

Effectiveness of Online Teaching during Covid-19 in Higher Secondary Education

Ranjan Kumar Guha^{*}
Abdul Mannan^{**}
Ashik Sarkar Lifat^{***}

Abstract

Covid-19, a pandemic, had a devastating effect on the across the sectors of the economy as well as the country's boundary. The education sector suffered a lot as the educational institutes remained closed for nearly one and half years in Bangladesh. Online teaching, along with other methods of distant learning, was introduced during this period. In that context, the research question was how the students perceived the benefits of online teaching and what factors were responsible for getting better outcomes from online teaching. An online survey was conducted among grade XI and XII students in two colleges in the Chottagram Division. A total of 526 students participated in the online survey. SPSS was used to tabulate the data, and statistical analysis techniques such as mean, frequency distribution, percentage, and binary logit regression were used to analyze the data. The study findings revealed that the study time at home was reduced during the COVID period and that the use of online platforms had increased dramatically. Considering the perceived benefit of online teaching, more than three-fourths of the students replied that they faced little or severe problems in comprehending the message of a faculty specific mandatory subjects, including English. It was found that maintaining an attendance rate of more than 80%, limiting the time use of social media like Facebook, and ensuring a regular flow of minimum household income for vulnerable households are prerequisites to achieving positive outcomes from online education. Moreover, boy students are lacking in comprehend the message effectively, mainly because of their discontentment with the home environment. The study recommended making the teaching method more attractive for ensuring regular participation in online classes; counseling the students on

* Director, Bangladesh Academy for Rural Development (BARD), Kotbari, Cumilla. E-mail: rkguha@live.com

** Lecturer, Department of Management, Bakalia Govt. College, Chottagram,

*** Assistant Director, Bangladesh Academy for Rural Development (BARD), Kotbari, Cumilla

thoughtful use of online devices; and supporting the poor households who have experienced income loss to support their children in education for increasing effectiveness of online teaching. Boy students need to be motivated to accept the new normal phenomena and behave accordingly during anomalous situations.

Key Word: *Online Teaching, Covid-19*

Background

COVID-19, a pandemic, had a devastating impact on all sectors of the economy as well as the country's borders. Like many other countries, Bangladesh had also imposed restrictions on movement by introducing a lockdown to reduce the quick spread of viruses and save human lives. The educational institutions remained closed from March 17, 2020, until September 11, 2021. During this vacation, the online teaching was followed through Facebook Live, Google Meet, Zoom, and distant learning through television. Besides, due to changes in the mode of teaching, the syllabus of different classes was also shortened to reduce the learning pressure on the students. The SSC and HSC examinations in 2020 were postponed, and the students were evaluated based on the marks from previous public examinations and a subject mapping system. For adjusting to the new environment of learning, the infrastructure of the digital platforms Zoom and Google Meet was used widely and quickly by different stakeholders on the demand and supply sides of learning. In most cases, they had little time to be prepared to use this digital platform effectively. Therefore, the accessibility of the students and teachers to quality education suffered due to a lack of technical know-how, technological problems, inadequate access to online platforms, and attitudinal variability on both sides. (Noor & Shaoun, 2021) found that the daily routine of learning was disrupted and the presence of students in online classes gradually decreased. Students lost the motivation to participate in the online classes because of poor internet connections, the monotonous nature of the classes, and a lack of proper guidelines. Considering such loopholes, the suggestion from this study was to build a community resilience system, especially by involving parents and social volunteer groups.

Despite some limitations, online education has proved to be an alternative mechanism for reaching the learner during the crisis period and reducing the physical distance between the learner and teacher. In some cases, it is observed that students from remote areas in Bangladesh had access to renowned tutors or coaching centers located at the capital city for learning at a very reasonable cost. In those circumstances, if the stakeholders of supply and demand can be prepared with adequate infrastructure and technical know-how, the inequality of learning

opportunities due to physical distance can be reduced. However, reaching each student with a common message and motivating the learner through digital platforms suffered due to technical, attitudinal, and mental blockades. In that light, the research question was: to what extent do online teaching methods benefit students at the higher secondary level, and what are the aspects that make the difference in comprehending messages effectively?

