

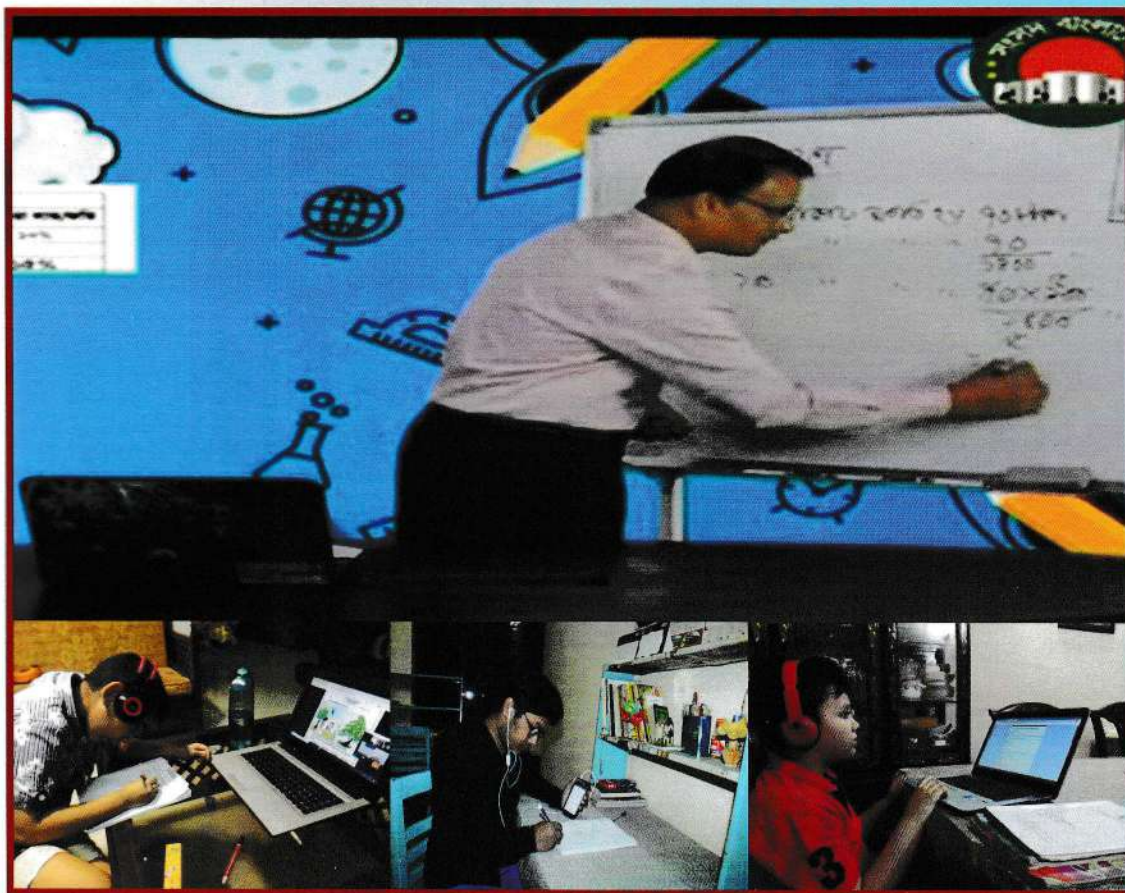


Government of the People's Republic of Bangladesh
Ministry of Education
Secondary and Higher Education Division



Study on

Exploring Teaching Learning Challenges at Secondary level Education in Bangladesh during COVID-19



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The Bangladesh Bureau of Educational Information and Statistics (BANBEIS) is an attached department of the Ministry of Education and is mainly responsible for providing educational information and statistics for planning, management, and decision-making in the education sector. BANBEIS is now focusing on a qualitative survey and socioeconomic research in addition to regular quantitative survey activities. The Government of Bangladesh allocates a budget for research in each fiscal year. The present study was conducted under such a budget. The present study covers sixteen districts under eight divisions of the country.

EADS is a leading consulting firm in Bangladesh, rendering consultancy services for last two decades. EADS has been selected by BANBEIS to conduct this research work and to be completed within 08 weeks.

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Dr. Md. Ahsan Habib
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EXECUTIVE SUMMARY

COVID-19 outbreak adversely affects the condition of children in Bangladesh, particularly in the lives of most vulnerable children including disruption to their healthcare, nutrition, protection, education and overall mental wellbeing (EDUCO, 2020). The overall objective of this study is to explore the challenges of teaching learning in terms of resource materials, pedagogy and assessment at secondary level due to COVID-19. The specific objectives of the study are 1. Identify the challenges faced by teachers and students to have access to the resource materials at the secondary level; 2. Investigate pedagogical challenges of teachers in conducting teaching-learning activities during COVID-19; 3. Explore the challenges to assess student's learning during COVID-19 at secondary level; and 4. Identify the way forwards for making teaching-learning effective during pandemic situations.

Methodology-The nature of this study is mixed method in approach. Both qualitative and quantitative data were collected for the study purposes. For quantitative data, two surveys were conducted, one with students and another one with teachers of secondary level educational institutes including school, madrasa and technical school. Sixteen districts from eight divisions (Dhaka, Chittagong, Rajshahi, Rangpur, Sylhet, Khulna, Barishal and Mymensingh) were selected for data collection. A total of 4017 participants participated in this study. For the quantitative study, a total of 2560 (F=1422) students and 1275 (F=332) teachers were surveyed. For qualitative study, 47 heads of the secondary educational institutes, 35 education officers and 15 community leaders were interviewed. In addition, a total of 85 members of the school management community (SMC) participated in the focus group discussion. Participants are both from urban and rural areas.

Student participation The findings revealed that half of the participants participated in online classes mostly (28%) to regularly (22%) while the other half could manage to join online classes occasionally including 2% participants could not participate at all. There were no significant differences among general, madrasa and technical education institutions. Regarding the online teaching process, most (66%) of them took multiple ways (e.g. online class, TV/Radio class) to learn. Around 15% participants solely participated in online classes.

Around 92% student participants of the study watched TV lessons through Sangsad Television to varied extent. About 32% students attended at least three *Sangsad* TV classes in a week whereas only 9% of them participated five or above classes weekly. However, 8% of students reported that they never joined these classes. However, the study found that the overall study hours decreased among students during the pandemic period, about 21% students of secondary level used to study 4 hours and above per day which decreased 10% during pandemic. Similar decline in study hours has been noticed in 3-4 (reduced up to 12%) and 2-3 (1%) study hours.

Teacher participation: The finding shows that the majority of the teachers (98%) provided lessons to the students in different modes. Among them, over half of the teachers (53%) exclusively used online platforms and 32% engaged multiple platforms (e.g. online, phone) to provide distance lessons to the students.

Students' access and resources: The study found that though 99% of students have electricity at home, only 77% have television at home to watch lessons provided by national broadcaster *Sangsad* TV. The study found that almost 70% students used smartphones and 5% students had multiple devices (e.g. laptop, computer) to participate in online classes. However, 21% of students had no device to attend online class. In terms of accessibility of Internet facilities at home, around 49% students were still out of internet facilities at home. The study shows that 71% of students solely depended on mobile data for internet usages.

Teacher's access and resources Unlike students, around 97% participated teachers from secondary educational institutes owned devices to conduct the classes. The study reveals that almost half of the teachers (49%) owned smartphones and 40% of teachers possessed multiple devices for administering online classes. It is noted that while all of the teachers from technical and vocational educational institutes own devices to participate in online classes, 2% and 7% teachers of school and madrasa respectively do not have device facilities of their own to conduct online lessons. However, 3% teachers had no internet connection for teaching learning activities.

Learning Assessment during COVID-19 - Most of the teachers (97%) had assessed the students' learning progress during COVID-19 periods and 98% of them assessed students through written assignments to evaluate students' learning growth. The data shows that around 82% students managed to complete all (51%) to most (31%) of the school provided assignments. Teachers (83%) found challenges of overdue assignments and 64% teachers mentioned that students were copying assignments from peers or other sources.

Challenges of Distance learning during COVID-19- Despite the effort of educational response during COVID-19, a number of challenges are identified including poor network connectivity, adequate resources (device and internet facilities), lack of student motivation, poverty and lack of awareness and inadequate teacher training on distance learning. About 73% of students and 79% teachers reported the weak and interrupted network to keep them away from participating and conduct online classes followed by inadequate device availability (65%) to take part in the online lessons. Besides, disruptive electricity, lack of satellite to watch *Sangsad* TV, indifferent parents were the prime issues to implement the educational efforts. Along with resource limitation issues, training on technological know-how of distance learning, students and teachers often could not participate in online learning activities. Teachers (70%) further identified that students' lack of motivation to participate in the online classes impede them to continue online teaching learning activities. Qualitative data shows that students often involved in delinquent behaviors, child labor, and child marriage or get addicted to virtual games.

Recommendations- The study generated eight major recommendations based on the findings of the study including 1. Introducing blended teaching learning strategies, 2. Modification of curriculum particularly assessment procedure 3. Continue and empower the existing *Sangsad* television broadcasted lesson 4. Resource mobilization to ensure availability of learning devices and resources 5. Educational institutions need to be reopened maintaining hygiene and social distance 6. Essential training on distance teaching learning needs to be organized for teachers 7. Program development for need based financial support for students and teachers and 8. Ensure high speed internet connectivity to support online education across the country.

Conclusion The study shows that lack of devices, training and poor internet connectivity appeared as the most significant barrier to keep the teaching-learning moving at the secondary level. This slowed down learning activities had several negative proliferation including learning loss (less study hours), dropping out of school, child labor and early marriage are the most visible. An immediate attention needs to be provided on this issue as well as a well-researched and well-planned policy and program is necessary to respond to this challenge and move the secondary education forward.

CHAPTER ONE: INTRODUCTION

Background

The COVID-19 pandemic is a prolonged and devastating health crisis the world is experiencing at the moment. Like many other countries, Bangladesh has rightly decided to close schools. The crisis put us into a great dilemma of closing schools to reduce contact and saving lives) or keeping it open to allow workers to work and keep the economy running. The severe disruption and damage of life are being felt by thousands of many across the globe. Longer school closer, in addition, is not only a massive shock to children's social life and learning but also a big challenge for the teachers. Teaching is moving online, on an untested and unprecedented scale. Student assessments are also moving online, with a lot of trial and error and uncertainty for everyone. Many tests and high stake examinations have simply been cancelled or postponed. Importantly, these disruptions at the education sector appear not just be a short-term issue, but already indicates a long-term consequences for the affected cohorts which is likely to increase inequality

Students from privileged backgrounds, supported by their parents and eager and able to learn, could find their way past closed school doors to alternative learning opportunities. Those from disadvantaged backgrounds often remained shut out when their schools shut down. This crisis has exposed the many inadequacies and inequities in our education systems – from access to the broadband and computers needed for online education, and the supportive environments needed to focus on learning, up to the misalignment between resources and needs. The lockdowns in response to COVID-19 have interrupted conventional schooling with nationwide school closures. While the educational community has made concerted efforts to maintain learning continuity during this period, children and students have had to rely more on their own resources to continue learning remotely through the Internet, television or radio. Teachers also had to adapt to new pedagogical concepts and modes of delivery of teaching, for which they may not have been trained. In particular, learners in the most marginalized groups, who don't have access to digital learning resources or lack the resilience and engagement to learn on their own, are at risk of falling behind.

As we enter the COVID-19 recovery phase, it will be critical to reflect on the role of educational systems – and particularly vocational education – in fostering resilient societies. The global health crisis and the lockdown that followed have brought to the fore professions that have often been

taken for granted, renewing our awareness of their value to society. This has helped restore a sense of esteem for those workers who have worked relentlessly during this time to keep economies afloat. The outlook is very uncertain. But, if anything, the pandemic has exposed our vulnerability to crises and revealed how precarious and interdependent the economies we have built can be. Disruptions on the scale we have just witnessed are not limited to pandemics, but may also result from natural, political, economic and environmental disorder. Our capacity to react effectively and efficiently in the future will hinge on governments' foresight, readiness and preparedness. Through their role in developing the competencies and skills needed for tomorrow's society, education systems will need to be at the heart of this planning. This includes rethinking how the economy should evolve to guard against adversity, and defining the skills, education and training required to support it. This also means working in close collaboration with other government sectors and the private sector to increase the attractiveness and labor-market prospects of certain professions, including those considered paramount for the common good.

Rationale of the study

COVID-19 outbreak adversely affects the condition of children in Bangladesh, particularly in the lives of most vulnerable children including disruption to their healthcare, nutrition, protection, education and overall mental wellbeing (EDUCO, 2020)

Amid the fears of virus outbreak, the government of Bangladesh has decided to close all academic institutions, including primary to higher education institutions including dormitories, coaching centers on March 18-31, and the school closing were further extended from March 31 to undated September (Ministry of Education, 2020). After educational institutions were closed to contain the spread of coronavirus, Directorate of Secondary and Higher Education (DSHE) took first initiative with the help of government agency Access to Information (A2i) to broadcast pre-recorded secondary level school lessons shortly after school closing. Lessons based on NCTB curriculum from the sixth to the tenth grade have been airing for students on the public broadcaster Bangladesh Television (BTV). The program titled, “আমার ঘরে আমার স্কুল” (My school at my Home) runs each day from 9.00 a.m. to 12.30 p.m. local time (03: 00 GMT to 06:30 GMT), with classes to repeat from 2.00 p.m. to 5.00 p.m. every day for about 9 million secondary-level students in the country (Sakib, 2020). Following DSHE, Directorate of Primary Education (DPE) launches its remote education program for students of pre-primary and primary grades on public TV from 7th April, 2020 (DPE,

2020) The program titled “ঘরে বসে শিখি” (Learning at Home). Subject based lessons were delivered by competent teachers and recorded broadcasted twice a day. However, few studies are available to describe access and participation, availability of resources, assessment of the learning and major challenges of teaching learning at the secondary education subsector. The present study, thus, aims to draw a comprehensive scenario of teaching learning of this sub sector guided by the following research objectives.

Objectives of the Study

The overall objective of this study is to explore the challenges of teaching-learning in terms of resource materials, pedagogy and assessment at secondary level due to COVID-19.

The specific objectives of the study are to-

1. Identify the challenges faced by teachers and students to have access to the resource materials at the secondary level;
2. Investigate pedagogical challenges of teachers in conducting teaching-learning activities during COVID-19;
3. Explore the challenges to assess student’s learning during COVID-19 at secondary level; and
4. Identify the way forwards for making teaching-learning effective during pandemic situations.

COVID-19 pandemic outbreak puts us in deep crises. This devastating point of time, like any other crisis in human history, also holds the possibility that we would not return to the status quo, we may return to further enhanced “normal”. Thus research like this needs to be conducted to understand the crisis well to come up with enhanced and systemic responses.

CHAPTER TWO: LITERATURE REVIEW

This section presents the review of existing literature related to impact on education due to the global COVID-19 pandemic outbreak. The sections present both international and national responses and impact of COVID-19 on teaching learning process.

The COVID-19 pandemic has brought the longest interruption in education across the world affecting nearly 1.6 billion learners in more than 200 countries (UNSDG, 2020). Closures of schools, institutions and other learning spaces have impacted more than 94% of the world's student population. This educational interruption has far-reaching implications in all aspects of the learning process from school education to home learning to student mental health. Social distancing and restrictive movement challenged traditional educational practices. Most of the schools, colleges and universities have discontinued face-to-face teachings and introduced online platforms for teaching-learning activities. No doubt the COVID-19 pandemic has provided us with a great opportunity and harder push to employ digital technology in the learning process (Dhawan, 2020). A review study (Pokhrel & Chhetri, 2021) shows that the weakness of online teaching infrastructure, the limited exposure of teachers to online teaching, the information gap, and a non-conducive environment for learning at home are the major barriers of online education. The following section discusses the several aspects COVID-19 impact on teaching-learning across the world.

Educational Responses of Covid-19 Outbreak in International Context

After first appearing in Wuhan, China last December, the novel coronavirus has spread to at least 177 countries and territories, according to data compiled by the U.S.-based Johns Hopkins University. The coronavirus pandemic is the biggest crisis ever to hit education harder. There are massive school closures across the countries of hundreds of millions of students around the world in the disruption of regular education.

Against the backdrop of the COVID-19 outbreak, China, the first country to experience the effect, initiated the emergency education policy called “Suspending Classes without Stopping Learning” was launched by the Chinese government to continue teaching activities as schools across the country were closed to contain the virus (Zhang, Wang, Yang & Wang (2020). The study showed that despite the initiative being effective as an immediate response, the implementation brought a number of challenges including ambiguity and disagreement about what to teach, how to teach,

the workload of teachers and students, the teaching environment, and the implications for education equity. Along with the pedagogical issues, there were difficulties that the policy faces include: the weakness of the online teaching infrastructure, the inexperience of teachers (including unequal learning outcomes caused by teachers' varied experience), the information gap, the complex environment at home, and so forth. The authors suggested that the needs of constructing of the educational information superhighway, consider equipping teachers and students with standardized home-based teaching/learning equipment, conduct online teacher training, include the development of massive online education in the national strategic plan, and support academic research into online education, especially education to help students with online learning difficulties (Zhang, Wang, Yang & Wang, 2020).

Along with the schools' and teachers' coping challenges with technological response in education, study (Lim, 2020) showed that even though technology was available, students' home environment was not ready enough to support (e.g. not quite enough to listen to online lectures) students to receive education at home. However, unlike primary and secondary education, Lim's (2020) students in the universities were equipped with training and online interactions software (e.g. including licensed zoom and Microsoft team).

Other than China, the United Kingdom, one of the massively disrupted countries in Europe due to the Corona Pandemic, had initiated homeschooling through online support from the school. However, the support was not unchallenged. Burgess and Sievertsen (2020) found that **home** schooling through online on an untested and unprecedented scale, brought massive shock to parents' productivity.

