to e-learning are a lack of resources, access to alternative e-learning platforms, and learning alone at home (Hoque et al., 2021). The other challenges are listed below:

##### **3.1.1 Personal Challenges**

The e-learning method is a newer concept for students and teachers (Gopal et al., 2021). For this reason, massive changes are required in the course design, evaluation techniques, interaction ways between teachers and students, etc. As all Bangladeshi teachers and students are used to the traditional face-to-face learning method, they need help shifting to the online education mode. Teachers with lower technical expertise may need help managing the classroom with devices. According to a study, there are four hurdles to (mobile) technology-enhanced learning: intrinsic, extrinsic, the absence of design thinking, and classroom management (Chen et al., 2022). None of the items on the e-learning readiness measure for Bangladeshi students got the highest mean score, indicating they were unprepared to handle e-learning (Kabir et al., 2021b). A study conducted among Bangladeshi lady nursing students during the COVID-19 pandemic discovered that less than 50% of the students preferred e-learning (Kabir et al., 2022).

##### **3.1.2 Lack of Proper Environment**

Traditional learning system provides students with a dedicated classroom and related facilities. A good learning environment should offer a comfortable and secure area for instruction. Additionally, they should present chances for students to communicate with one another and access materials that support various learning styles. However, the e-learning concept only ensures a proper learning environment for some students. The environment is totally dependent on the student's family status and the affordability of the family. Most of the family lacks dedicated room for an educator. According to a study, most students think they learn less than they would in a typical classroom since they are not similarly challenged in an online course (Sarkar et al., 2021). This may be due to the Lack of a proper learning environment in the home. As the students lack a dedicated study room in the family, the sudden entrance of family members and pets is causing disruptions (Adedoyin & Soykan, 2023).

### **3.1.3 Economic Difficulty**

As a developing country, most of Bangladesh's people live below the poverty line. Many students lacked proper devices or internet facilities due to financial scarcity (Rahaman et al., 2021). To accelerate the e-learning process, the University Grant Commission (UGC) initiated soft loans for public university students to buy smart phones (Alamgir, 2020). Additionally, many parents have gone their jobs, as have students who rely on part-time work to cover their tuition expenses. The students also fall into psychological distress that hampers the proper learning environment. COVID-19 has put individuals in undeveloped and underdeveloped countries in danger, with some suicide instances even being documented during the COVID-19 period in Bangladesh due to people losing their employment and dealing with the financial crisis (Bhuiyan et al., 2021; Islam et al., 2021).

### **3.1.4 Poor Internet Connectivity**

The internet connectivity in Bangladesh could be more robust over the country. People living in the rural area are facing the poor connectivity problem most of the time. According to the Bangladesh Bureau of Statistics 2019 Multiple-Indicator Cluster Survey, 62% of Bangladeshi households lacked access to the internet at home. While being a national average, there is a significant variation in internet access based on the families' socioeconomic status. In Bangladesh, only 8.7% of households in the bottom 20% have access to the internet at home, compared to 75.3% of those in the top 20% of income (UNICEF, 2020).

### **3.1.5 Lack of Devices**

55.89% of Bangladeshis own mobile devices, and around 31.5% of the population have internet connections. Because of this, it would be simple to counter that most individuals need easy access to online schooling. These data, however, only partially depict the situation. Although technology advancements are flourishing, computer literacy rates still need improvement. E-learning will only be able to reach some residents if such inequalities in society are present. Therefore, we must see e-learning as a complement to orthodox teaching rather than an alternate. Several programs, including Digital Bangladesh, can potentially raise the population's computer literacy rate (Ahmed & Hossain, 2014). Living outside of the Dhaka division, in rural areas, and as a woman was discovered to be connected aspects in the absence of technical accessibility and usability, which further increases perceived e-learning stress (Hasan et al., 2021).

### **3.1.6 Increased Mental Stress**

Online classes and assignments increase the psychological pressure on students. Students' increased anxiety, laziness, and indifference in online classes serve as psychological barriers to e-learning (Islam & Habib, 2021). A study also discovered that the students' negative feelings during online lessons harm their mental health. In addition to these issues, students in online classrooms experience low motivation toward study and negative feelings (Wilczewski et al., 2021). During distance learning, more than 80% of Bangladeshi undergraduate students experience moderate to higher levels of perceived e-learning stress (Hoque et al., 2021; Kabir et al., 2021a). Due to the universities' extended closure, students are more likely to experience anxiety related to session jams and poor e-learning, which increases mental stress (Hossain et al., 2022).

### **3.1.7 Improper Education Strategy**

The context of distance learning is entirely different from the traditional face-to-face education system. The students, however, think that online learning needs to be simplified for them to comprehend. Additionally, it was determined that an absence of teacher-student engagement in distant learning and adequate academic support materials caused the disturbance. The educational material and instructional strategies employed in online courses significantly impact students' motivation to enroll in them (Chowdhury et al., 2022). The strategy used for offline education will not provide a successful learning outcome in distance learning. The way the course material is designed, the accessibility of academic properties, and the collaboration between teacher and students during COVID-19 all have an impact on how effective online learning will be (Wut & Xu, 2021). Additionally, students complain that they are easily side-tracked in online classrooms and that the workload has grown. As there is no limitation for physical classrooms, more online classes are conducted by the teachers. It can be challenging to turn in assignments and take part in exams in online programs. Many students need to become more familiar with online learning platforms and processes, even though multiple studies in the past have demonstrated that a lack of technical proficiency is a roadblock to e-learning (Abuhammad, 2020; Al-Senaidi et al., 2009).