Conceptual Framework of the Research

The primary goal of the learning process is to develop students' analytical and adjustment capacity through developing a knowledge base. Subsequently, the process intends to help in developing an understanding of how to apply theory in a practical field situation. Active engagement of different stakeholders on both the supply and demand sides is the prerequisite for achieving this goal. Along with macro-level policies, teachers play a vital role in providing quality education on the supply side. In the context of online education from the teachers' viewpoint, the content of the session, the procedure for disseminating information, the nature of online teaching materials, access to online devices, internet connectivity, and managerial capacity to manage online sessions play a very important role. (Ahmad et al., 2021) found that limited access to technology, a lack of training and tools, and a lack of materials make it difficult for the teachers to adapt to the new environment of virtual classes. On the demand side, access to & command over digital devices, attitude, and motivation can make a difference in the learning process. Access to online education for students depends on the ownership of digital devices, their access to internet connectivity, and the affordability of the cost of internet connectivity. Positive student attitudes and motivation, on the other hand, are influenced by the home environment, the students' engagement in the teaching method, their understanding of the lessons and the utility of the learning in a real-life situation, and the attractiveness of the lessons. The empirical findings from the field situation tell us that noise, both in the home environment and on the online platform, problems of audibility, fluctuations in electricity and online connectivity, and less variation in lecture delivery discourage students from their active involvement. However, Hussain et al. (2020) found online learning was an effective and efficient system of learning to fulfill the educational needs of learners at distant locations. The study found that online learning can never be a replacement for traditional learning due to certain limitations of the system. (Khan et al. 2021) found that the challenges related to connecting with online classrooms for the first time—poor internet signal, technical problems related to computer and smartphone management, time management, and limited time for using the Zoom platform—inhibit the desired outcome by the students.

(Rouf et al., 2021) found that most of the students reported that online classes have been more challenging than the traditional classroom because of the technological constraints, the "digital divide," insufficient data packs to access the material to attend the class, poor connectivity, a lack of devices, and the poor learning environment. However, it has finally concluded that an online learning system is the best substitute for a conventional learning system during any pandemic situation.

Following the findings of different studies and observations, the conceptual framework of this study is developed. The study believes that along with the technical aspect, the behavioral aspect of the students is very important for a positive outcome of the online learning process. Students' motivation to attend online sessions on a regular basis, as well as their concentration during online sessions, are some of the personal characteristics that contribute to positive outcomes from online teaching. However, household support for ensuring access to various digital devices is also required for positive outcomes from online teaching.

Objective of the Study

The study's overarching goal was to evaluate the effectiveness of online learning in terms of successfully disseminating the message to students and to identify the barriers that impede the expected benefit from online teaching. The specific objectives of the study were as follows:

To explore the access of college students to online education;

To evaluate the perceived benefit of the students participating in online education;

To assess the nature of online platform and social media used during corona period;

To identify the factors responsible for effectiveness of online learning during the COVID period.

Method of the study

The students who are studying in classes XI and XII in *Bakalia Government College*, , and *City College Chottagram* were interviewed through an online survey. There were 2,371 and 4,157 students at Bakalia and Government City College, Chottagram, in the year 2021. Seventeen and three percent of the students responded, respectively. In total, 8 percent of the students took part in the survey. The effectiveness of the online learning was captured through a three-point Likert scale, i.e., 01 = don't face any problems, 02 = some problems to comprehend, and 3 = fail to understand the subject matter. Finally, in order to identify the factors related to the effectiveness of the course, students who had little trouble or did not understand anything were considered ineffective and

were assigned a value of 0 as a dependent variable, whereas students who did not have any problems were considered effective learning and were assigned a value of 01 as a dependent variable. Logistic regression was used to determine the factors related to the effectiveness of online education.

