Case study

Challenges of eLearning in rural Bhutan: A case study at Kengkhar Middle Secondary School during the COVID-19 pandemic

Abstract

With the spread of COVID-19 pandemic across the world, countries are locked down and the borders are sealed. Similarly, the entire educational institutes in Bhutan remain closed until further notice from the MOE (Ministry of Education). However, problems arise as teaching-learning continues on online platforms, which is called eLearning.

This is a case study of Kengkhar Middle Secondary School. It attempts to examine various challenges of eLearning faced by the tutors, learners, and the parents and guardians of schoolchildren. This study has used primary data, which are collected from teachers, learners, and randomly selected parents using five tools *(Census, Student Survey, Online assignment, Questionnaire, and Interview).* It was found that around 90 percent of the students have access to essential tools of eLearning such as smart phones and internet facilities. Moreover, 87 percent of the respondents agree they receive supports from their parents and guardians for eLearning.

However, there are several challenges involved with the current practice of eLearning. Some of the major challenges include poor attendance of the students, limited digital skills, unfamiliarity of Google Classroom, and financial burden for the parents. Furthermore, this study discusses other key aspects of eLearning and implications suggested by the findings.

Keywords: eLearning; COVID-19 pandemic; Google Classroom; WeChat group; digital skill; online assessment; smartphones; internet facility; parental support.

Scopes

The case study primarily examines the prevailing challenges and opportunities of eLearning for Kengkhar MSS during the COVID-19 pandemic. This report will act as a situational analysis of the school thereby the teachers and staff adopts appropriate pedagogy, mode, and forum for eLearning. Similarly, it helps to identify pupils and areas of support for effective learning at home. Moreover, the study presents essential guidelines for emergency learning in future during similar situations, vacations, holidays, and other inconveniences that might inhibit normal classroom learning at the school.

Besides Kengkhar MSS, the schools in rural regions might share similar circumstances and challenges. Thus, the study provides some relevant insights about other schools in rural Bhutan vis-à-vis the structural challenges including infrastructure, parental support, learning environment, and instrument for eLearning.

Limitations

This study is based on the data gathered during the first month of eLearning. The government initiates various plans and programs to ensure smooth flow of eLearning during the pandemic. Moreover, parents and guardians endeavor to provide Smartphone to their children exclusively for eLearning. Therefore, the data used for the study are subject to change as the pandemic prolongs.

Essentially, this report is limited to identifying structural challenges in rural schools. It has disregarded other factors such as students' interest, content, nature of subject, and monitoring services provided by teachers, which are otherwise influential for fruitful learning. Thus, the findings are limited to rural schools alike Kengkhar MSS. Moreover, this study does not provide recommendations and practical measures for the challenges considering the school will conduct action researches based on this case study.

The study has used randomly selected samples thereby the entire students and parents could not be involved. Hence, the findings may not be as accurate as they are valid. Finally, this study is exclusively conducted for the eLearning at home during the COVID-19 pandemic. Therefore, the findings do not correspond to the normal teaching and learning at the school.

A. Background

The government decided to close the entire educational institutes throughout the nation on 18th March 2020 as a precautionary measure against the outbreak of COVID-19. However, Prime Minister Dr. Lotay Tshering declared teaching-learning should continue through various means including the national mainstream television Bhutan Broadcasting Service (BBS), and other online platforms (Zam, 2020). In particular, the Ministry of Education (MOE) initiated several programs to deliver lessons through online platforms. For instance, on 26th March 2020, the MOE launched 'Bhutan e-Learning' (Namgay, 2020) and published a 'Guidelines for Curriculum Implementation Plan for Education in Emergency (EiE)' (Ministry of Education, 2020). The guidelines prescribed means of teaching and assessment, roles of students, teachers, parents, and relevant stakeholders.

Similarly, thousands of teachers across the country came together and formed Volunteers Teachers of Bhutan (V-ToB) to engage the schoolchildren during an emergency (Dem & Chezom, 2020). The V-ToB recorded lessons and broadcasted on BBS (as per the schedule), posted on Facebook, and circulated on WeChat groups.

At the school level, teachers deliver lessons online by forming groups on social media such as WeChat and Messenger. The schools have also created an education email account for the students above seventh grade and the lessons are taught on Google Classrooms as alternative means. (Later, several schools have formed Google Classrooms for classes four and above).

Kengkhar Middle Secondary School (MSS) is located beneath Kengkhar gewog center, which is over seventy kilometers away from Mongar town. The gewog comprises 37 villages (grouped into six chiwogs) covering 155.49 square kilometers (Mongar Dzongkhag Administration, 2014). There are over 549 students (in the academic year 2020) coming from far-flung villages such as Romangla and Tongkangla which are tens of kilometer away from the school.