Home schooling further raised the question of the assessment procedure of the students' learning. Though there were a number of attempts initiated with various trial and error and uncertainty, an effective assessment system to measure learning at home or through online has yet to develop and these might have a long-term consequence for the affected (Burgess & Sievertsen, 2020).

Although the emphasis on behaviors of hand-washing and mask-wearing was repeated during the pandemic of Coronavirus Disease 2019 (COVID-19), not everyone paid enough attention to this. A study (Chen et al., 2020) of hand hygiene and mask-wearing among primary school students in Wuhan, China shows that 42.05% of the primary school students showed a good behavior of hand-washing, while 51.60% had a good behavior of mask-wearing. The study further reveals that

gender, grade, out-going history, father's occupation, mother's educational background were significantly associated with hand hygiene whereas grade, mother's educational background, and residence were associated with mask-wearing. The study suggests that governments need to extent massive publicity to promote parents to put efforts on their children hygiene habits.

COVID-19 and Influence on students-

Due to reducing the spread of COVID-19, periodic lockdowns and school closures had a ripple on students along with their parents around the globe. The effects spread over several aspects of students including learning, learning and technology use and physical and psycho-social well-being of the students. Though health officials are putting their best effort to slow down the outbreak, on the other hand, education systems are trying to continue imparting education for all during these difficult times.

Impact on learning-Due to pandemic outbreak, many educational institutions employ e-learning platforms in various modes to continue their educational activities as an alternative of conventional face-to-face teaching learning. In many cases, e-learning tools play a vital role helping students to participate in teaching-learning activities during the closure of universities and schools ([Subedi et al., 2020](#)). Though it opens a new alternative of participating in the educational process, not all students manage to adapt with this new technological intervention. It is thus important to accept the learner differences and require different approaches to online learning both in terms of learners and subjects' variations ([Doucet et al., 2020](#)).

Though there are a number of applications and platforms available to respond to the needs of the students, the use of these applications/platforms depend on the expertise and exposure to information and communications technology (ICT) for both educators and the learners. Some of the online platforms used so far include unified communication and collaboration platforms such as Microsoft Teams, Google Classroom, Canvas and Blackboard, which allow the teachers to create educational courses, training and skill development programs (Petrie, 2020). Many of them have features such as workplace chat, video meeting and file storage that keep classes organized and easy to work. Along with technological adaptation, several pedagogical approaches have also been popularized during this period. The flipped classroom, for an example, a simple strategy for providing learning resources such as articles, pre-recorded videos and YouTube links before the class and the online classroom time is then used to deepen understanding through discussion with

faculty and peers (Doucet et al., 2020). This approach turns out to be an effective way of encouraging skills such as problem-solving, critical thinking and self-directed learning.

Impact on Teachers' teaching-learning method

Educational Institutions have taken steps to continue the academic process by using digital sources. The sudden change in the delivery of academic activities poses difficulties for the teachers to adapt. Most of the cases, teachers were used to taking a traditional classroom, the sudden change to online teaching learning with limited training raised a number of challenges. The availability of basic resources is another challenge for many school teachers. Evidence suggests that digital technologies may enable new opportunities for teaching and learning (Chauhan, 2016), and the use of ICT has become increasingly popular in elementary and secondary schools in recent decades. Broadly identified challenges with e-learning are accessibility, affordability, flexibility, learning pedagogy, life-long learning and educational policy (Murgatroid, 2020). Further, a number of countries have substantial issues with reliable Internet connectivity and access to digital and electronic devices. Many of these developing countries, still having economically backward and geographically remote areas where both teacher and students are unable to access and afford online teaching learning facilities of their own.

Conclusion- The chapter presents an overview of educational scenarios during COVID-19 around the world. It further describes how the school closer disrupted the learning process as well as generated a new approach of teaching learning for this emergency situation. The next chapter presents the methodology of the study.

CHAPTER THREE: METHODOLOGY

Nature of the Study

A single method is difficult to carry out research work. It is advantageous to combine different methods and develop an appropriate strategy for it. Basically, there is no single rule to choose a research methodology. Different problems have different research styles and different methodological tools are applicable for a good research. The nature of the problem in the research also plays a role in choosing the method. A mixed-methods research approach consisting both quantitative and qualitative data collection and analysis was used for this study.

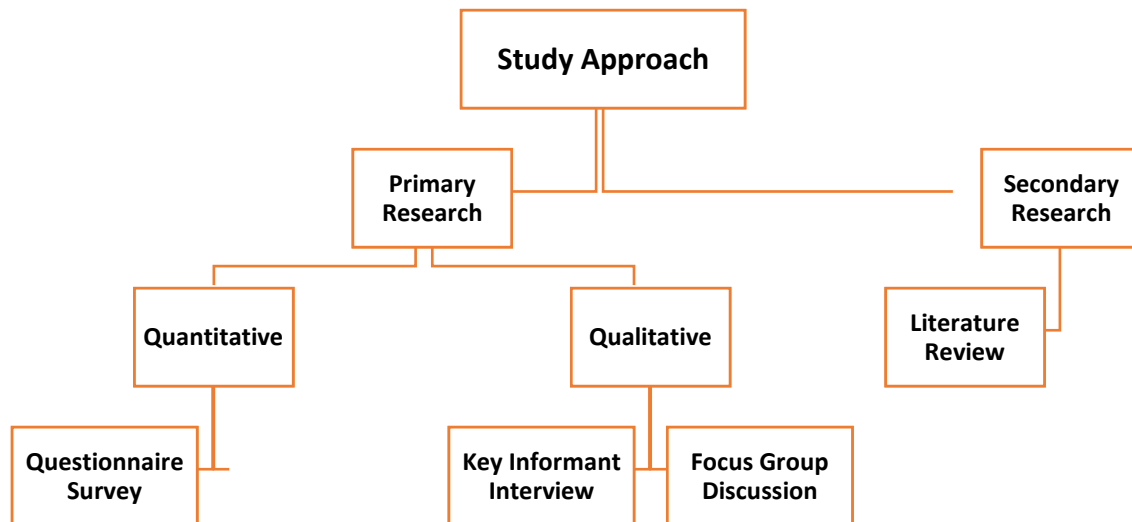


Figure 1 Study Approach Flowchart

Source of Primary Data

Primary data was collected by in-country fieldwork throughout the country. Going through the Terms of Reference, the consultant proposes the following sources for primary data collection:

- Teachers;
- Students;
- Head Teachers;
- Secondary and Higher Education Division Officials;
- School Management Committee (SMC);
- USEO.

Sampling of the Institution

A total of 4017 participants participated in this study. For the quantitative study, a total of 2560 (F=1422) students and 1275 (F=332) teachers were surveyed. For qualitative study, 47 heads of the secondary educational institutes, 35 education officers and 15 community leaders were interviewed. In addition, a total of 85 members of the school management community (SMC) participated in the focus group discussion.

Table 1 Number of Participants by types and gender

SL	Name of Questionnaires	Total Qus.	Male	Female
1	Student	2560	1138	1422
2	Teacher	1275	943	332
3	Head Teacher	47	46	1
4	USEO	31	27	4
5	Divisional EO	4	4	0
6	LCL	15	13	2
7	SMC	85	75	10
	Total Participants	4017	2246	1771

Distribution of Sample

The populations of this study was all the secondary level educational institutions including schools, Madrasas and technical and vocational institutions located in all the geographical areas i.e. Plain Land, Hills, Haor and Coastal areas of Bangladesh. Data was collected from all eight administrative divisions in Bangladesh.

A multistage sampling technique was applied to get the required number of Secondary Schools which is described as follows:

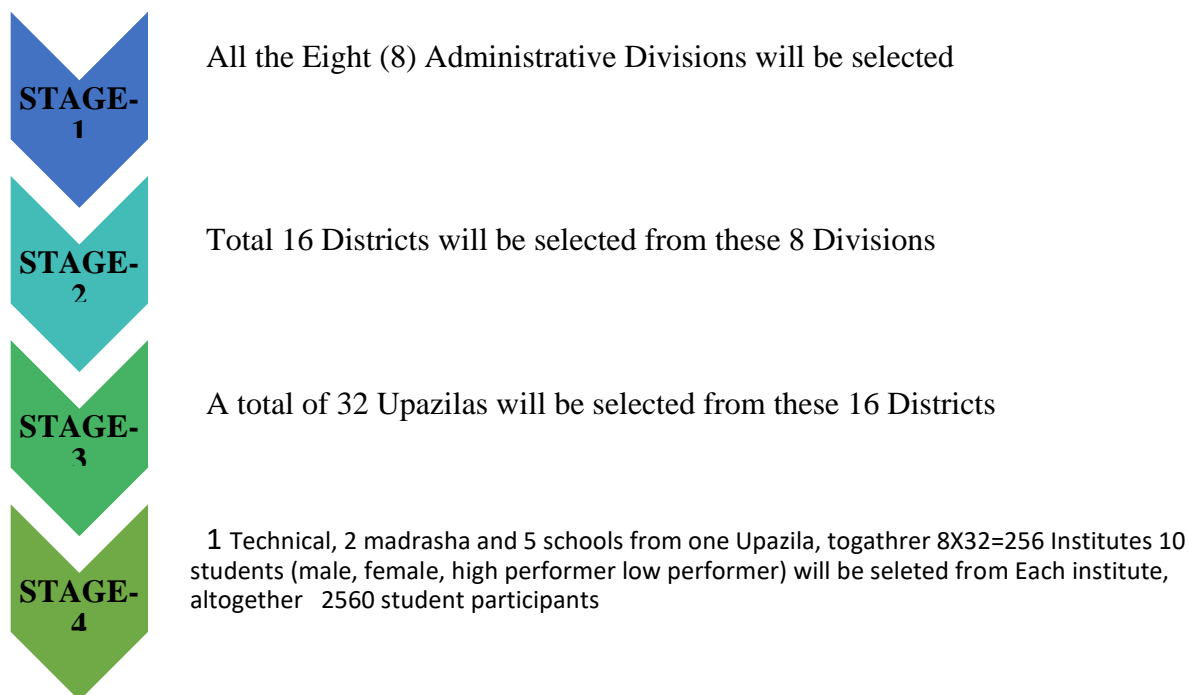


Figure 2 Sampling Flowchart for quantitative study

At a glance, selection of Upazilas and Institutions was as follows:

Table 2 Sampling distribution

Sl.	Division	District	Name of Upazila	No. of Institutions	No. of Students
1	Dhaka	Dhaka	Dhaka Municipality	8	80
			Louhajang	8	80
		Kishoreganj	Sadar	8	80
			Bajitpur	8	80
2	Chittagong	Khagrachori	Saadar	8	80
			Manikchari	8	80
		Cox's Bazar	Sadar	8	80
			Chakaria	8	80
3	Rajshahi	Rajshahi	Municipality	8	80
			Charghat	8	80
		Pabna	Sadar	8	80
			Ishurdi	8	80
4	Rangpur	Rangpur	Sadar	8	80
			Mithapukur	8	80
		Thakurgaon	Sadar	8	80
			Ranishankoil	8	80
5	Sylhet	Sylhet	Sadar	8	80
			Balaganj	8	80

		Habiganj	Sadar	8	80
			Bahubal	8	80
6	Khulna	Meherpur	Sadar	8	80
			Mujibnagar	8	80
		Satkhira	Sadar	8	80
			Tala	8	80
7	Barisal	Barisal	Sadar	8	80
			Agailjhara	8	80
		Patuakhali	Sadar	8	80
			Kalapara	8	80
8	Mymensingh	Jamalpur	Sadar	8	80
			Islampur	8	80
		Netrakona	Sadar	8	80
			Atpara	8	80
Total	8 Nos.	16 Nos.	32 Nos.	256	2560

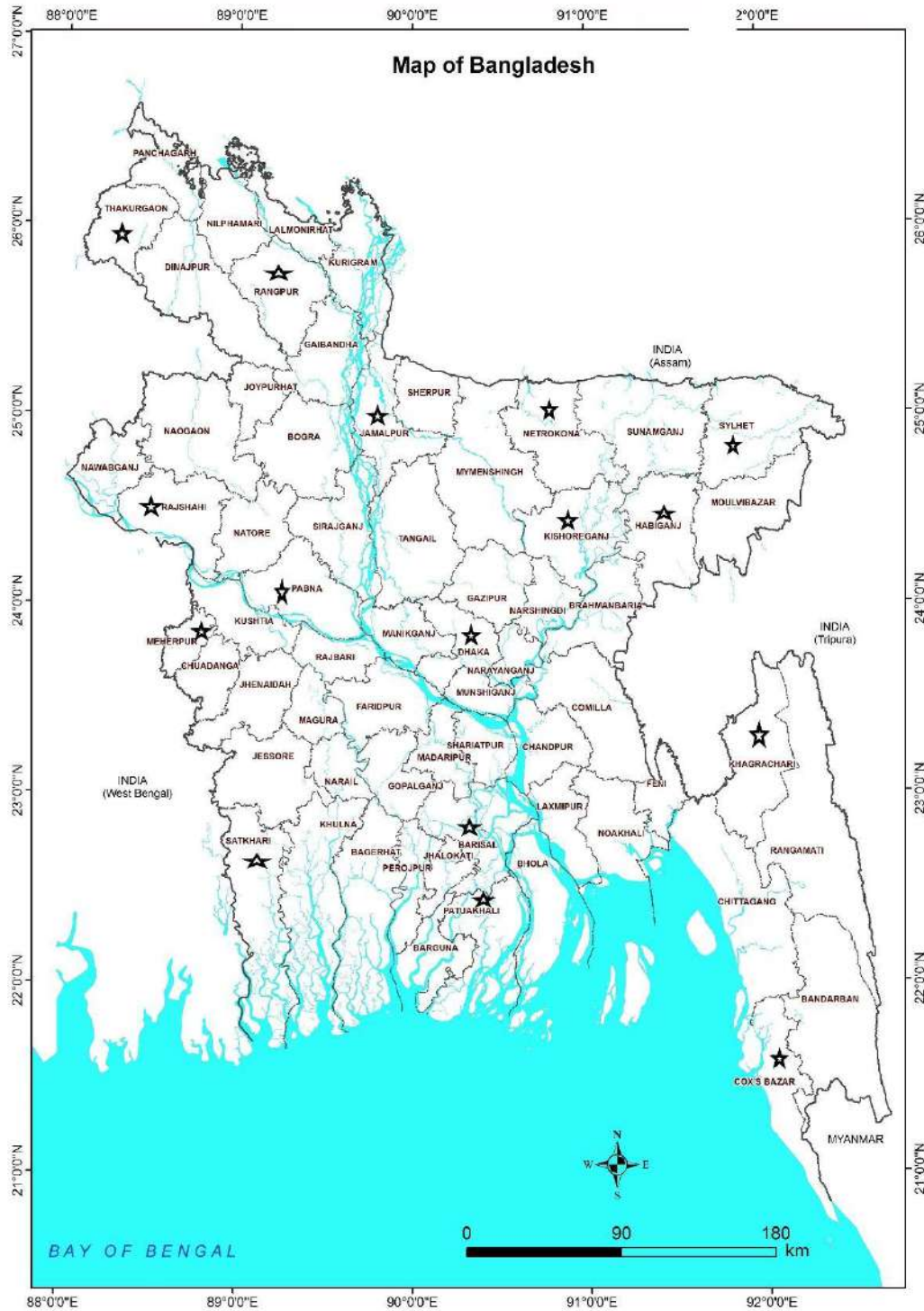


Figure 3 Distribution of Sample in the Map

Tools for Data Collection

The study employed three types of instrument to collect both quantitative and qualitative data.

Quantitative Instruments: Two different structured survey questionnaires were developed to collect data from teachers and students;

Table 3 Tools for Data Collection

No	Respondents	Tools
1	Teachers	Survey Questionnaire
2	Students	Survey Questionnaire
3	Head of the institutions	Key Informant Interview (KII)
4	Secondary and Higher Education Division Officials	Key Informant Interview (KII)
5	School Management Committee (SMC)	Focus Group Discussion (FGD)
6	Community Leaders	Key Informant Interview (KII)

Qualitative Instruments: A total of 3 Key Informant Interview (KII) schedules were developed for three different participant groups including Head of the institutions, Government Education officials and Community Leaders. Each of the KIIs consists of both semi-structured and open-ended questions. A separate set of guiding questions was developed for Focus Group Discussion (FGD) to collect data from SMC Members;

Field Testing and Finalization of Tools

The tools were tested prior to finalizing at field level by the study team. Tools were used for the respondents who were not included as samples for final data collection. The tools were criticized immediately after field tests to find out the appropriateness of used language, approaches of enquiry, ethical issues, and the relevancy with the study. After getting feedback based on a field test, the tools were finalized.

Briefing Session and Training of Enumerators

Four (4) Supervisors and 16 Enumerators were recruited by the consultant after proper scrutiny. They will be given 2 (two) days training including and briefing on different aspects of data collection. Such briefing sessions/training was organized at the Consultant's own training hall before they are sent to the field. However, arrangements were made to take them to the field for practical exercises. The concerned project staff, committee members along with resource persons from the consulting firm facilitated the sessions.

Approaches of Data Collection

Based on the sample size distribution, the field survey/data collection activities were carried out by study teams consisting of 16 (sixteen) enumerators and 4 (four) Supervisors. Following a comprehensive plan, the supervisors and enumerators completed the field works within a stipulated timeline using pre-designed checklists and questionnaires. Based on our previous experience, we assume that each enumerator and supervisor will complete one school a day.