Table 1: Population and Sample Size of the Study

Indicators	Bakalia Govt. College	Govt. City College	Total
Number of Students	2371	4157	6528
Number of Students Replied	401	125	526
Percentage of Students Replied	16.91	3.00	8.05

Findings of the Study

General profile of the respondent

Some demographic variables related to sex, age, and average household size, the average number of students per household, and place of residence were used to determine the social and economic status of the respondents. Other than demographic variables, their engagements in different grades of schooling and major subject area were considered the variables of interest for the general profile of the students. Although both colleges are in the divisional city, their staying location during the lockdown was chosen to distinguish between rural and urban areas.

Table 02: Distribution of the respondents according to the profile of students

Indicators		Rural	Urban	All
Sex of Respondents	Male	128 (68.82)	183(53.82)	311(59.37)
	Female	58 (31.18)	157 (46.18)	215 (40.87)
	Total	186 (100)	340 (100)	526 (100)
Mean Age of the Respondents		17.91	17.99	17.96
Average Number of HH Size		6.09	5.07	5.43
Average Number of Students Per HH		2.94	2.55	2.69
Sex Ration of household (Number of Male per Female)		1.17	2.21	1.45

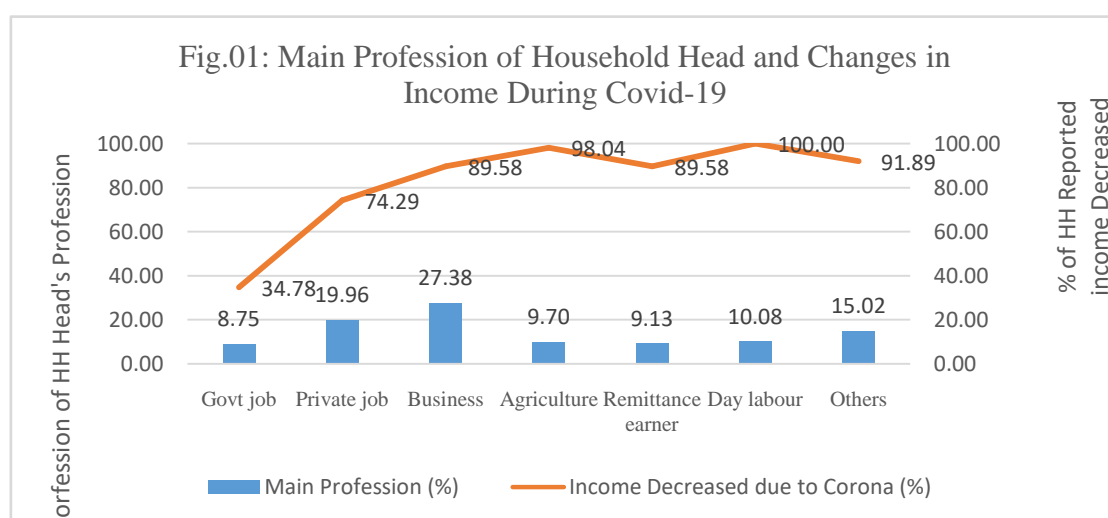
Effectiveness of Online Teaching during Covid-19

Percentage of Students according to their subjects (%)	Science	9.70	28.33	38.02
	Business	12.36	24.14	36.50
	Humanities	13.31	12.17	25.48
Percentage of Students according to their schooling (%)	Class XI	13.50	24.14	37.64
	Class XII	21.86	40.49	62.36

The mean age of the respondents is 18 years. Among the respondents, more than two-fifths of them were female students, and the rest of the respondents were male. The proportion of male respondents was higher in rural areas. The average household size of the respondents was 5.43, with a higher HH size in rural areas. The average number of students per household is recorded at 2.69, with a higher concentration for households that live in rural areas. The most important thing is that the ratio of males to females is higher both in rural and urban areas, but in urban areas the proportion is almost double. More than one-third are studying in grade XI, and the rest are in grade XII. Among the respondents, students of science faculties comprised 38% of the total, and students of business and humanities followed them.