While the gewog and chiwogs are connected with motor road, electricity, and telecommunication facilities, many people do not have access to basic amenities. For instance, Munma lies over 10 kilometers beneath the gewog center and there is no mobile network. The farm road is accessible for larger vehicles but the road is prone to frequent landslides and roadblock. Moreover, there is no shop in the village and people have to travel for hours to visit the nearest shop.

In the past, Kengkhar was known for poverty and an acute shortage of water. For instance, Palden (2010) wrote to *Kuensel* "It is difficult being a student in Kengkhar. There is not much time for studies apart from regular classes, as students of the lower secondary school have to fetch water for two hours every day …" In 2007, Kengkhar was identified as one of the poorest gewogs in Bhutan with 62.9 percent of the population living below the poverty rate (NSB, 2007).

While the situations have improved over the years, accessibility to drinking water remains a major challenge for several households in the gewog. During the survey, Choden et al (2018) found that around 50% of the respondents have faced a shortage of drinking water in the past year.

The inhabitants practice non-farming economic activities that include craft and carpentry. In 2017, Tshering (2017) reported to the national news BBS about growing *palang* business in Kengkhar. In the subsequent year, Choden et al (2018) found that 33% of the respondents engage in woodcraft such as carpentry, painting, and other handicrafts. However, agriculture and farming remain the primary sources of livelihood in the village (Choden et al, 2018).

The location, availability of resources, accessibility to modern infrastructure, and the people's livelihood have a significant impact on children's eLearning. Therefore, the school has considered several factors and adopted suitable strategies for the students to deliver lessons on online platforms. Three major strategies include:

Strategy I: Google Classrooms

The Ministry of Education and Mongar Dzongkhag Education Department recommended Google Classroom as a convenient platform for teaching, assigning tasks, and discussion. The school created an education email account for students in grade seven and above and oriented on the use of Google Classroom before dispersing from the school. Later, the class teachers created a Google Classroom for each section and invited the students and subject teachers to the group. Currently, the entire teachers and students (seven and above) have joined their respective Google Classroom.

Strategy II: WeChat Groups

However, several students, as well as teachers, are not familiar with the Google Classroom. Moreover, the majority of the students do not possess smartphones that support Google Classroom. Thus, the lessons were also delivered in WeChat groups as an alternative means. While the senior students could use WeChat independently, the children in lower classes (pre-primary to six)

require constant guidance from their parents. Hence, the teachers of primary classes have formed WeChat groups with children's parents and guardians. The primary teachers work closely with the parents and guardians of children.

As mentioned above, the people in Kengkhar are mostly involved in agriculture and farming. As a result, a majority of the students are obliged to assist their parents with household chores and other errands. The normal periodic teaching was inconvenient for the parents and complicated for students. Therefore, there were merely two subjects allotted for each day as scheduled in table 1. The morning period extends from 7:00 am to 1:00 pm while the afternoon period extends to 8:00 pm from 2:00 pm.

Table 1: Timetable for Strategy I and Strategy II

Class	Day I		Day II		Day III		Day IV		Day V	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
X	Eng	Bio	Dzo	Che	Math	Geo	Phy	Hist	Math	Eco/AFS
IX	Dzo	Bio	Eng	Che	Phy	Hist	Math	Geo	Eco/AFS	Math
VIII	Eng	Geo	Dzo	Hist	Math	Sci	P2	Math		
VII	Dzo	Hist	Eng	Geo	Math	Sci	Math	P1		

Strategy III: Assignment

Strategy III is exclusively for the primary classes (from PP-III). The primary pupils do not have access to the eLearning. Instead, the children were being assigned a month-long assignment for each subject before departing from the school. The students are engaged with their assignments and the teachers provide supports and reinforcements through their parents and guardian.

However, as the pandemic prolongs beyond a month, the primary children use their parents' smartphones to partake in WeChat groups and communicate with the teachers. Presently, teachers assign them additional tasks daily.

C) Rationales

The location, people's living standards, availability of amenities and infrastructures, socioeconomic status, and strategies used by the teachers have a profound impact on the effectiveness of eLearning. Notwithstanding numerous initiatives undertaken by the government, education department, schools, and teachers, the COVID-19 pandemic poses grave challenges in teaching, learning, and assessment. The nature and degree of challenges imposed by the pandemic demand a comprehensive study.

This study aims to examine various challenges faced by the teachers, learners, and parents at Kengkhar MSS. Thereby, this report anticipates identifying challenges and providing practical measures to enhance the eLearning outcome during the COVID-19 pandemic and other similar emergencies in the future. While it might not be pertinent for the schools in urban Bhutan, the schools in rural regions might share similar circumstances and challenges. Moreover, the study will act as guidelines to engage students in productive activities during holidays and vacations and it presents an alternative mode of education during normal instructional days in the future.

D) Methods

This study has used primary data. The data were gathered using five tools: Census, Student Survey, Online assignment, Questionnaire, and Interview. Each tool was used for a definite purpose although they are interlinked and complementary. Ultimately, the entire tools are aligned with the rationales of the study.