Data Entry and Analysis

Data processing and analysis includes code construction, coders' training, coding, data verification and quality control, data punching, data processing and finally the analysis to facilitate the required

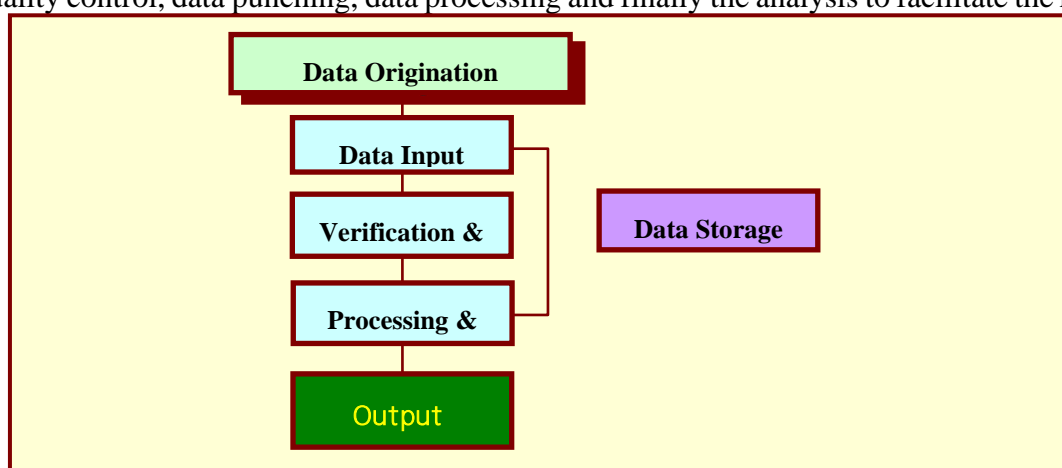


Figure 4 Data Entry and Analysis flowchart

output generation. Computer aided data processing and analysis techniques were employed for which a systematic approach is needed, where each and every activity has to be properly identified. The flow of data processing activities has been depicted mentioning their logical steps in Following Figure.

Quality Assurance Plan

Table 4 Quality Assurance Plan

Staff capacity, supervision and accountability	Resources recruited with relevant experiences. Additional resources recruited and trained. Resources kept in reserve in case of emergency. Job responsibility was prepared for every resource. Proper plan was prepared for M&E activities. Ensuring provisions for corrective action and accountability.
Complete documentation of processes and protocols for data collection	A guideline was prepared defining the data collection procedures clearly.
Processes for routine cross-checking and verification	Regular visit and check were maintained by Supervisors and Head Office Coordinator.

	Systematic review done for collected data through comparing values collected across time and location and flag outliers if any.
Financial resources and logistical support to assure timely performance	Proper Financial support provided for travelling, food and accommodation. Finance for procuring instruments or tools if needed in an emergency.

Probable Risks and its minimization approach

It is assumed that few risks may arise during the study. To collect the data with maintaining the highest quality and within the timeline we have prepared a backup plan for minimizing the probable risks.

Table 5 Probable Risks and its minimization approach

Risks	Approaches to overcome
1. In case of respondents not cooperate enumerators	Authorization letters were used. Supervisors put effort to convince the respondents in case of failure by enumerators.
2. Some Enumerators may be found unfit for the survey after completion the pilot test	Additional enumerators received day long training so that we can replace the unfit persons immediately.
3. Enumerators may be become sick or dropout during the survey	Additional no. of Enumerators reserved till the end of the data collection.
4. Electronic devices may create technical problems during data collection such as problems for chargers, or poor internet connection.	Additional no. of devices reserved for the study. Properly checking every device every day before data collection starts.
5. Difficulties may arise in storing data in the cloud or server due to poor internet.	Data was saved in the devices and transferred to a laptop or portable hard drive at the end of the day.
6. Enumerators may fail to maintain the daily target set by supervisor	Supervisor re-planned the work distribution to maintain the timeline. More Enumerators appointed from the reserved group.
7. Quality controller may not monitor the quality of data regularly	Team Leader monitored the overall activities of quality controllers. If any inconsistency is found, the team leader takes proper action.
8. Inconsistent data may be found while checking the data set	Provision of re-interviewing with the respondents. Additional no. of interviews would be conducted so that inconsistent data may exclude from the final data set.

Conclusion: The study employed a mixed method approach to conduct the research. The participants included teachers and students of secondary educational institutions for a quantitative survey. For the qualitative part, interviews and FGD were conducted with the Head of the educational institutes, local education authority, community leaders and school management committee. The Next chapter presents the findings of the study.

CHAPTER FOUR-PART ONE: QUANTITATIVE FINDINGS

Introduction

The findings of the study consist of two parts-one, quantitative findings, and qualitative findings. The present section presents quantitative data analysis of the study. Quantitative data generated from the two major survey questionnaires one for student samples and one for teachers from secondary schools, madrasa and technical institutes.

Findings of Student Survey

As per methodology, sixteen districts from eight divisions (Dhaka, Chittagong, Rajshahi, Rangpur, Sylhet, Khulna, Barishal and Mymensingh) were selected for data collection. From each district, 1 Technical institute, 2 madrasahs and 5 schools were chosen. Also, 10 students from each institute were elected. A total of 2560 students participated in this survey.

Demographic background of the students

Participants by Gender -Among the participated students, the boy-girl ration was almost equal. However, female students took part in the study comparatively higher than male students. Participation of female and male students was 56% and 44% respectively.

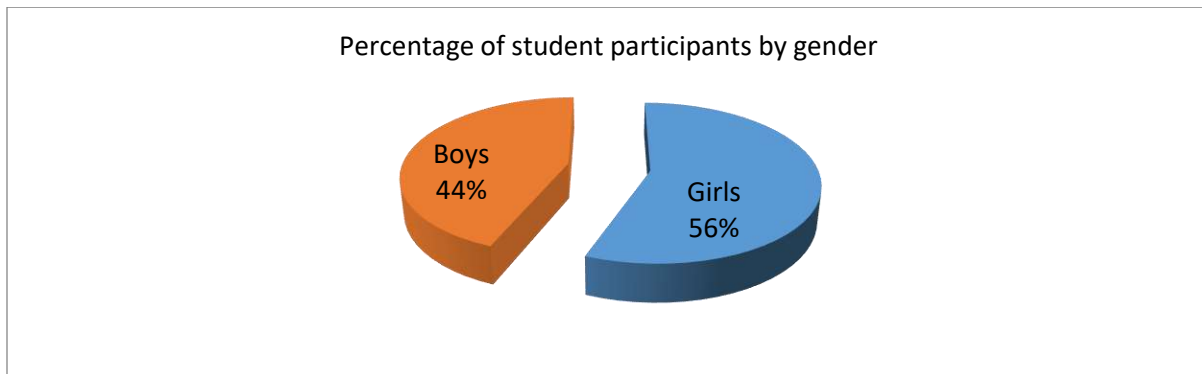


Figure 5 Percentage of student participants by gender

Participants by Class-Students of grade VII and grade IX were the participants of the study from three streams (Madrasa, School and Technical Institutes). Participation from grade IX (54%) was more compared to the participation of grade VII (46%).

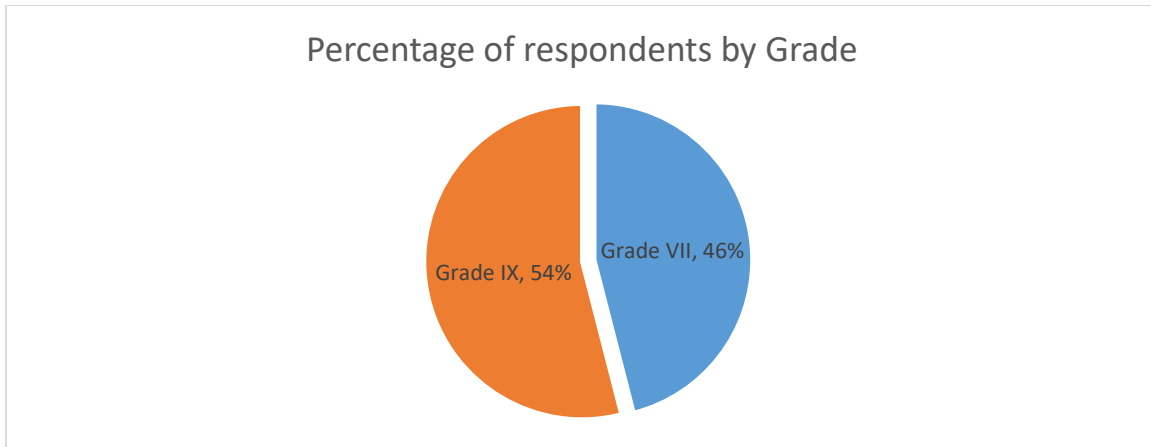


Figure 6 Percentage of respondents by Grade

Types of Educational Institute -The data was collected from three types of educational institutions- School, Madrasa, and Technical school. Around 64% participants were from school whereas students from Madrasa and Technical School were 26% and 10% respectively.

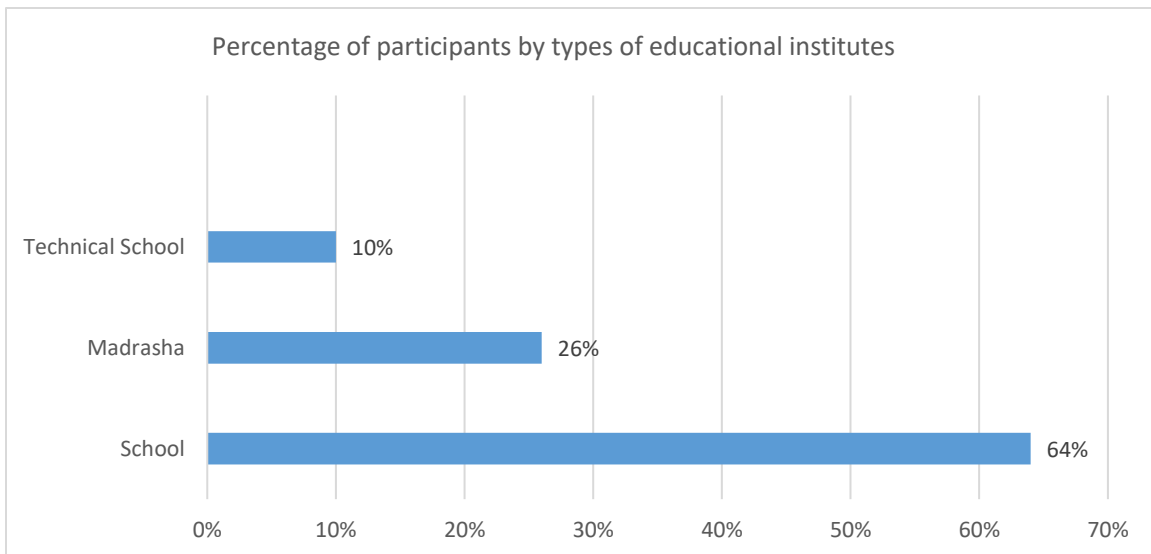


Figure 7 Percentage of participants by types of educational institutes

Teaching learning in secondary level during COVID-19 Pandemic Outbreak

Participation in teaching-learning process during Covid-19 situation-In response to the question, to what extent participants take part in the online teaching-learning process during a pandemic situation, almost half of the participants (48%) attended occasionally (sometimes) in the

online classes. Only 22% of students took part in the online classes regularly. Among the rest, 28% often presented where 2% students never appeared at online class.

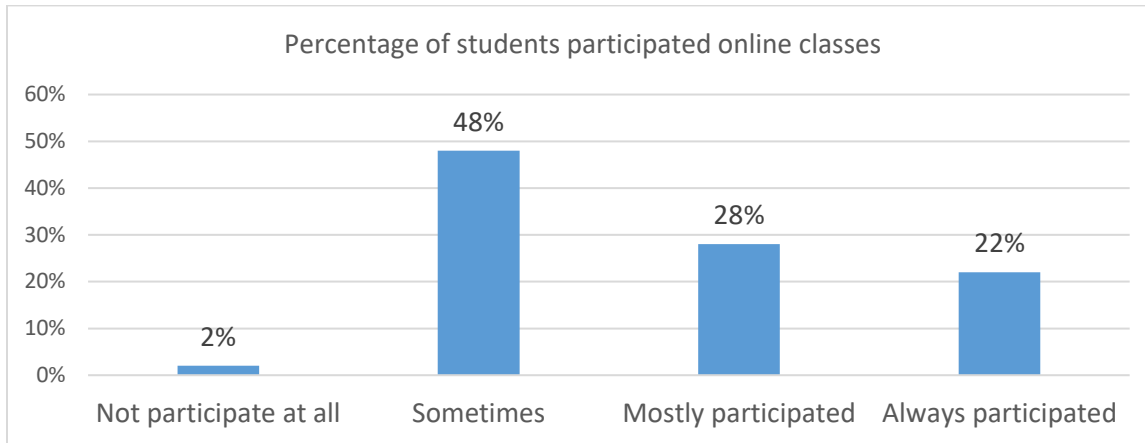


Figure 8 Percentage of students participated online classes

The study did not find much differences regarding student participation during COVID-19 period. It appears that students from general schools participated slightly more frequently than madrassha

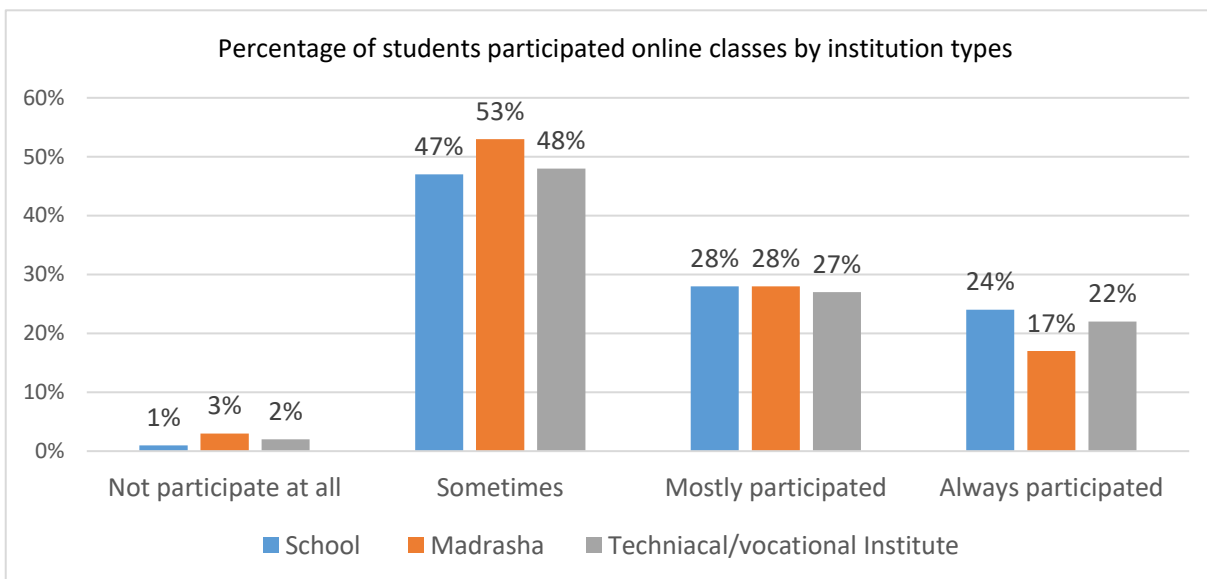


Figure 9 Percentage of students participated online classes by institution types and technical and vocational institutions.

Teaching-learning process -Regarding the online teaching process, most of them (66%) took multiple ways (as in-Online class, TV/Radio class) to learn. Only 15% continue their education through online classes. Rest of them choose TV/Radio (5%) or study alone (6.5%).

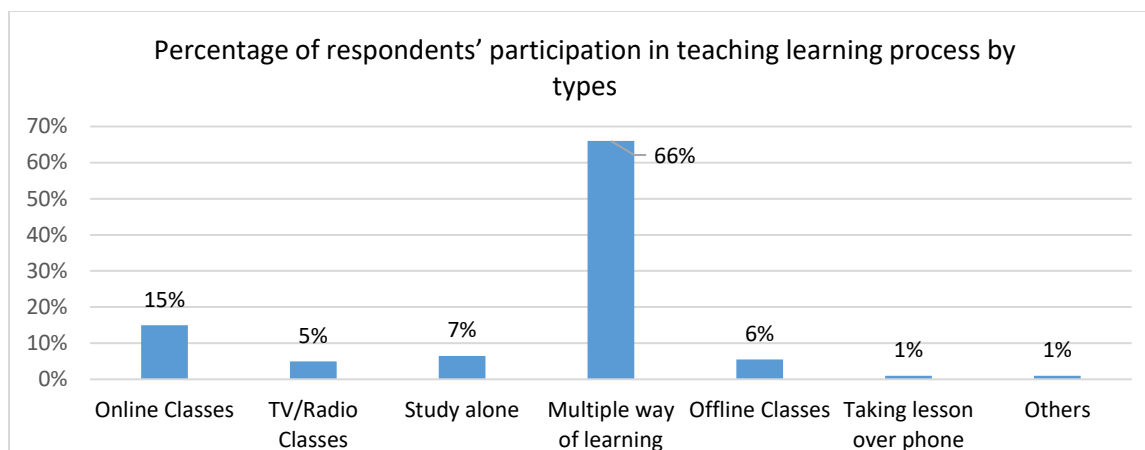


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Study time before and during pandemic situation-The study has attempted to find out if there was any learning time gap between before and during pandemic outbreak among the students of secondary level. Students were found to invest less time in study during the pandemic period. Before the pandemic, 21% students of secondary level used to study 4 hours and above per day which decreased 10% during pandemic. Similar decline in study hours has been noticed in 3-4 (reduced up to 12%) and 2-3 (1%) Study hours. However, the percentage of students who studied 1-2 hours before Covid-19 breakout surged up to 22% during the pandemic.