Profession of household head and changes in income during Covid-19

The profession of the household head is used as a dummy variable for assessing the wellbeing of the household. Generally, the household head who depends on informal and insecure professions suffers more during a crisis. On the contrary, the household head's involvement in formal and stable professions ensures a better standard of living as their stream of income does not fluctuate more during crises.



The findings of the survey reveal that 28 percent of the household heads are involved in business. This profession is followed by private jobs

(20%), day laborers (11%), and agriculture (10%), and remittance earners (9.13%). Day laborers are found to be the most vulnerable, with half of the households reporting that their monthly income was reduced during the COVID period. The government employee is in a better position; only one-third of households saw their income reduced. Even 90 percent of remittance earners as household heads reported a decrease in their monthly income during the Covid period. Other than the government service holder as household head, other professions suffer a lot during the COVID period. Field observation suggests that when there is volatility in income, especially for poor households, they cut nonfood expenditure to smooth their level of consumption.

Access to the digital device and connectivity

Access to a digital device, in terms of having an Android mobile, laptop or desktop computer along with internet connectivity, is an important issue for ensuring access to online education. Computers, Android mobiles, or laptops are major devices, while the connectivity comes from broadband and mobile data from the mobile operator, which are the major sources of connectivity both in rural and urban areas.

Table 03: Respondents according to having access to digital devices and connectivity %

Issues	Rural	Urban	Both
Students have access to laptop	16.13	30.59	25.48
Students have access to computer	3.23	15.59	11.22
Students have access to TV	47.31	72.65	63.69
Students have android mobile	87.63	90.00	89.16
Students have broadband connection	15.05	40.59	31.56

Source: *Field Survey 2021*

The table 03 indicates that major students in both rural and urban areas heavily depend on Android mobile phones for connecting to the online platform of education. A good portion of the students residing in urban areas are in a better position in terms of ownership of digital devices, as 45 percent of the students have access to either laptops or desktop computers, and 40 percent of them have broadband connectivity. So the digital divide is also an outcome determined by location of residence as well as the investment capacity of parents for the future generation.

Digital Devices by nature of control over devices

Ownership of devices, as well as control over the device to use it wisely according to one's own preferences, is critical. The device's control is dependent on the autonomy of device usage based on preference. Most

households have more than one student in them. For that reason, some of the students need to share it with their siblings.

Table 04: Digital devices usages pattern by the students %

	Rural			Urban			Both		
	Self	Sharing	All	Self	Sharin g	All	Self	Sharin g	All
Use of laptop	21.62	78.38	100	33.33	66.67	100	30.34	69.66	100
Use of computer	14.29	85.71	100	27.12	72.88	100	25.76	74.24	100
Use of Android mobile	54.29	45.71	100	59.11	40.89	100	57.38	42.63	100

Source: Field Survey 2021

Two out of five students use Android mobiles by sharing with their siblings, and the sharing scenario is higher among the students who use laptops and desktops for participating in the online session. Rural students are more likely than urban students to share all their digital devices. Most educational institute lectures overlap with one another in terms of timing. In those cases, the candidate for a public examination gets priority over other students in the family who are deprived of access to online education due to a lack of digital devices. So, along with ownership of digital devices, control over the devices needs to be considered for access to online education.

Cost for accessing online education

The cost of accessing the internet, both through broadband and a mobile operator, is an issue for accessing online education. For broadband, the students need to spend Tk. 250 to TK 300 per month with unlimited browsing. However, from the mobile operator's perspective, given the time and browsing capacity limitations on the nature of packages generally, the rate of 5 GB for 30 days is Tk. 300 for purchasing from a mobile operator.

Table 05: Average amount of money spent per month for Mobile data

	Rural (in Tk.)	Urban (in Tk.)	Both (in Tk.)
Mobile charge	158.57	126.65	138.03
Mobile Data	404.00	523.00	480.00

Source: Field Survey 2021

The table-05 shows that the average cost for mobile recharge per month is Tk 138, with a higher amount for rural areas, and the average cost for mobile data per month is Tk 480. The amount of MB used by students in

urban areas exceeded that of students in rural areas. The parents who were affected by the drop in their income due to COVID-19 had to compromise with the mobile data needs of students by ignoring them. As a result, a good portion of students had to abstain from attending the online classes frequently.