### **3.1.8 Poor Interaction with Teachers**

The shortfall of face-to-face communication relates to large numbers of the disadvantages of e-learning that have proactively been recognized. Absence of pressure is disturbing on the grounds that it makes students bound to abandon their scholastics. The failure to connect with the educator keeps students from giving input, makes social detachment, and may cause them to feel less under tension. Despite the fact that many individuals detest being continually goaded by instructors, it makes all the difference

for expanding students' maintenance. Up close and personal correspondence should be supplanted with one more sort of correspondence while utilizing e-learning. For instance, video chats, message boards, and chat rooms could assist in addressing the drawbacks related to a lack of face-to-face interaction during online learning (Ali et al., 2018).

### **3.1.9 E-learning is Only Available in Several Subject Areas**

Not all study fields can be utilized really in e-learning, and not all instructive disciplines are made equivalent. E-learning is at present more fit to sociology and humanities than scientific sectors like engineering and medical science, which require a specific measure of involved practical experience. For this reason, the courses cannot be completed by distance learning. In the instance of nursing students, research revealed that blended learning courses dramatically raised the satisfaction scores of the participating students while achieving comparable post-test results to traditional course formats (Aljawarneh, 2019). Due to the experimental nature of the subject, switching to distance learning in chemistry education can be more difficult than in other subjects (Babinčáková & Bernard, 2020).

### **3.1.10 Online Students Lack the Development of Communication Skills**

Due to the inherent nature of distance learning, the students have minimum interaction with their classmates and teachers. As a result, the students need to improve their communication skills up to the mark though their academic understanding is well. Teachers viewed E-learning favorably during the pandemic because it was time-efficient and made it simple to share resources. However, it needed to be adequate for monitoring or doing practical sessions, and it was less successful in evaluation (Saha et al., 2021).

## **3.2 Improvement of E-learning Process**

This study compiled data from the current literature to better understand e-learning and teaching during the lockdown, and related obstacles and prospects. The earlier studies (Demuyakor, 2020; Ratten, 2020; Tesar, 2020) widely investigated the effect of the pandemic on the entire education sector. The works detail the transition from face-to-face instruction to e-learning due to the COVID-19 lockout. Comparing offline and online learning was only briefly studied (Dawadi et al., 2020; Marinoni et al., 2020; Wargadinata et al., 2020; Zhang et al., 2020). These studies show that both students and teachers prefer face-to-face teaching method. The reasons given in the present work for teachers' and students' fondness for offline education over online education include several issues with online learning.

As a new method, e-learning has some drawbacks, which can be removed by providing proper facilities and training. The university grant commission (UGC) should regularly

arrange proper training about e-learning strategies for teachers. Additionally, administrators from educational institutions should annually submit a budget for creating hybrid classrooms. The teachers' efficiency must be assessed from the student's side to improve the quality of education. The internet connectivity must be strong enough for uninterrupted online activities.

Moreover, the proper device should be available for the students. The students must be satisfied with their education and the valuable information they obtain through online classes to use virtual learning services (Chowdhury et al., 2022). Some changes must be made to enhance the quality of e-learning, including developing support programs for underachievers, and building relationships with other students and teachers online. Organizing the necessary tools, initiatives, and financial and technical support is crucial to improve online learning. The government and the community will be forced to create new rules, regulations, platforms, and solutions due to this COVID-19 lesson for upcoming situations. After the COVID-19 outbreak has ended, this lesson will encourage using free resources to move traditional school classes to online education. This will be a part of future teaching and learning. Because of this, investing in the implementation of e-learning is still essential because the return on investment may determine how well students are trained.

#### **4. Conclusion and Recommendation**

The traditional educational system, which many claim was already outdated, has been upended by the COVID-19 pandemic. Due to the complete lockdown during this pandemic, distant learning is replacing the face-to-face learning system. Because it removes the geographic barriers that are helpful for social distancing, online education is the finest option in this pressing time. However, effective distance learning depends on some elements, including access to technology, knowledge of fundamental computer skills, a pedagogical framework for online learning, and flexibility in learning. In order to create a new paradigm for learning experiences, following and incorporating online education is essential. While it may have initially looked that this revolutionary movement in the educational sector would take some time, online education programs can play a crucial part in the growth and dissemination of education during this period of standard shift. Modern learning tools can open new learning opportunities for students. The COVID-19 pandemic and subsequent closing of educational institutions have accelerated it. Finally, education must incorporate online learning to adapt to this rapidly changing world.

#### **5. Limitations:**

Our study has some limitations. Firstly, this study only includes seven online databases as our journal collection. Secondly, the journals were limited to only open access and published data, as other formats were excluded from our search. Finally, the Bangladeshi perspective and limited time frame narrowed down the total number of journals for including our analysis.

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