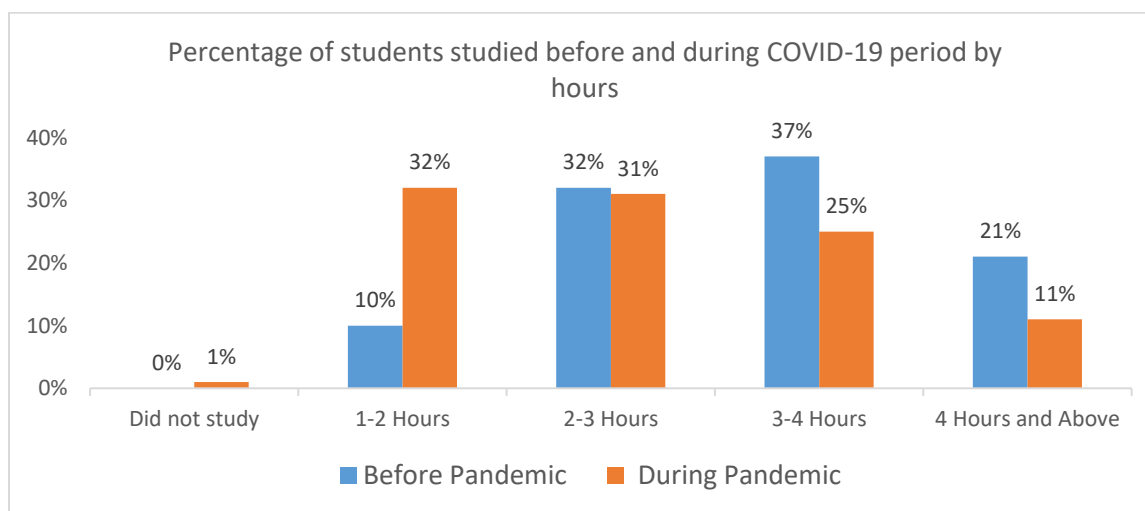


Figure 11 Percentage of students studied before and during COVID period by hours

Access and facilities of teaching learning during COVID-19 Pandemic Outbreak

Availability of energy supply (Electricity) and Television at home -The following bar chart provides the percentages of respondents having television and power supply at home. According to the charts, approximately 99% of students have electricity. Despite the electricity facility, around 77% students had television at their home.

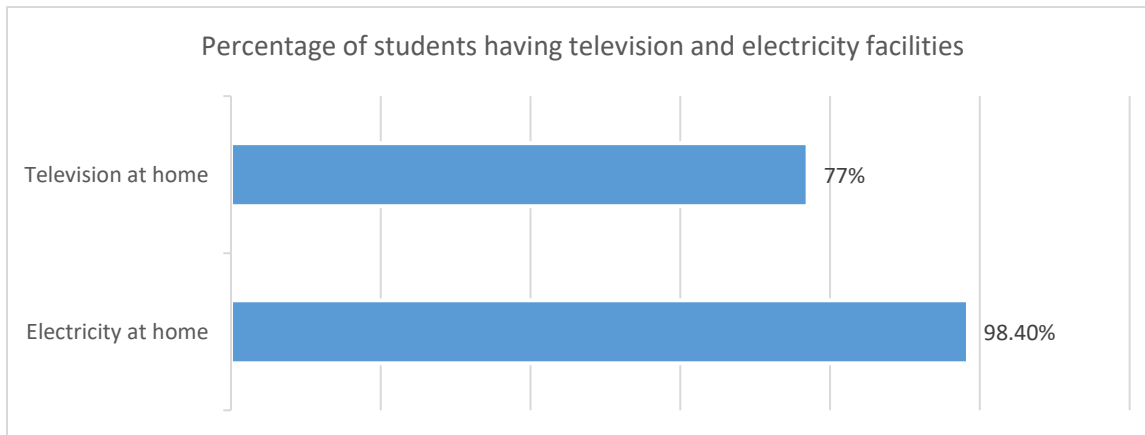


Figure 12 Percentage of students having television and electricity facilities

Weekly participation in study class on Sangsad TV-The chart shows the percentage of students attending classes on TV during the COVID-19. Around 32% students attended three *Sangsad TV* classes in a week whereas only 9% of them participated five or above classes weekly. Rest 17% and 21% took one and two *Sangsad TV* classes per week consecutively. However, 8% of students never joined these classes.

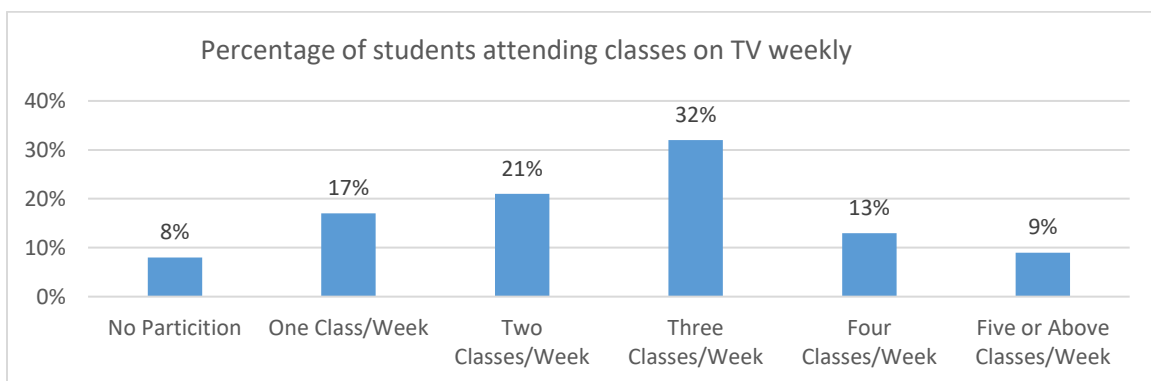


Figure 13 Percentage of students attending classes on TV weekly.

Usage of device in online teaching-The chart demonstrates data on percentages of students by device use for online class during COVID-19. According to the data, almost 70% students used smartphones for online class while usages of other devices, such as in, laptop, computer were only

4% combined. Besides, 5% of students had multiple devices to join online classes. However, 21% of students had no device to attend online class.

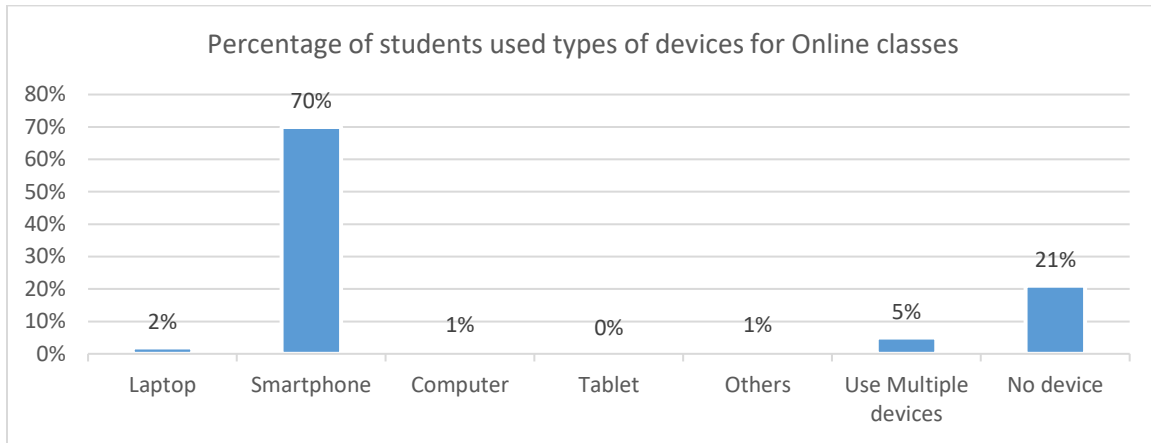


Figure 14 Percentage of students used types of devices for online classes

Usage of personal devices on online class-The pie chart provides the data on percentage of respondents using personal devices while participating in online class during COVID-19. Nearly one-fifth of students (19%) owned personal devices to continue online classes where 81% of them did not have any device.

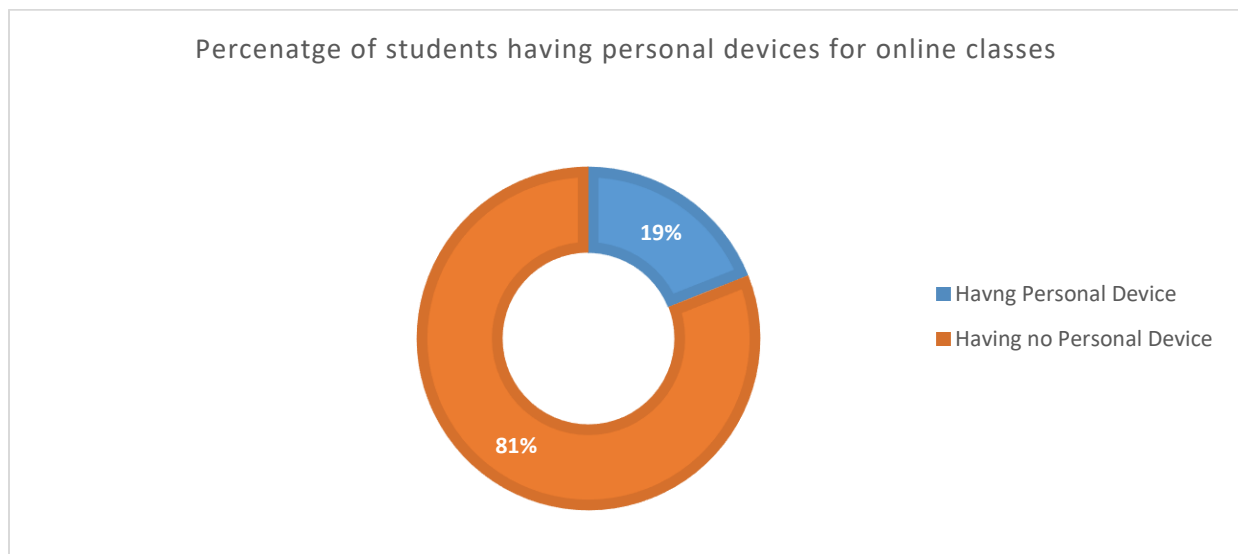


Figure 15 Percentage of students having personal devices for online classes

Types of personal devices- Regarding the responses on types of devices owned by students, four-fifth (78%) students had smartphones. A trivial number of students (only 3%) possessed computers. Aside from these, around 16% respondents had multiple devices.

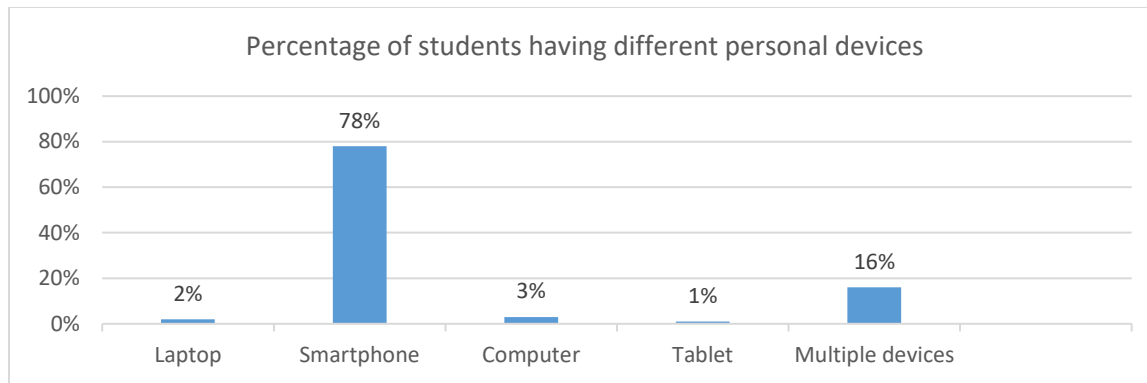


Figure 16 Percentage of students having different personal devices

Ability of family to purchase a smartphone for the respondents- According to the pie chart, almost half of the respondents (44%) were incapable of purchasing a smartphone. Roughly 29% of students or their family could afford buying a smartphone. Yet, 27% informed that to some extent they had the ability to buy a smartphone.

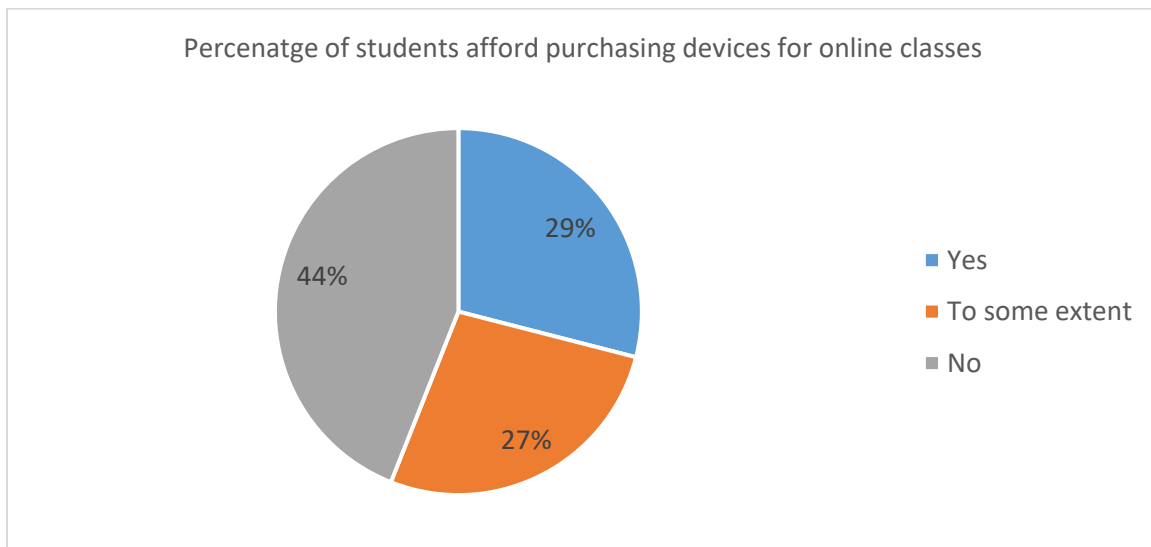


Figure 17 Percentage of students afford purchasing devices for online classes

Owner of devices while taking part in online study -As the study found that about 81% (Figure 14) students do not have personal devices. Hence, they often borrowed devices from the adults around them to participate in online classes. The figure below shows that parents were the main source of borrowing devices for 55% students during the online classes. Moreover, nearly 30% of students used devices from their siblings (21%) and relatives (10%). Only 3% of students reported that they managed to get the devices from school or teachers.

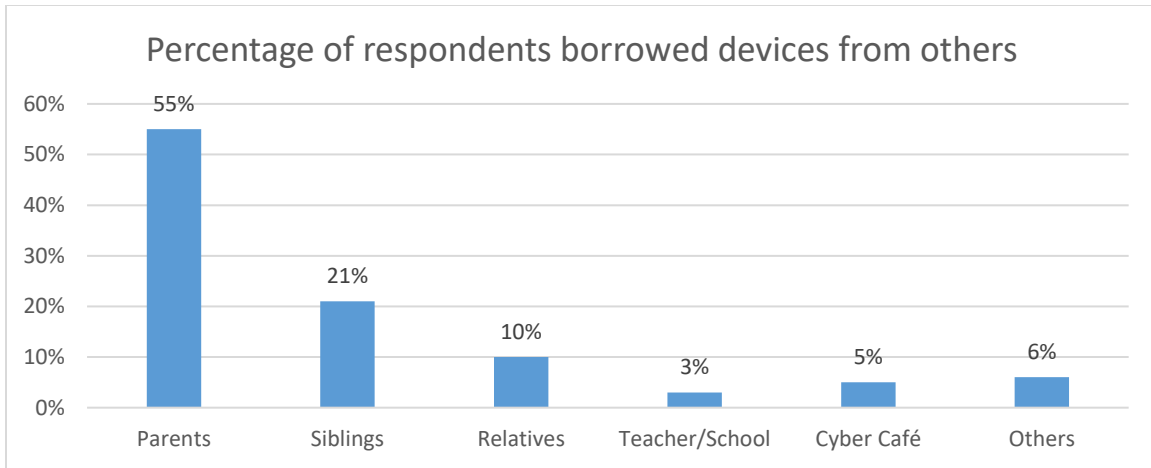


Figure 18 Percentage of respondents borrowed devices from others

Permitted hours for using device-The following data depicts that about three-fifths (66%) of secondary students were allowed to use the device for 1-2 hours in a day. Among remaining students, 29% students spent 3-4 hours daily using gadgets and only 5% operated the device for 5-6 hours or above.

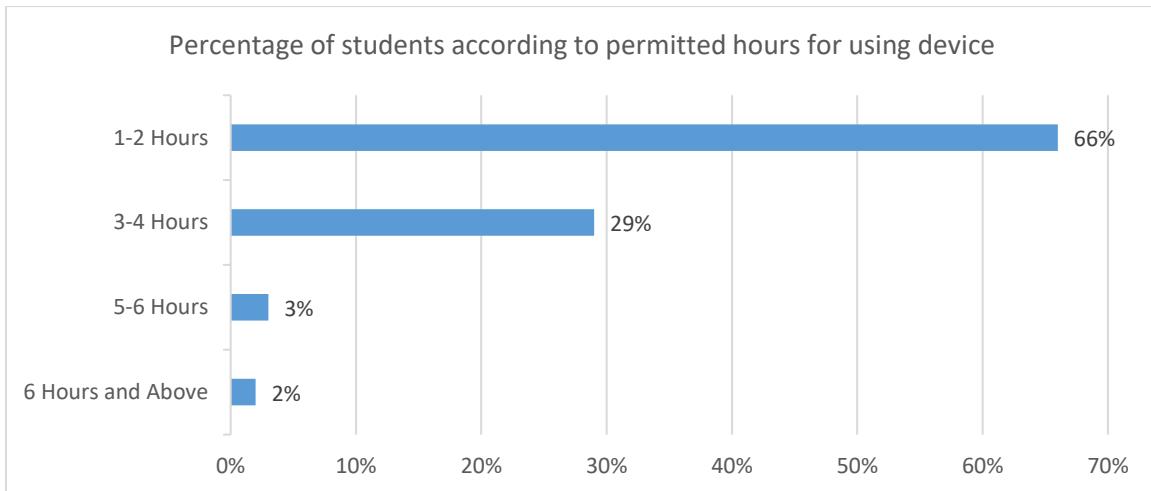


Figure 19 Percentage of students according to permitted hours for using device

Accessibility of Internet connection at home-Despite almost all the students having accessibility to electricity, around 49% students were still out of internet facilities at home. Though, 51% had the privilege of having the internet in their family.