Changes in Learning behavior during Covid-19

COVID-19 has compelled teachers and students to adopt new techniques and methods for teaching and learning. The dependency on online platforms has changed the daily schedule of students compared with the pre-Covid period. Given the content on online platforms, enormous potential exists if students are encouraged to spend their time prudently on online platforms. However, it is noticed that a good portion of the students become addicted to social media and browsing the internet for things that are not very closely related to developing their knowledge base.

Table-06: Comparison of time use between Covid-19 period and Before Covid 19 by Rural and Urban

Indicators	Before Covid-19			During Covid -19		
	Rural	Urban	Both	Rural	Urban	Both
Study Time Per day at home (hrs)	3.71	3.89	3.83	2.20	2.64	2.48
Percentage of students used online platform for education regularly	29.88	30	29.65	73	82	78.89
Hours spent for online education (hrs.)	1.22	1.45	1.37	1.60	2.12	1.95
Percentage of students Interacted physically with friend	77	81	80	50	42	45
Hours spent physically to interact	1.31	1.59	1.5	1.92	1.35	1.57
% Using mobile phone and internet regularly	68	79	75	91	95	94
Using mobile phone and internet (hrs.)	1.3	1.47	1.42	2.78	3.03	2.93

Considering the time use pattern, the study period during COVID-19 was reduced by an average of one and a half hours per day compared to the pre-COVID period. Less pressure on homework and regular lesson preparation made them reluctant to continue studying. Moreover, non-attractive teaching methods, a lack of calm and quiet home environments, idleness, a lack of examination, and changing lifestyles are the major causes of reducing study time at home. The use of the online platform for education and the hours spent on online education have increased a lot during the COVID period. Eighty percent of students, with a split of 82

Effectiveness of Online Teaching during Covid-19

percent in urban areas and 73 percent in rural areas, used online platforms on a regular basis, compared to 30 percent prior to Covid. On an average, the respondents spent two hours per day during the COVID period, compared to 1.4 hours per day before the COVID-19. The increasing trends for using mobile phones and the internet are also recorded during the COVID period compared to the pre-COVID period in terms of the percentage of students and time spent on them. Analyzing the information, it can be said that the reality of COVID forced students to adopt the digital platform and use devices at an increasing rate. Physical communication among the students is reduced a lot, both in terms of the percentage of students and the number of hours. The reduction is higher for urban students than for rural students. Hence, it has a negative impact on reducing time for study at home and physical communication with classmates.

Nature of Online Browsing and Social Media use

Students became more active on an online platform as a result of the COVID situation, and they grew accustomed to spending more time online browsing. Students can reap the benefits of planned and disciplined browsing. On the other hand, undisciplined and unplanned browsing may lead to a misuse of productive time, eventually hampering the development of a cognitive capacity.

Table-07: Nature Online Browsing and Social Media use between Covid-19 period and Before Covid 19 by Rural and Urban

Indicators	Before Covid-19			During Covid -19		
	Rural	Urban	Both	Rural	Urban	Both
Time spent for watching online subject related matter (%)	55	54	54	80	86	84
Time spent for online on subject related educative matter (hrs)	.94	1.00	.98	1.35	1.55	1.51
Time spent for online browsing other than educative matter and social media (%)	50	51	52	74	77	76
Time spent for online other than other than educative matter and social media (%) (hrs)	.89	.89	.91	1.09	1.31	1.24
Time spent for Facebook (%)	64.51	74.11	70.72	93.00	94.41	93.91
Time spent for Facebook (hrs)	1.12	1.25	1.21	2.16	2.40	2.32

Time spent for chatting apps (%)	38.17	46.17	43.34	69.35	77.94	74.90
Time spent for chatting apps (hrs)	.68	.77	.74	1.12	1.13	1.13