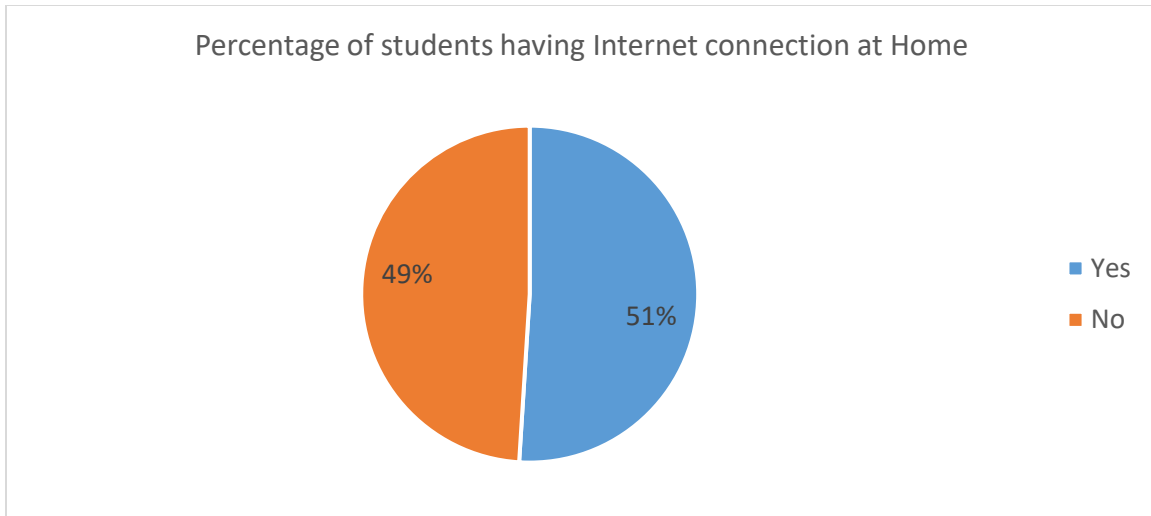


Figure 20 Percentage of students having Internet connection at Home

Types of Internet connections at home-The study further examines what types of internet connection facilities are usually used by the students. The study shows that 71% of students depended on mobile data for the internet. Among remaining students, 21% had Wi-Fi/broadband and 8% of them had multiple internet connections.

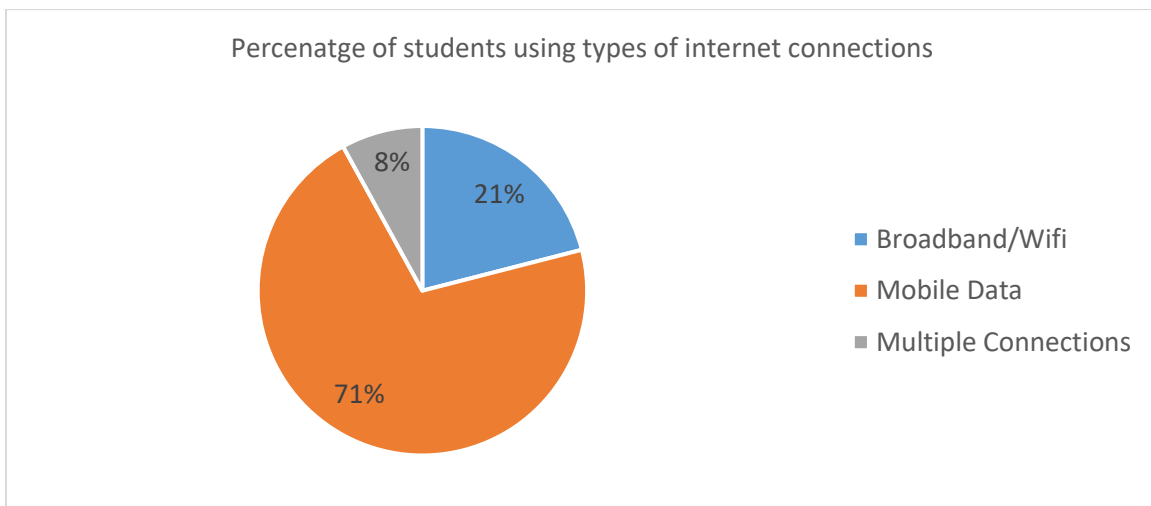


Figure 21 Percentage of students using types of internet connections

Types of work on Internet-The study asked students regarding types of engagement on the internet. Approximately three-fifths (61%) of the students utilized the internet facilities for online learning. For social media and creative works, 8% and 9% students used the internet respectively. Apart from these about 19% of them had multiple engagements on internet.

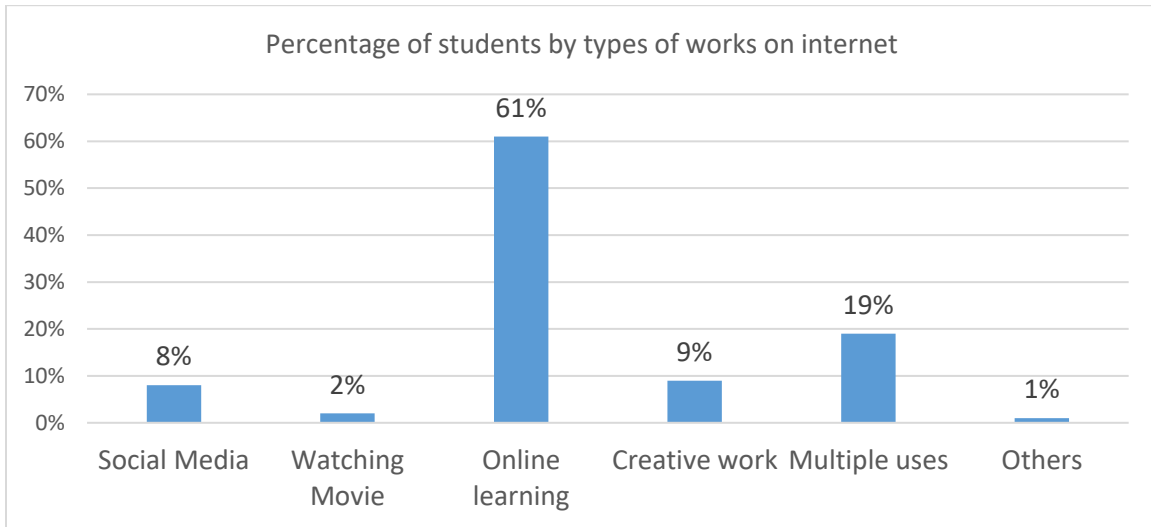


Figure 22 Percentage of students by types of works on internet

Online platform used online class -In response to the question of what kind of virtual platforms were used mostly for online classes, students reported a range of platforms. Among them, ZOOM was the most used platform through which 60% of students attend online classes. After ZOOM, about 20% of students used Google Meet. Besides, 10% students continued virtual classes using multiple platforms. The Remaining 10% used YouTube and Facebook for their learning.

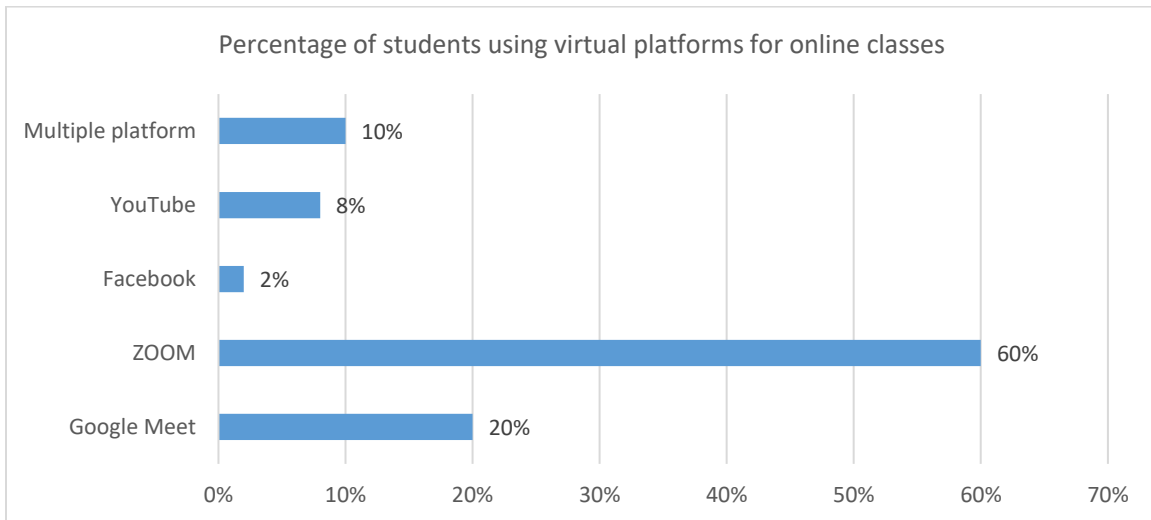


Figure 23 Percentage of students using virtual platforms for online classes

Challenges while taking part online teaching-learning process

Participated students articulated some challenges regarding online learning. Around 73% entrants reported network issues. Other than that, inadequate devices impeded learning for about 10% of students. Remaining students had trouble with other challenges.

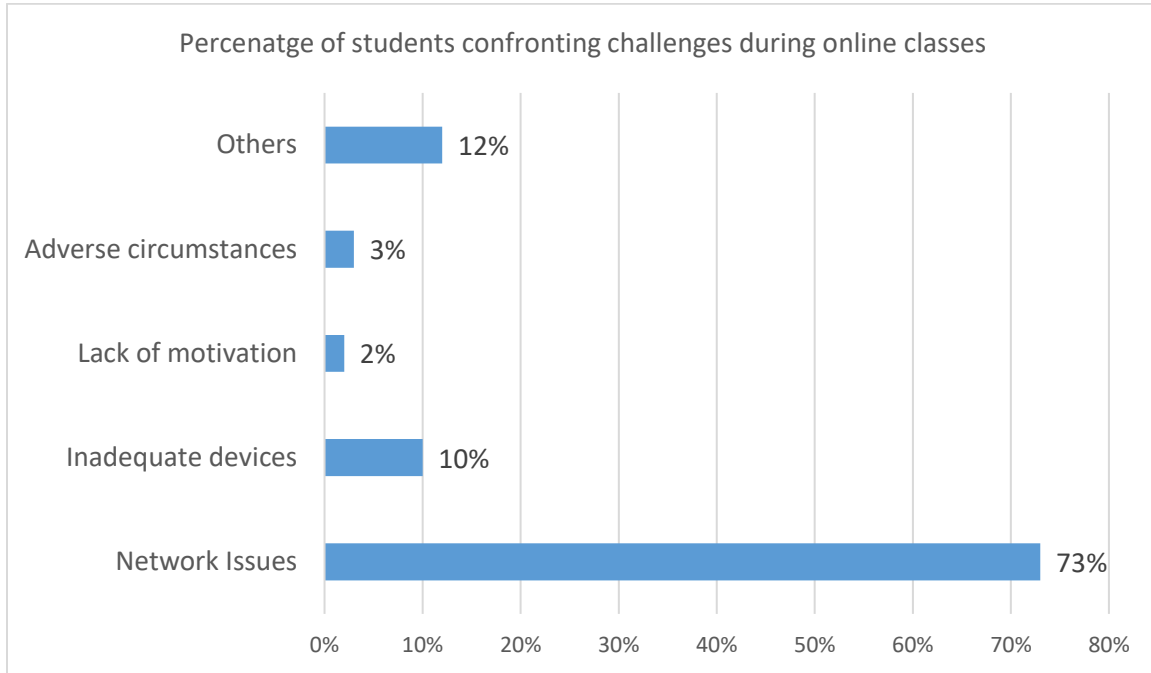


Figure 24 Percentage of students confronting challenges during online classes

Assessment procedure during the COVID-19 period

Assessment types -The following data reveals that 93% assessments were administered by assignments. A trivial quantity (only 2%) was assessed by an online quiz. Besides, 3% students were appraised multiple methods of assessments.

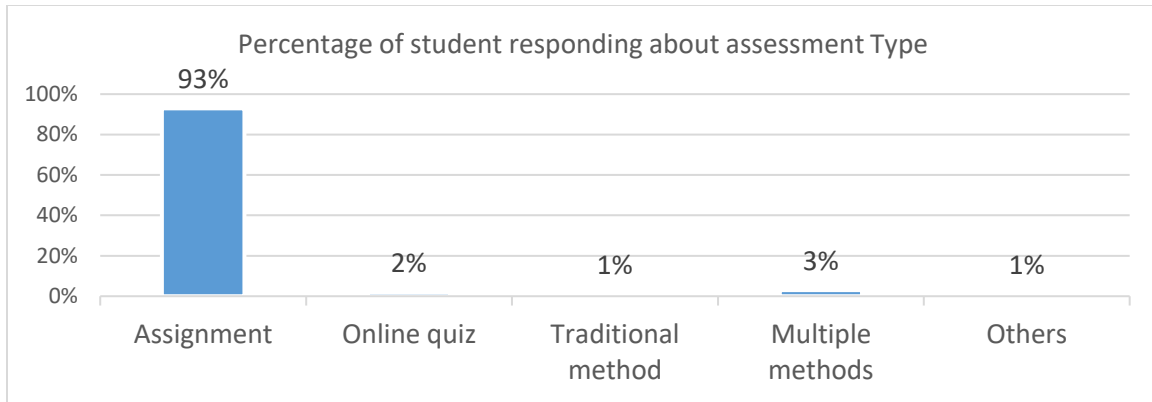


Figure 25 Percentage of student responding about assessment type

Completion of Assessment-The data shows that half of the participated students (51%) managed to complete all the assignments. It appears that 31% of students could not complete all the assignments, though accomplished most of them. About 14% of students did few assignments while 3% could not do any of them at all.

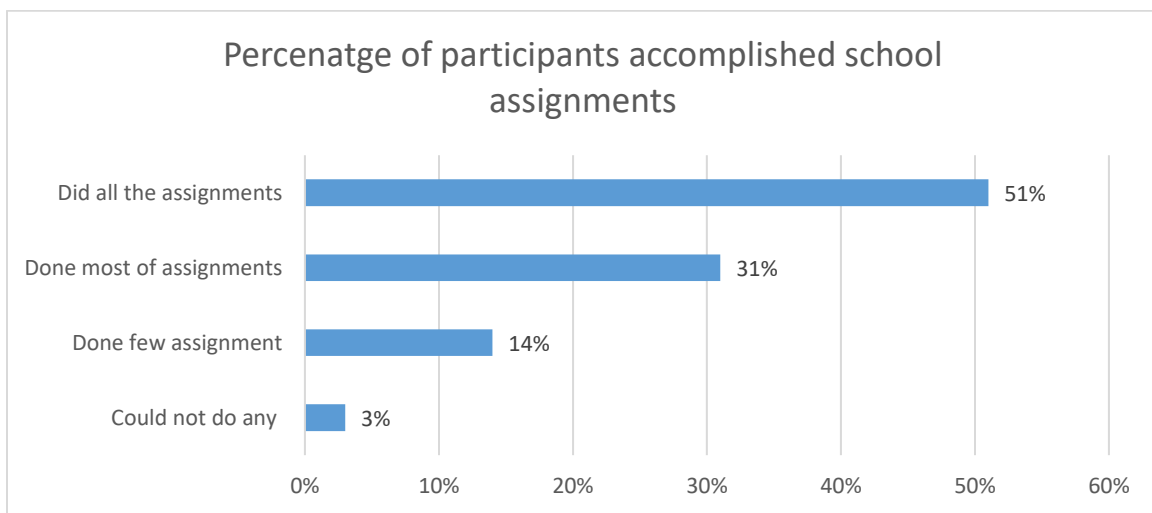


Figure 26 Percentage of participants completed school provided assignments

Challenges completing assignments-Though most of the students managed to complete the assignment (figure 25), almost half of them (42%) confronted challenges going to school to submit. Besides, 33% of students had trouble understanding the instruction of the assignment. Moreover, about 21% had difficulties with time and other issues.

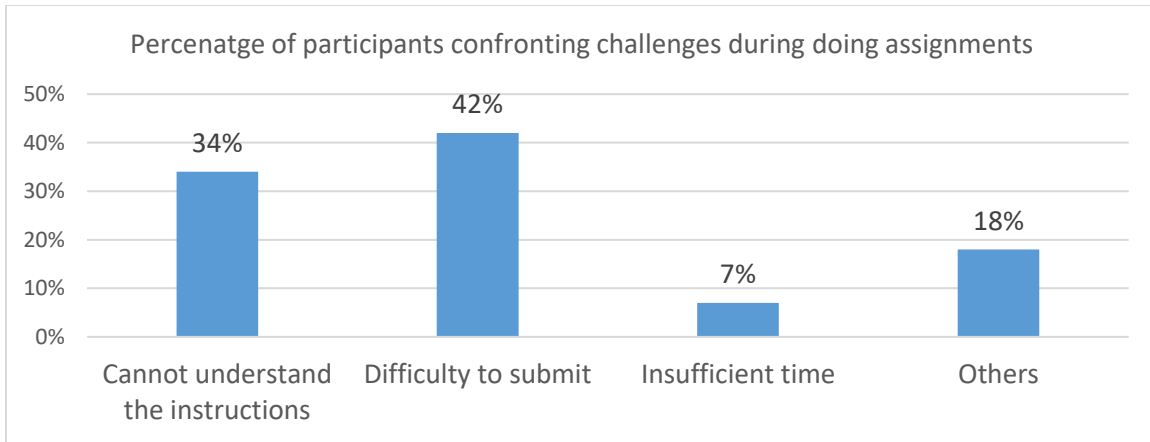


Figure 27 Percentage of participants confronting challenges during doing assignments

Findings of Teachers' Survey

A total of 1275 teachers from 256 educational institutions took part in this survey. From each institution, 5 teachers participated. Respondents were from all subject backgrounds, as in, science, social science/Arts, language, mathematics, and other subjects.