It's worth noting that nearly one-third of respondents increased their online site browsing for educational online materials, particularly on YouTube and during Corona, with the average time spent increasing by one hour. However, the time spent on entertainment and recreational activities has also increased by more than one-fifth of students, and the average time spent has also increased by more than 30 minutes per day. In the case of social media, it was found that 20% of students were also addicted to Facebook, and their browsing time increased by an average of 1 hour per day. An additional 30% of students were accustomed to using chatting apps such as Whatsapp, Messenger, IMO, Viber, and others, and they spent more than half an hour chatting on average. In some cases, it was found that the limitation of mobile data provided by the mobile phone operator had a positive impact on judicious browsing. But people who have broadband connectivity spend more time chatting and online browsing.

Extent of Effectiveness of the online Learning

The effectiveness of online learning was considered narrowly for this article. The students who reported that they understood the message clearly through the online platform were considered effective. A good portion of students mentioned that they faced moderate or severe problems in comprehending the message delivered through an online platform, which was considered ineffective.

Table 08: Percentage of Students ranked the online Teaching effective or Ineffective

	Rural (%)		Urban (%)		Both (%)	
	Effective	Ineffective	Effective	Ineffective	Effective	Ineffective
Extent of problem to Comprehend Bangla (%)	43.62	56.38	44.26	55.74	44.03	55.97
Extent of problem to Comprehend English (%)	25.32	74.68	32.54	67.46	30.08	69.92
Extent of problem to Comprehend Science Subject (%)	19.61	80.39	28.28	71.72	26.02	73.98
Extent of problem	14.28	85.72	21.85	78.15	19.43	80.57

Effectiveness of Online Teaching during Covid-19

to Comprehend Commerce Subject (%)						
Extent of problem to Comprehend Humanities Subject (%)	30.77	69.23	19.67	80.33	25.43	74.57

Considering the effectiveness of online learning, it is observed that the highest number of students (44%) found that the teaching in Bengali was the most effective, and 30 percent of students found the English teaching effective. Considering the elective subjects of different faculties' science, commerce, and humanities, one fifth of commerce students and around a quarter of science and humanities subjects found the lectures effective. The effectiveness of urban students in English, commerce, and science-related subjects was found to be greater than that of rural students. The findings show that the students of science and commerce faced more difficulties in comprehending the message than the students of humanities group. But, irrespective of their major subjects, the extent of the problem was higher for comprehending the message of the English class. The students said that they heard some noises from the teachers as well as students. Students were informed that asking one question at a time sometimes creates more noise, and for that reason, they were discouraged from asking any questions. Furthermore, the students of eleven classes did not get any opportunity to learn through physically present in this class.

For the priority reasons of the learning gap, a three-point Likert scale was used. The students were asked to identify the three most important reasons for the learning gap. The first problem was transformed into a numerical value of 3, the second and third problem was rated as 2 and 01 respectively. A weighted average was calculated to prioritize the problem of learning. The result is articulated in Table-09.

Table 09: Reasons for Learning Gap

Indicators	weighted average Score		
	Urban	Rural	All
Missing practical session	2.50	2.40	2.47
Home environment is not congenial	2.44	2.40	2.42
Less interest of students	2.27	2.30	2.28
Difficult to concentrate for a long time	2.15	2.19	2.17

now homework less encouragement	1.95	1.72	1.87
Less opportunity to ask question	1.75	1.88	1.80
Lack of competitiveness due to no exam	1.72	1.67	1.70

The students mentioned that online learning lacks a practical aspect of teaching and it is the most important causes of learning gap. In particular, the students of science believe that they were deprived of laboratory work, so it was difficult to internalize the science subject clearly. The second problem was related to a lack of cum and a quiet environment at home. As every person in the household concentrates on their own job, sometimes they forget to give priority to the students. The third problem, prioritized by them, is related to less interest as the lecture is monotonous, with a lack of variations in the teaching method, and it is difficult to connect online devices for a long period of time. The students failed to ask any questions when they wanted to supplement their ideas or ask any related questions. The students found that if they are given the chance to ask a question, two or more students want to ask the question and create a noisy environment. A good portion of students failed to engage in online learning as online learning lacked homework and competitiveness.