Demographic background of the Teachers

Number of participating male teachers seems to prevail over the number of female teachers according to the data. Among the respondent teachers, female was 26% (N=332) while and male was 74% (N=943).

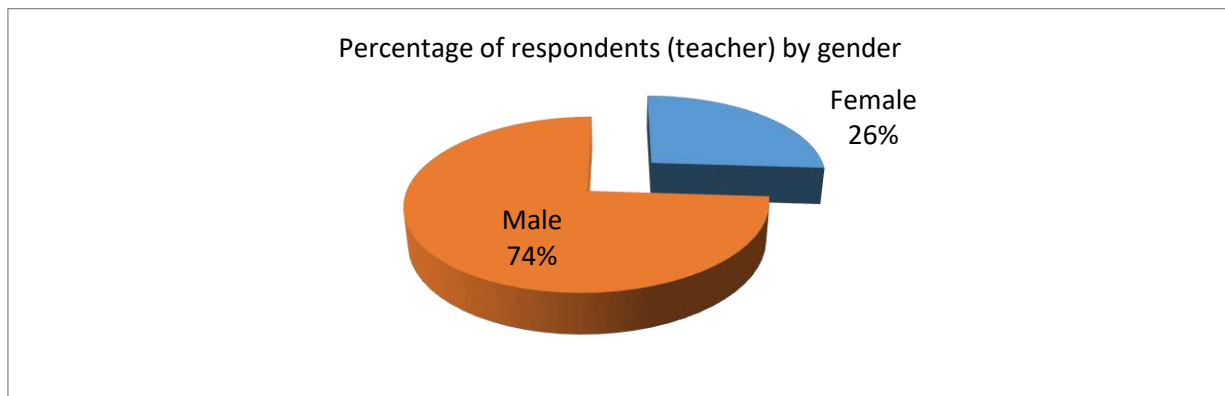


Figure 28 Percentage of respondents (Teacher) by gender

Around 64% of participated teachers were from schools. Among the respondent teachers from others, 25% were from Madrasha and 11% were from Technical and vocational schools.

Teachers' participation in teaching-learning process during COVID-19

The participating teachers of the study were asked about their teaching–learning process they followed during Covid-19 pandemic. The finding shows that around half of them (53%) preferred

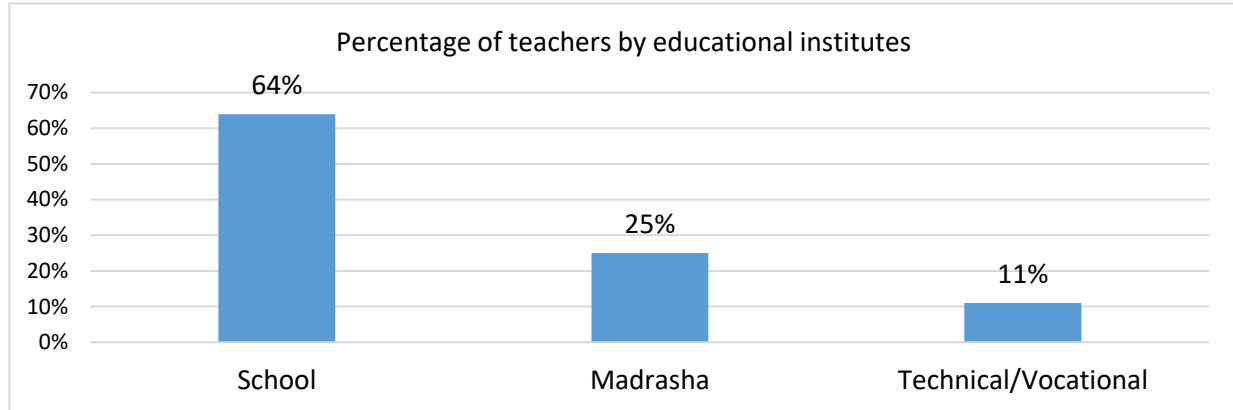


Figure 29 Percentage of teachers by educational institutes
online teaching or uploaded lessons whereas only 7% taught over phone. In addition, 32% engaged in multiple ways of teaching. Yet, 2% of teachers reported that they had to stop teaching-learning activities during pandemic.

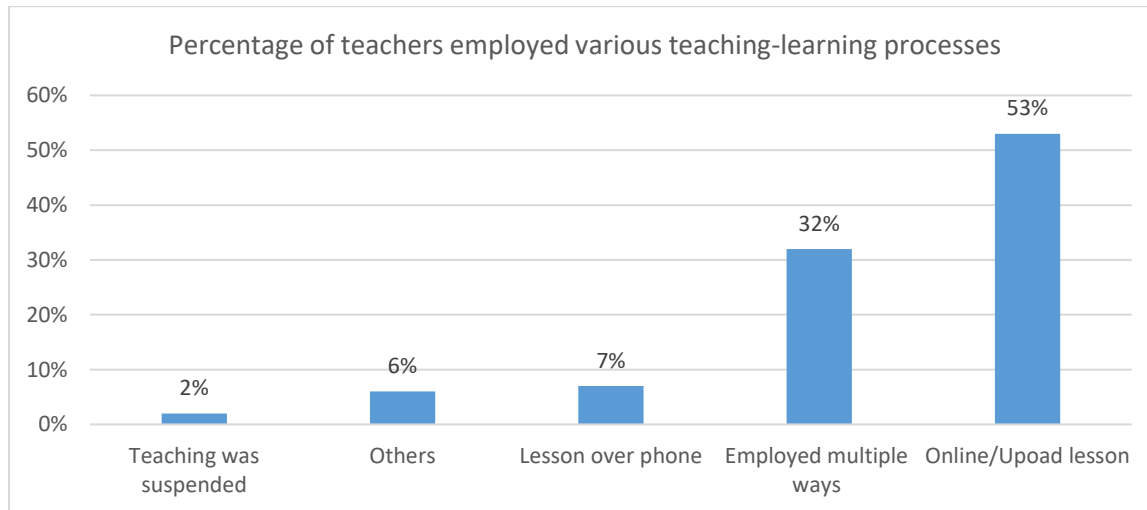


Figure 30 Percentage of teachers employed various teaching-learning processes

Access and resources for online teaching-learning activities

Device availability - Regarding the availability of devices at school, about 67% teachers reported that school had multiple devices. Around one-fifth of them (18%) had laptops at their schools. The Remaining 12% had desktops or smartphones. However, 3% of teachers claimed not having any device facility at school for online classes.

Table 6 Percentage of teachers having types of devices at school

Sl	Name of device	Percentage	S1	Name of device	Percentage
1	Desktop computer	6%	4	Smartphone	6%
2	Laptop	18%	5	Multiple devices	67%
3	Tablet	0%	6	None	3%

Usage of device teachers used for online teaching-The following data reveals that almost half of the teachers (49%) owned smartphones for administering online classes. Moreover, 40% of teachers possessed multiple devices. Yet, 3% teachers had no devices.

Table 7 Percentage of teacher owned types of devices for online class

Sl	Name of device	Percentage	S1	Name of device	Percentage
1	Desktop computer	2%	4	Smartphone	49%
2	Laptop	6%	5	Multiple devices	40%
3	Tablet	0%	6	None	3%

The study further reveals uses of devices by types of institutes. It appears that most of the teachers (68%, 65% and 71%) irrespective of the educational institutes used multiple devices to conduct online classes. Unlike students, smartphones were found less popular among teachers compared to devices like laptops and desktops. However, highest number of teachers (71%) from technical

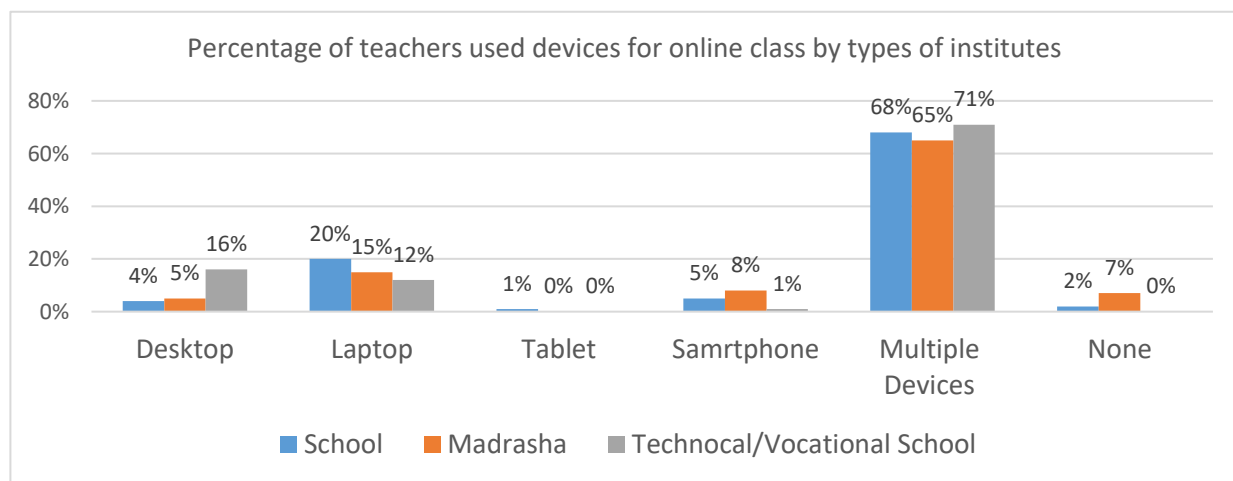


Figure 31 Percentage of teachers used devices for online class by types of institutes and vocational educational institutes owned and used multiple devices. In terms of single devices, teachers from schools used laptops (20%) and teachers from madrasa used smartphones (8%). It is noted that while all of the teachers from technical and vocational educational institutes own

devices to participate in online classes, 2% and 7% teachers of school and madrasa respectively do not have device facilities of their own to conduct online lessons.

Types of Internet connections used for online teaching at school-In response to the question of what types of internet connections schools have, 50% teachers asserted having mobile data facilities for internet connection at their schools. Also, about 16% teachers got the Wi-Fi facility for online classes at schools. Besides, multiple connections were available in some schools according to 30% teachers. However, 3% of teachers had no internet connection at their schools.

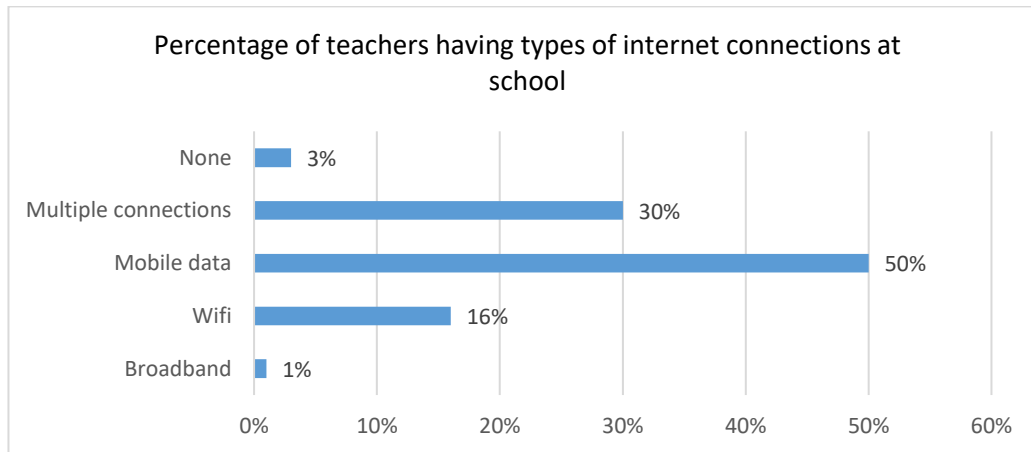


Figure 32 Percentage of teachers having types of internet connections at school

The study further attempted to know about the types of internet connections used by the teachers. Regarding that, more than half of participated teachers (57%) depended on mobile data for online teaching. Moreover, 32% had multiple connections and 8% had Wi-Fi/broadband connection. Despite that, 3% of teachers were out of internet connection facilities.

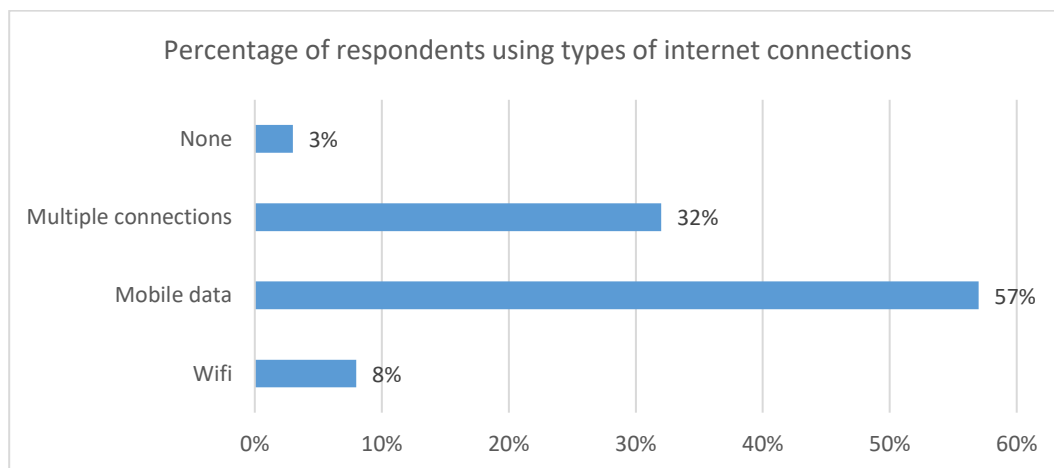


Figure 33 Percentage of respondents using types of internet connections

Types of online platform used for online class -Participated teachers imputed a variety of online platform names. Among them, approximately 48% of the participating teachers used Facebook platform (messenger) to conduct online classes. Other than Facebook, Zoom and 22% and 11% participating teachers took online classes through Zoom and Google Meet respectively. In addition, 18% teachers used multiple platforms for taking online classes.

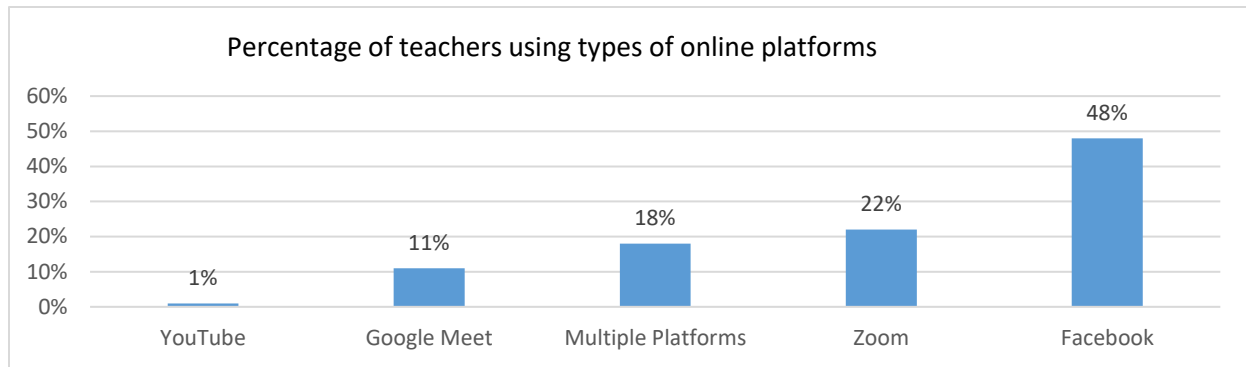


Figure 34 Percentage of teachers using types of online platforms

Challenges of online teaching-learning process at School

Internet facilities -Poor connectivity appears as the most challenging issue for online teaching learning. Major portion of respondent teachers (79%) reported disrupted online services to conduct online classes. Other two major issues for conducting online classes was lack of device facilities (65%) and students' lack of motivation (70%) to take part in the online classes. Few other teachers found lack of parents' awareness (2%) and electricity disruption (4%) to hinder virtual classes.

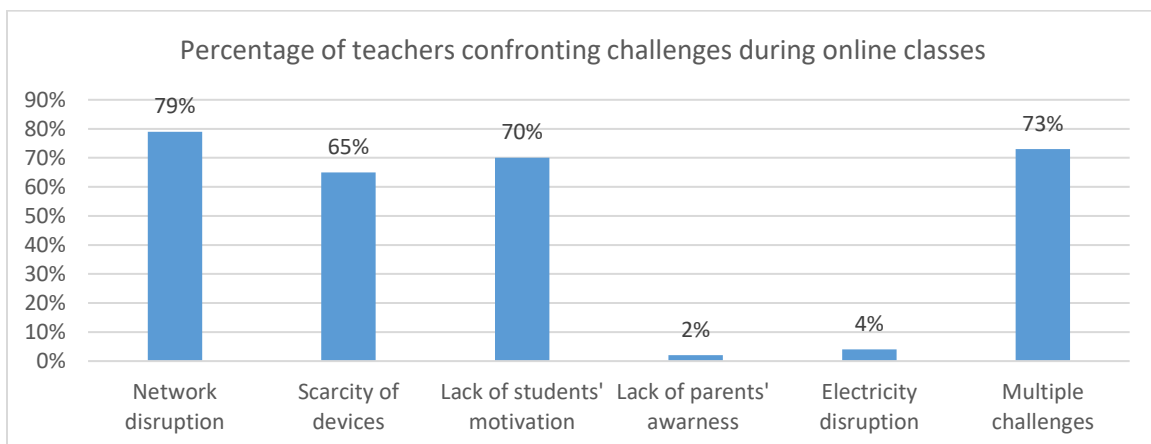


Figure 35 Percentage of teachers confronting challenges during online classes

However, many of them (73%) identified multiple of these issues as the major challenges to run online learning activities smoothly.

Instructions from Ministry of Education and challenges to execute-Three-fifth of participating teachers (60%) knew about the education plan for Covid-19 issued by the Ministry of Education and Directorate of Secondary and Higher Education. However, 40% did not have information or knowledge about the plan.