Factors affecting the Effective Learning

A binary logistic regression was employed for the identification of the factors affecting effective learning. As an operational definition, effective learners and dependent variables were students who had no difficulty understanding the message in the elective subject of the respective faculty. Students who had minor or major problems were assigned 0, while students who had no problems were assigned 01. Attendance rate, time spent on using Facebook, sex, staying address during COVID, changes in HH income, access to a broadband connection, access to an Android mobile, and cost of mobile data were all considered independent variables. For attendance rate, if the rate is less than 80%, it was assigned as 0, and if it is higher than 80%, it was assigned as 1. Students who browsed Facebook for one hour or less received a score of 0, while those who browsed for more than one hour received a score of 01. Female respondents were assigned as 0 and male respondents were assigned as 1. In terms of staying places during COVID, students who lived in rural and urban areas were assigned numbers 0 and 1, respectively. Changes in HH income were captured by assigning a 0 for the households that reported their HH income decreased and a 01 for households that reported an increase or no change. The students having broadband facilities were weighted by 1 while 0 was assigned for the students who are lacking

facilities of broadband. Sharing android mobile was assigned 0 while students who used android mobile independently was assigned as 1. Amount of monthly mobile data expenditure was used as independent variables. The result of binary logistic regression is mentioned below:

Table 10: Result of Logistic Regression

Variables	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Attendance Rate	.729	.234	9.686	1	.002	2.073	1.310	3.281
Time spent for browsing Face Book	-.490	.245	4.017	1	.045	.612	.379	.989
Sex	-.584	.229	6.490	1	.011	.557	.356	.874
Staying place during COVID	-.154	.252	.375	1	.540	.857	.523	1.404
Changed in HH income)	.829	.283	8.604	1	.003	2.291	1.317	3.986
Having Broadband facility	.390	.254	2.362	1	.124	1.476	.898	2.427
Sharing Mobile	.097	.235	.172	1	.679	1.102	.695	1.747
Cost of Mobile Data	.000	.000	1.373	1	.241	1.000	.999	1.000
Constant	-.932	.306	9.284	1	.002	.394		

The findings of Table 10 imply that the performance is almost double (PS 0.002) for those who attended 80% of 2.073 (CI – 1.3-3.28) of instructional sessions. In the case of gender, it was found that the capacity for learning was half among the males in comparison to their female peers (PS.011). According to field observations, male students spend the majority of their daytime outside the home, which could be one of the reasons for putting concentration at home environment. It is evident that among the students whose family income was unchanged or increased, they showed higher performance in comparison to those whose family income was decreased (PS 0.003). This may be because the students did not get enough facilities or learning materials in their home settings. Up to one-hour Facebook users reported understanding the lesson nearly twice as frequently as those who used it for more than one hour (PS 0.05). However, the other variables included in the model did not contribute significantly to online learning.

Problem in online teaching

The problem of online teaching was identified in two dimensions: 1. technical and affordability problems; and 2. problems on the supply side,

especially delivery of lectures. In the technical and affordability context, the students ranked the low speed of the internet, lack of a personal Android mobile phone, and high cost of mobile data as the 1st, 2nd, and 3rd problems, respectively. Other issues included power outages, a lack of knowledge about using online platforms, and decreased audibility.

Table 11: Technical and affordability problem of online education (q 89-91)

	Urban	Rural	All (weighted average Score) 1 st -3 2 nd 2 3 rd 1
Low Speed of internet	2.45	2.42	2.44
Lack of personal android mobile	2.26	2.33	2.29
Costing for Mobile data	1.99	1.92	1.96
Electricity Interruption	1.81	1.85	1.83
Lack of knowledge for using online platform	1.48	1.86	1.6
Audibility problem	1.38	1.38	1.38

From the supply side, the problems related to ineffective PowerPoint slides, lack of preparation of teachers, and low interest in making the session interactive were identified as the 1st, 2nd, and 3rd problems, respectively.