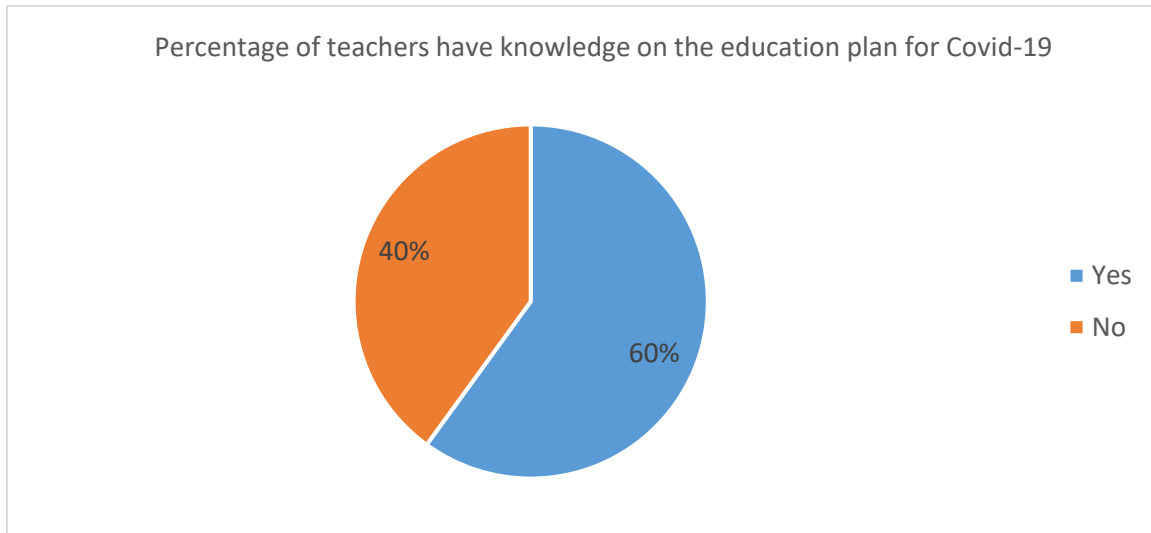


Figure 36 Percentage of teachers have knowledge on the education plan for Covid-19. To undermine the learning loss of students due to Covid-19, teachers reported that they were working according to the plan from the Ministry of Education and the Directorate of Secondary and Higher Education. They used to communicate with students over the phone regularly. Regarding teaching, taking online classes helped students to continue their education. Also, they divided students into small groups to facilitate them in person as well as doing practical classes. In addition, teachers took classes on weekends. Aside from these, they were consistently motivating students to watch *Sangsad* TV classes. Teachers also endeavored to communicate with parents and education enthusiasts to make these efforts work. To assess students, weekly tests and assignments were administered regularly.

To address unfavorable circumstances for education, the Ministry of Education took a range of necessary measures. Nearly 44% of participating teachers remarked about the instructions on online classes and assignments. Also, 12% of them informed that they had instructions on motivating students to attend online classes. Regarding the challenges in the execution phase, 13% teachers reported about the unwillingness of students doing assignments. Besides, disruptive electricity and network, lack of satellite to watch *Sangsad* TV, indifferent parents were the prime issues to implement the instructions.

Student assessment during COVID-19

Student assessment -Regarding the assessment in distance learning, 97% teachers' administered learning assessment. Though, 3% of participating teachers did not assess their students' progress.

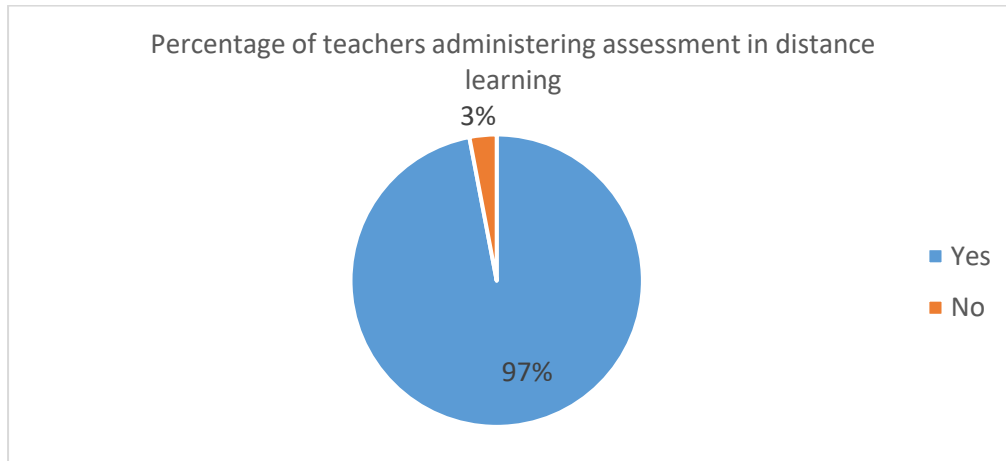


Figure 37 Percentage of teachers administering assessment in distance learning

Assessment type -In response to the types of students' assessment, 98% teachers assessed students' progress through written assignments. However a small portion (9%) teachers also mentioned online quizzes to evaluate the learning growth.

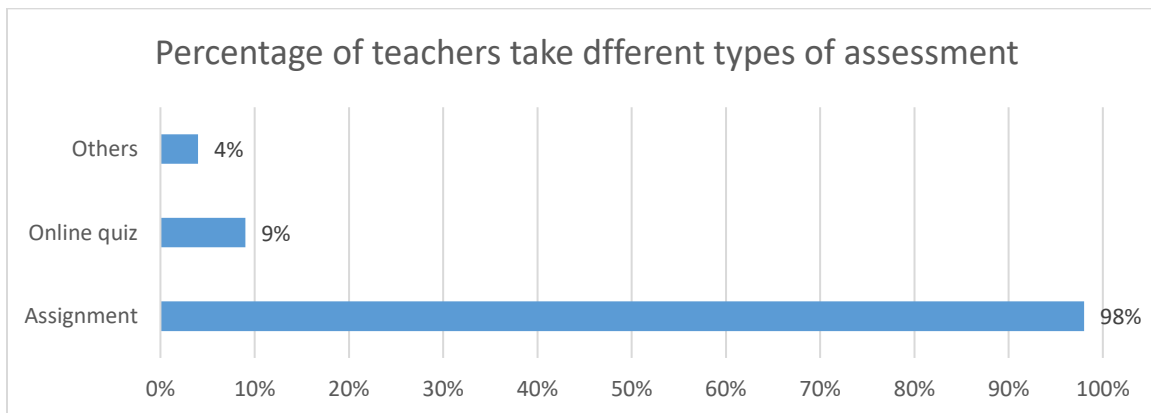


Figure 38 Percentage of teachers take different types of assessment

Challenges in assessing students during COVID-19-In response to what kind of challenges has been faced by the teachers while assessing assignments, 80% teachers confronted diverse challenges, like, copying, not submitted in time etc. Around 83% teachers addressed challenges regarding overdue assignments. Besides, 64% teachers mentioned that students were copying assignments from classmates or other sources and 50% teachers reported that someone else completed the assignment for the students.

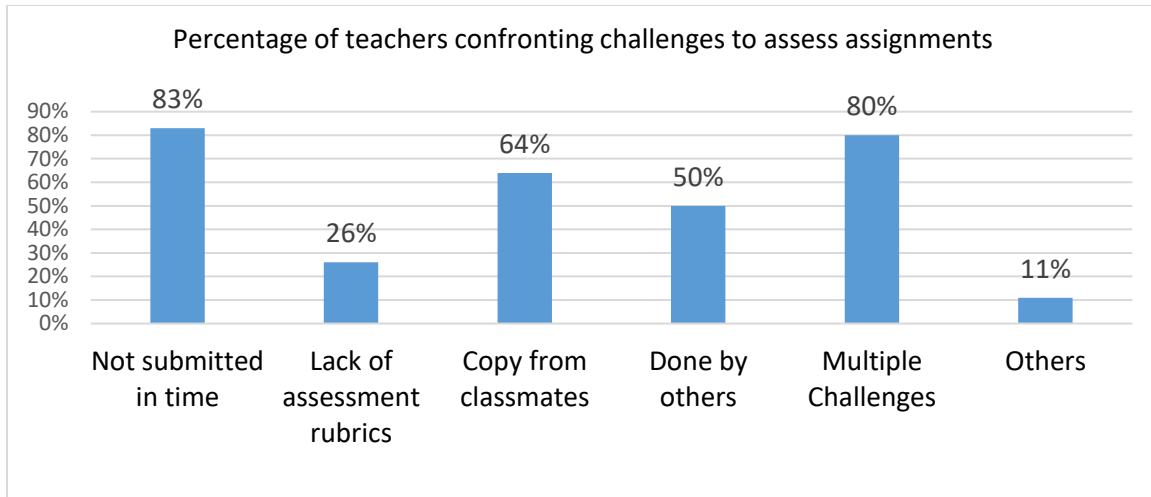


Figure 39 Percentage of teachers confronting challenges to assess assignments

Recommendations-Teachers suggested some recommendations regarding the improvement of secondary education during Covid-19. Around 33% teachers proposed to reopen schools maintaining hygiene. Teachers (7%) also claimed free internet and devices. Besides, nearly 8% of teachers regretted about the salary discrimination between government and non-government teachers which demotivated non-government teachers. Remaining teachers suggested a few more things-including conducting in-person classes at least once a day, having broadband connection at every school and providing teacher's training on ICT.

Conclusion

This chapter presents the access, participation, resources and major challenges students and teachers faced during the period of COVID -19 pandemic. The data mostly derived from survey questionnaires. The next chapter presents the qualitative data generated from the study.

CHAPTER FOUR PART TWO: QUALITATIVE FINDINGS

This section presents the qualitative data of the study. Qualitative data were collected through KII and Focus Group Discussion (FGD) with Upazila Education Officer, Head of the institutes; School Management Committee (SMC) and local community leaders. A total of 182 participants were interviewed. Among them, the majority of participants (N=165) were male whereas only 17 were female. Besides, participants were both from urban and rural areas. The interview data gave an in-depth insight regarding the teaching learning situation during COVID-19 outbreak of Bangladesh. The following is a brief information of participants-

Table 8 Participants of qualitative data

No.	Types of Participants	Participants		Total
		Male	Female	
1	Government education officers for secondary level	31	4	35
2	Community Leaders	13	2	15
3	Head of the Educational Institutes	46	1	47
4	Members of School management Committee (SMC)	75	10	85
Total		165	17	182

Perception of Secondary Education officers

A total of 35 education officers from Upazilla, Zilla and division level were interviewed. Among them, the majority of participants (31 out of 35) were male whereas only 4 were female. The interview data generated a total of major themes regarding the teaching learning situation during COVID-19 outbreak of Bangladesh

Status of teaching-learning: Prompt response and initiative during Covid-19

It appears that despite the nationwide school closure due to COVID-19 pandemic outbreak, the teaching-learning activities mostly continued in different forms across the country. Along with the government initiatives of broadcasting recorded lesson broadcasting centrally through *Sangsad* television, many schools facilitate students teaching by conducting online class through Zoom in this pandemic (e.g. *Kishoregonj* high online class) to support students as well. Individual, school, or regional level teaching learning were being initiated through a range of media including Facebook page, Messenger, Google Meet, WhatsApp, MS Team and YouTube too are utilizing for educational purposes. In some cases, teachers motivate students over the phone to learn.

In addition to online or distant mode lesson facilitation, Head Teachers used to disseminate leaflets. In addition, students were given assignments to continue teaching-learning activities. Those assignments are collected and assessed as well. However, According to a participant, *‘Some students do not get class routine. And they make Xerox copies of a particular assignment; do not submit assignments in time.’* Aside from these, scarcity of protective equipment also holds back teaching-learning activities. An interviewee said, *‘Teachers supervise study progress over phone dividing all students’ area wise. Teachers are monitored by USEO.’* Home visits and sittings with small group of students were incorporated as alternative for online class

Participation and access: limited availability and access of digital tools and connectivity

Despite almost all the secondary schools having multimedia classroom facilities; ICT Lab, computer, Laptop, modem, and mobile phone even at Upazilla level, many of the schools could not initiate online classes due to poor connectivity particularly at remote areas (“there is no internet in remote areas). Both teacher and students confronted significant challenges regarding participating in online lesson activities.

Education officers reported that teachers lack the skill to operate devices to conduct online class. Teachers were not trained enough to facilitate virtual class as well. In Addition, some teachers did not have smartphones or any other electronic device. Education officers further found that due to the high expense of the Internet, teachers often could not afford to purchase these facilities. Besides, the network is weak in rural areas. Disruptive electricity also was reported as an obstacle. Some elderly teachers hold a negative attitude towards online classes. According to a participant, *‘We have a shortage of skilled ICT teachers.’*

On the other hand, according to education officers, like teachers, many students had insufficient knowledge on ICT as well as electronic devices. Moreover, students could not afford to purchase either mobile phones or the internet. Some students do not have television. On top of that, *Sangsad* television requires satellite connection, which was not available for many of the students’ homes. However, there was also some reporting on abuse of internet use by the students. As one of the participants commented that *‘students use to waste time surfing the internet instead of studying.’* Some students become addicted to online games and other mobile apps, which impede their study.

Suggested Initiatives: Teacher training and resource mobilization

Teachers need training on facilitating virtual class. Both teachers and students lack skills to use devices. As the physical distance provision due to COVID-19 remains for prolonged time, immediate training may be needed for both teachers and students.

In addition to training, adequate resource mobilization is needed including laptops; smartphones, modems as well as internet expenses for conducting online classes. Schools need their own generator for uninterrupted electricity. Electronic devices need to be available for students at low cost. Regarding that, students need financial support to buy electronic devices. USEO mentioned that parents need to be more aware of their education. Moreover, mobile data needs to be free of cost for students.

Further, as other than device and training, weak Internet connectivity appears as one of the frequently mentioned problems, immediate attention should be provided on this issue as soon as possible. Teaching learning activities are hindered greatly due to weak networks especially in rural areas. One of the education officers indicated that *'Issues relating to weak networks need to be solved centrally.'*

Perception of Community Leaders

The number of Community leaders participated in this study was 15 where 13 of them were male. Participation from rural and urban areas are equal.

Covid-19 participation/ Teaching strategies during Covid-19

Students continue their study through online classes and assignments. They learn from *Sangsad* television as well as uploaded classes on Facebook. Besides, students are learning over the phone with teachers. Some get assistance from private tutors, parents, or siblings.

Physical and electronic device facilities/ Availability of digital tools and electricity

Electricity is available at maximum homes, though load shedding occurs frequently. Every student does not have a television. Students who have televisions do not have satellite connections. The Internet is not available everywhere. Moreover, remote areas have poor internet connection.

Students who have smartphones, attend online classes. Except smartphones, they cannot afford purchasing other electronic devices. An interviewee stated, *'Around 80% of students or their family could not afford buying a smartphone.'* However, few students own laptops. Education was continued through assignments given by the Education Ministry. Few students do the assignments with the help of private tutors.

Students out of school

Some students are out of school due to covid-19 pandemic. Community leaders identified many of these students passing lazy time. Some get involved in delinquency and child labor. School authority is in touch with them over the phone. They are motivating and counseling them as well as their parents to continue education. One of the participants regretted, '*Female students who are in grades 9 or 10 are getting married due to poverty.*' Some students get addicted to playing virtual games.

Role of Community

Community communicates with the Head Teacher and SMC from each school to check dropout because of the pandemic. Also, some online classes are arranged by the community with proper hygiene. The community motivates students to do assignments and buy electronic devices. Besides, they are managing smartphones as well. An interviewee said, '*We are visiting students' homes.*' However, they do not monitor any activity.

Perception of Head of the Educational Institutes

Head of the institute plays a pivotal role in executing all the educational activities. A total of 47 heads of the institute had participated in this study where 46 were male and only 1 teacher was female.

Different semi-structured guiding interviews were used for data collection for different stakeholders of secondary education. In-person interviews were conducted maintaining hygiene. Although it was a major challenge to carry out field study during COVID-19 pandemic, most of the participants reached out and they also extended their support for this study. The qualitative part of this study revealed different aspects of educational efforts and challenges. Moreover, some recommendations from the head of the educational institute were informed. The findings from the qualitative part of this study are reported under five broad themes.

Educational effort during Covid-19

Schools had been closed due to prolonged Covid-19 pandemic. Teachers apprised of educational activities shifted to virtual platforms. Teachers took online classes through Google Meet, zoom, and uploaded lessons to their Facebook page. One of them said, '*We are motivating students to watch Sangsad TV.*' Besides, teachers offered education over phone as well as outreached community to support students' learning. Further they added that assignments were given to assess students' progress during this pandemic.

Online educational effort during Covid-19

Schools provided several facilities to conduct online classes and confronted challenges during this pandemic. Following are some facilities provided by schools. According to most of the teachers, schools were equipped with a desktop, laptop, modem, pen drive, and multimedia classroom. Participated teachers acknowledged that they had an internet connection at school to administer online classes. Mostly, schools arranged Wi-Fi facilities for teachers to run the virtual classes. A teacher acclaimed, *'School supports us with all the facilities to conduct online classes.'* Teachers experienced a range of challenges while conducting online classes. Among them, disruptive internet, low students' attendance, unconcerned parents, and students' lack of teachers' training on ICT prevailed. An interviewee regretted, *'Students lack motivation for online classes due to their poverty.'*

Implementation of government instructions at schools

All the participated teachers mentioned their endeavor to execute government instructions at their respective schools. As teachers were instructed to coordinate and facilitate online classes and give assignments, teachers carried out their responsibilities. Moreover, a respondent shared, *'I visited students' homes to persuade parents and dropout students to join online classes.'*

Status of dropout students during Covid-19

Teachers reported that many students dropped out from school because of poverty during the pandemic. Most of them engaged in child labor. Participated teachers said regretfully that female students were victim of child marriage. One of the teachers rued, *'Students start working to earn and get married at an early age.'* In addition, they mentioned that some students were addicted to mobile phones and involved in various delinquencies.