Table 12: Problems of session conducting effectively

Indicators	Urban	Rural	All (weighted average Score) 1 st -3 2 nd 2 3 rd 1
Ineffective PowerPoint slide	2.36	2.33	2.35
lack of preparation of teacher	2.18	2.58	2.30
Low interest to take feedback	2.23	2.23	2.23
Lack of knowledge to use online platform	2.14	2.15	2.15
Lack of seriousness for undertaking the class	2.13	1.96	2.06
Don't connect timely	1.87	1.71	1.82
Unattractive lesson style	1.60	1.70	1.63

Effectiveness of Online Teaching during Covid-19

Other issues included a lack of proper knowledge for effectively using online platforms, a lack of seriousness to conduct an effective class, and a lack of connection between timely and unattractive lesson styles. The students also elaborated that in some cases, the teachers only read out the PowerPoint slides that lack analysis. Sometimes the teachers conduct the session from their home, where the noise of other family members creates a barrier for smooth audibility. Moreover, some students do not mute their audio during the session, and if the students are allowed to ask questions, more than one student tries to ask a question at a time.

Suggestion for overcoming the problem

The students recommended increasing the internet speed, training of teachers to manage the online classes effectively, and ensuring access to personal online devices as the 1st, 2nd, and 3rd priorities for increasing the effectiveness of online teaching.

Table 13: Suggestion for improving effectiveness of online education

Indicators	urban	Rural	all
Increase the speed of internet	2.43	2.49	2.45
Train Teachers	2.22	2.23	2.22
Ensure access to personal online devices	2.03	2.17	2.09
Changes in Teaching procedures	1.99	1.75	1.92
Ensure participation of students	1.86	1.68	1.79
Introducing quiz test after every session	1.34	1.46	1.38

The students also suggested to use a quiz test at the end of each session for increasing concentration of the students and employ other attractive teaching methods.

Conclusion

Despite some limitations, online teaching has proven an alternative method to reach an audience by removing the barrier of physical distance and physical presence. During the COVID-19 period, teachers and students had little time to prepare for effective online learning. However, the good news is that, in spite of some limitations related to technology and affordability, a good portion of students were accustomed to online classes. To make it more effective, the students need to be encouraged to increase their attendance rate, make judicious use of online devices, and adjust to the new normal situation during a crisis by changing their behavior. However, the teachers need to be equipped to manage online classes more effectively. Moreover, the financial strength of the household head makes sense for creating an educational environment in the household by supporting the students with adequate support for online

and education materials. As a result, policymakers must pay special attention to this vulnerable segment of the population. The technical and affordability issues of online devices and connectivity also needs special attention.

References

- Hussain, I., Saeed, R. M. B. & Syed, A. F., 2020. A Study on Effectiveness of Online Learning System during COVID-19 in Sargodha. *International Journal of Language and Literary Studies*, 2(4), pp. 122-137.
- Khan, M. . M., Rahman, S. M. . T. & Islam, S. T. A., 2021. Online Education System in Bangladesh during COVID-19 Pandemic. *Creative Education*, pp. 441-452.
- Noor, S. & Shaoun, S. P., 2021. Online Education and Community Participation in Bangladesh : Chellanges and Opportunitites to Ensure Inclusive Learning During COVID-19 School Closure. *Indian Journal of Public Adminstration*, 67(4), pp. 620-638.
- Ahmad, S. S., Seman , A. M. & Zakaria , A., 2021. The Challenges Faced By Educators in Online Teaching during the Covid-19 Pandemic Outbreak. *Journal of English Teaching Adi Buana*, 6(2), pp. 125-133.
- Rouf, M. A., Hossain, M. . S., Habibullah, M. & Ahmed, T., 2021. Online classes for higher education in Bangladesh during the COVID-19 pandemic: a perception-based study. *The online learning for higher education*.