Major Challenges

Some major challenges were unveiled through these interviews. Teachers revealed diverse challenges they faced. Most of the Head Teachers talked about poverty, unconcerned parents, and unmotivated students as their prime challenges. Further, they brought out some common issues regarding disruptive networks and electricity, scarcity of devices, lack of teachers training on ICT. An interview remarked, *'Students do not submit assignments and some teachers lack ICT knowledge to operate online classes.'*

Perception of Members of School management Committee (SMC)

A total of 85 SMC members participated in this study for an interview where 75 participants were male and only 10 were female.

Covid-19 participation/ Teaching strategies during Covid-19

During Covid-19 pandemic, students used to attend classes through online Google meets. Besides, Bangladesh Television (BTV) and *Sangsad* Television broadcast educational programs for students. In addition, Students are given assignments to keep up with educational activities. Apart from these; there is a Facebook page where contents have been uploaded.

Physical and device facilities/ Availability of digital tools and electricity

Regarding facilities, all students have electricity and except few, almost all have television at their home. However, not everyone has the internet or very weak connection. One of the participants said, *‘As mobile data is expensive, many face problems.’* A trivial number of students owned laptops or computers. Either students or their parents have mobile phones. According to an interviewee, *‘Only around 40% of students had smartphones.’* On the contrary, a participant said, *‘Approximately 35% of families have the ability to buy a smartphone or other device.’*

Alternative methods of teaching-learning

Teachers started administering examinations in a traditional way with the help of parents. They had initiated giving assignments to students before this approach was practiced nationally. Now they are doing it precisely. We also continued our classes online. Besides, we have advised parents to supervise their children’s study. Our teachers have contacted students through the phone. Furthermore, special assignments are designed for students of grade 10.

Students out of school

Some students are out of school due to Covid-19. Among them, some returned to the village because of poverty. Some left school and started working as child labor, as in, shopkeeper, in agricultural field. Girls are getting married at an early age. We tried to persuade them. However, students said that they will resume their education only after reopening school. Interviewees mentioned that they waived 30% tuition fee for all the students in 2020. One of the participants said, *‘We are counseling dropout students and getting them back into learning activities. Also, we are assisting them financially’.*

Some students are financially affected in this prolonged pandemic situation. An interviewee regretted, *‘Financial problem is the biggest problem. Students do not attend class, do not submit*

assignment due to financial problem. They cannot afford to buy smartphones, computers, or other devices. Some students do not have satellite connection on TV and have weak network on phone as well. Moreover, parents and students both lack enthusiasm for alternative way of learning. They have left school. Some have returned to village. Hence, income of school has reduced. Teachers-staff do not get salary regularly which is impeding teaching-learning activities. In addition, teachers do not have enough skills to conduct online class.

Role of School management Committee

School management committee is very positive in this regard. They are supporting and inspiring the efforts. They assisted in administering examinations at home in a traditional way. They are campaigning for Sangsad television. SMC arranges meetings once a week to make decisions on students' educational development. They arrange *Uthan Boithok* with their parents as well. There is a team as well to supervise students by visiting their home. Besides, they provide electronic devices, smartphones, and support with data.

Conclusion: The qualitative data delineated the existing teaching learning status and challenges of secondary education from the perspectives of head of the institutes, local educational administration and community and school leaders. The next chapter summarizes the major findings and generates recommendations from the findings of the study.

CHAPTER FIVE: DISCUSSION AND CONCLUSION

Introduction

Prolonged school closure as a consequence of the pandemic has a devastating effect on education around the world. Alternative learning approaches were devised to respond to this education challenge through online to radio/television to take-home packages. Many of these distance mode education, as an alternative, is considered to meet the standards of social distancing. Like many other countries, COVID-19 outbreak adversely affects the condition of children in Bangladesh, particularly the education of the most vulnerable children (EDUCO, 2020). However, The Government of Bangladesh has taken prompt initiative, specifically distance mode learning activities for secondary level students through government television channels, designated online platforms and specific learning directions to secondary schools right after school closes. The present study aimed to explore to what extent students and teachers were able to get benefit of these effort in terms of access, participation, resources facilitation, learning assessment and what major challenges of teaching-learning faced by the secondary education subsector.

The overall objective of this study is to explore the challenges of teaching learning in terms of resource materials, pedagogy and assessment at secondary level due to COVID-19. The specific objectives of the study are 1. Identify the challenges faced by teachers and students to have access to the resource materials at the secondary level; 2. Investigate pedagogical challenges of teachers in conducting teaching-learning activities during COVID-19; 3. Explore the challenges to assess student's learning during COVID-19 at secondary level; and 4. Identify the way forwards for making teaching-learning effective during pandemic situations.

Summary and discussion of the findings

Government initiative

In response to this unprecedented learning crisis, prompt responses were initiated both from Government and non-government stakeholders. Amid the fears of virus outbreak, the government of Bangladesh has decided to close all academic institutions, including primary to higher education institutions including dormitories, coaching centers on March 18-31, and the school closing were further extended until now (Ministry of Education, 2020).

After educational institutions were closed to contain the spread of coronavirus, Directorate of Secondary and Higher Education (DSHE) took first initiative with the help of government agency

Access to Information (A2i) to broadcast pre-recorded secondary level school lessons shortly after school closing. Lessons based on NCTB curriculum from the sixth to the tenth grade have been airing for students on the public broadcaster Bangladesh Television (BTV). The program titled, “আমার ঘরে আমার স্কুল” My school at my Home) runs each day from 9.00 a.m. to 12.30 p.m. local time (03: 00 GMT to 06:30 GMT), with classes to repeat from 2.00 p.m. to 5.00 p.m. every day for about 9 million secondary-level students in the country (Sakib, 2020). Following DSHE, Directorate of Primary Education (DPE) launches its remote education program for students of pre-primary and primary grades on public TV from 7th April, 2020 (DPE, 2020) The program titled “ঘরে বসে শিখি” (Learning at Home). Subject based lessons were delivered by competent teachers and recorded broadcasted twice a day.

Education initiatives during Covid-19 at secondary education Institutes

To undermine the learning loss of students due to Covid-19, teachers reported that they were working according to the directions of the Ministry of Education and the Directorate of Secondary and Higher Education. Teachers apprised of educational activities shifted to virtual platforms. The finding shows that around half of them (53%) preferred online teaching or uploaded lessons whereas only 7% taught over phone. In addition, 32% engaged in multiple ways of teaching. Yet, 2% of teachers reported that they had to stop teaching-learning activities during the pandemic. Teachers took online classes through Google Meet, Zoom or uploaded lessons in Facebook pages. One of them said, ‘We are motivating students to watch Sangsad TV.’ Besides, teachers offered education over phone as well as outreached community to support students’ learning. Further they added that assignments were given to assess students’ progress during this pandemic. They used to communicate with students over the phone regularly. Regarding teaching, taking online classes helped students to continue their education. Also, they divided students into small groups to facilitate them in person as well as doing practical classes. In addition, teachers took classes on weekends. Aside from these, they were consistently motivating students to watch *Sangsad TV* classes. Teachers also endeavored to communicate with parents and education enthusiasts to make these efforts work. To assess students, weekly tests and assignments were administered regularly.

Access and Participation

The findings revealed that half of the participants participated in online classes mostly (28%) to regularly (22%) while the other half could manage to join online classes occasionally including 2% participants could not participate at all. Regarding participation by institute types, there were

no significant differences among general school, madrasa and technical and vocational schools. It appears that students from Madrasa remained slightly behind in online participation. Regarding the online teaching process, most (66%) of them took multiple ways (e.g. online class, TV/Radio class) to learn. Around 15% participants solely participated in online classes. It is noted that around 6.5% students reported that they have studied by themselves during these COVID-19 periods.

Around 92% student participants of the study watched TV lessons through Sangsad Television to varied extent. About 32% students attended at least three *Sangsad* TV classes in a week whereas only 9% of them participated five or above classes weekly. However, 8% of students reported that they never joined these classes.

However, the study found that the overall study hours decreased among students during the pandemic period. About 21% of secondary level students used to study 4 hours and above per day which decreased 10% during the pandemic. Similar decline in study hours has been noticed in 3-4 (reduced up to 12%) and 2-3 (1%) Study hours.

Teacher participation and effort

The finding shows that the majority of the teachers (98%) provided lessons to the students in different modes. Among them, over half of the teachers (53%) exclusively used online platforms and 32% engaged multiple platforms (e.g. online, phone) to provide distance lessons to the students.

Facilities and resources

In terms of facilities for distance learning, the study found that though 99% of students have electricity at home, only 77% have Television at home to participate in TV classes. The study found that almost 70% of students used smartphones for online class while usages of other devices, such as laptop, computer were only 4% combined. Besides, 5% of students had multiple devices to join online classes. Among the students who have access to devices, only one-fifth of students (19%) owned personal devices and 81% of them used devices borrowed from relatives for online classes. In terms of types of devices participants owned were mostly (78%) smartphones. Around 16% of them had multiple devices.

However, 21% of students had no device to attend online class. The study found that only 29% of parents of students could afford buying a smartphone. Almost half of the respondents (44%) were incapable of purchasing a smartphone.

In terms of accessibility of Internet facilities at home, around 49% students were still out of internet facilities at home. The study shows that 71% of students solely depended on mobile data for internet usages and 21% had Wi-Fi or hi speed internet facilities. Among the students, ZOOM was the most used platform through which 60% students attend online classes. After ZOOM, about 20% of students used Google Meet.

Teacher's access and resources

Unlike students, around 97% participated teachers from secondary educational institutes owned devices to conduct the classes. The study reveals that almost half of the teachers (49%) owned smartphones and 40% of teachers possessed multiple devices for administering online classes. It appears that most of the teachers irrespective of the educational institutes used multiple devices to conduct online classes. Unlike students, smartphones were found less popular among teachers compared to devices like laptops and desktops. It is noted that while all of the teachers from technical and vocational educational institutes own devices to participate in online classes, 2% and 7% teachers of school and madrasa respectively do not have device facilities of their own to conduct online lessons. The study found that more than half of participated teachers (57%) solely depended on mobile data for online teaching. Only 8% teachers got a high speed data facility (broadband, Wi-Fi) to facilitate online classes for the students. However, 3% teachers had no internet connection for teaching learning activities.

Participated teachers imputed a variety of online platform names. Among them, approximately 48% of the participating teachers used Facebook platform (messenger) to conduct online classes. Other than Facebook, Zoom and 22% and 11% participating teachers took online classes through Zoom and Google Meet respectively. In addition, 18% teachers used multiple platforms for taking online classes.

Learning Assessment during COVID-19

The Directorate of Secondary and Higher Education (DSHE) issued a provision of written assignment activities for Class VI to Class IX students to assess students learning during the school closed due to Covid-19 across the country. The study found that along with providing online and other distance more lessons, the schools provided the students a number of assignments to keep

them in learning. Most of the teachers (97%) had assessed the students' learning progress during COVID-19 periods. Among them about 98% teachers assessed students through written assignments to evaluate students' learning growth. The data shows that around 82% students managed to complete all (51%) to most (31%) of the school provided assignments. Though most the students managed to complete the assignment, the study found that two major difficulties were reported by the students Firstly, about half of the students (42%) identified the submission of assignment to the school was the main challenge from them due to countrywide lockdown and restricted movement and 33% found the instructions of the assignment difficult to comprehend. As for both teachers and students, the assignment activities were comparatively new practice in terms of assessment process and students were often found difficulty to complete the task. On the other hand, teachers (83%) found challenges with overdue assignments. Besides, 64% teachers mentioned that students were copying assignments from peers or other sources.

Challenges of Distance learning during COVID-19

During the period of social distancing and longtime school closer to curve spread of the COVID-19 infection, distance mode learning was the only option open to reach the students. Among the other distance modes, online class was one of the popular distance-learning modes across the globe during this period. However, despite its popularity, many teachers and students suffered severe challenges.

Poor network and resources issues: Poor connectivity appears as the most challenging issue for online teaching learning. About 73% of students reported the weak and interrupted Network issue to keep them away to participate in the class. Alike student participants, a major portion of respondent teachers (79%) reported disrupted online services was the major issue of conducting online classes followed by inadequate device availability (65%) to take part in the online lessons. Besides, disruptive electricity, lack of satellite to watch *Sangsad* TV, indifferent parents were the prime issues to implement the educational efforts.

Lack of student motivation: Other than poor connectivity issues, teachers (70%) identified that students' lack of motivation to participate in the online classes impede them to continue online teaching learning activities. Teachers (13%) teachers also indicated that students' unwillingness of doing school provided assignments also hinder learning activities while students are staying at home.

Learning Crisis at secondary education -The study found that teachers perceived the pandemic has an adverse effect on secondary education. Approximately 20% teachers reported that this pandemic has led to the downfall of the quantity of students as well as the quality of education. Furthermore, 44% of them added that students have lost their motivation. Consequently, teachers indicated that students have involved in delinquency, child labor and child marriage. Besides, some students have grown up with screen addiction and gaming. Teachers (4%) informed that most students have been addicted to games on mobile like- *Pubg, Free Fire*. Despite all these setbacks, some teachers thought that students have instilled some important competencies, as in, operating online platforms and doing various assignments in this pandemic.

Poverty and lack of awareness

Community communicates with the Head Teacher and SMC from each school to check dropout because of the pandemic. Also, some online classes are arranged by the community with proper hygiene. The community motivates students to do assignments and buy electronic devices. Besides, they are managing smartphones as well. An interviewee said, '*We are visiting students' homes.*' Some students are out of school due to covid-19 pandemic. Community leaders identified many of these students passing lazy time. Some get involved in delinquency and child labor. They are motivating and counseling them as well as their parents to continue education. One of the participants regretted, '*Female students who are in grade 9 or 10 are getting married due to poverty.*' Some students get addicted to playing virtual games.

Teacher training

Teachers need training on facilitating virtual class. Both teachers and students lack skills to use devices. As the physical distance provision due to COVID-19 remains for prolonged time, immediate training may be needed for both teachers and students. In addition to training, adequate resource mobilization is needed including laptops, smartphones, modems as well as internet expenses for conducting online classes. Schools need their own generator for uninterrupted electricity.

Recommendations

The study generated eight major recommendations based on the findings of the study. The recommendations are discussed below

Blended teaching learning strategies: The teaching learning approach should be in a blended way (both offline and online). The findings showed that online classes were not suitable for all kinds

of students. With a blended approach, students will be able to be involved in education in their convenient way. So, there will be less chance to drop out and be detached from education.

Modification of curriculum: The current evaluation system in our education is only face-to-face examination. The learning content and evaluation system should be changed. There should be alternative and multiple ways so that teachers can evaluate their students in so many different ways.

Continue and empower the existing intervention: Bangladesh Television and Sangsad television need to broadcast classes more often. Private TV channels may take responsibility for broadcasting complementary lessons on different school subjects as well. Other popular alternatives such as Facebook and YouTube could be used to reach the students.

Resource mobilization- Adequate devices should be provided to students and teachers for free. A list can be created of who needs the most. To make the internet available, digital labs and broadband networks should be created in every school. The price of mobile data and broadband data facilities should be reduced to make it affordable for students and teachers.

Educational institutions need to be reopened to maintain hygiene, mask and social distance: As is evident from both qualitative and quantitative data, there is an increasing learning gap and existing distance mode learning unable to meet student's full learning needs across all the levels. It is suggested that students from each grade can attend school at least once a week to keep in touch with school. Students can be divided into groups and these groups may attend school every alternative day.

Essential trainings on distance teaching learning need be organized for teachers: Teaching on online classes is new for every teacher in secondary education. So, it is necessary for both the head of the educational institution and teachers to have training on online teaching methods so that they can be skilled and capable of taking online classes. The sufficient training program should be included in the teacher's training program to adapt with the situation which will also help in emergency situations in future.

Program development for need based financial support for students and teachers: Poverty is already a barrier to get an education in Bangladesh, the COVID-19 made it worse. Providing the condition of economic downfall of the family income, a special financial support provision needs to be issued for both teachers and students to support the cost for devices and internet facilities.

Ensure high speed internet connectivity to support online education across the country. The study found poor connectivity was a frequently mentioned challenge to carry the distance mode teaching learning. As both teachers and students were found to depend mostly on mobile data, it is recommended to make stronger mobile internet connectivity. However, infrastructure for broadband or other high speed internet facilities need to be developed as well.

Conclusion

COVID-19 generates a massive disruption in the educational process across the world. Over 165 countries had to close schools due to COVID-19 virus outbreak which affected nearly 1.5 billion students and 63 million school teachers (Global Partnership for Education, 2020). Despite the prompt government efforts to resume distance mode of education for secondary education right after school closing, the study found lack of devices, poor Internet connectivity, student motivation and teacher training appear to be the most significant barriers to keep the learning moving. This slowed down learning activities had several negative proliferation including learning loss (less study hours), dropping out of school, child labor and early marriage were the most visible. To respond to these multiple challenges, a comprehensive policy statement is necessary including pedagogical directions for education-in- emergency, direction for learning infrastructure support and need-based financial support. As the findings showed that same online lessons were not suitable for all students, a blended learning approach (both offline and online) needed to be introduced based on the local needs. Secondly, a special financial package is needed to be issued for both teachers and students to support the cost for devices and internet facilities. To make distance learning accessible and affordable, a special price of mobile and broadband data could be fixed for the students and teachers and broadband or other high speed internet facilities needed to be developed as well. With the development of learning facilities, bonding strong connections with parents and students is suggested. As the pandemic outbreak is being prolonged, along with an immediate response, a well-researched and well-planned policy and initiative is necessary to confront this challenge and move the secondary education forward.

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APPENDIX: TOOLS FOR DATA COLLECTION

Respondents	Tools
Teachers	Survey Questionnaire
Students	Survey Questionnaire
Head Teachers	Key Informant Interview (KII)
Secondary and Higher Education Division Officials	Key Informant Interview (KII)
School Management Committee (SMC)	Focus Group Discussion (FGD)
USEO	Key Informant Interview (KII)
Community Leader KII	



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