Firstly, the student census was conducted to survey the accessibility and availability of tools for eLearning. The eLearning tools include mobile phones, the internet, and television (that has access to BBS). The school conducted the census for the entire sections from pre-primary to the tenth grade. The census form is attached in Annexure A.

The second research tool used was an online survey. The student survey was used to gather overall opinions from the students on eLearning. There were nine statements with five scales (Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree) as attached in Annexure B.

An online assignment is the third tool used for the study. The students were assigned to read a book and write a conclusive review. The students were permitted to review books they have read in the past. Subsequently, the students were instructed to submit their tasks on Google Classroom. The teacher provided clear instructions, rubrics for assessment, and guidelines via WeChat groups and Google Classrooms. The primary purpose of the assessment was to examine the efficiency of assessing the eLearning outcomes of the students. The instructions are attached in Annexure C.

The fourth tool was a questionnaire, which was based on the online assignment. The questionnaire was conducted to comprehend the implication suggested by the third tool. There were three questions, which the respondents completed through various means such as email, Messenger, WeChat, and phone calls. The questions are attached in Annexure D.

Finally, this study has used a structured interview. The interview was conducted for two different groups of population with a separate set of questions: a) Teacher and b) Parents. The main function of the interview is to identify various challenges faced by teachers and parents during eLearning. Moreover, interviews with the parents present opportunities to gather their opinions and suggestions regarding emergency education. The interview involved 21 teachers of the school and 52 participants on behalf of the parents. The participants from the parents were randomly selected. The questions for the interview are attached in Annexure E.

E) Data Collection and Interpretation

Student Census

eLearning requires smartphones, internet service, and other electronic devices such as laptop, desktop, and television. The census was conducted to survey the availability of at least three essential resources for eLearning: smartphones, the internet, and BBS television at home. Figure 1 presents the data gathered vis-à-vis the availability of smartphones for the students.

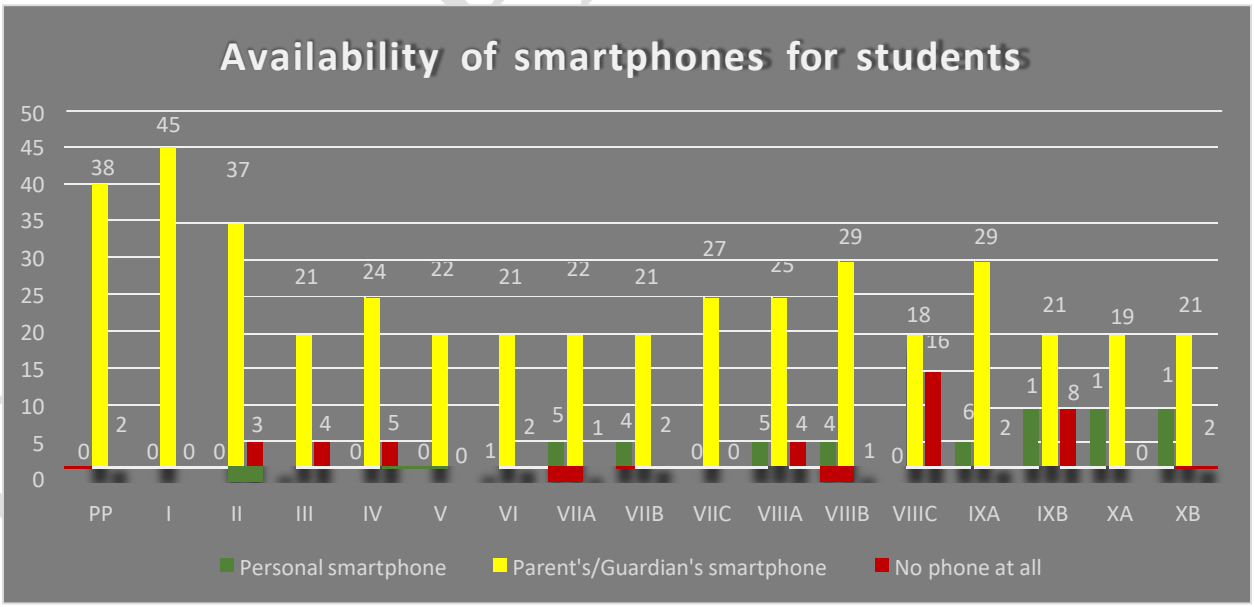

Figure 1: Availability of smartphones for the students of Kengkhar MSS for eLearning.

In figure 1, green-shaded bars enumerate students who possess smartphones while yellow-shaded bars represent students using smartphones of their parents and guardian. The red bars denote the students without access to smartphones (neither personal nor parents') at home. It appears the majority of the students use smartphones of their parents and guardian. Figure 2 shows the overall picture of the availability of smartphones during the census.

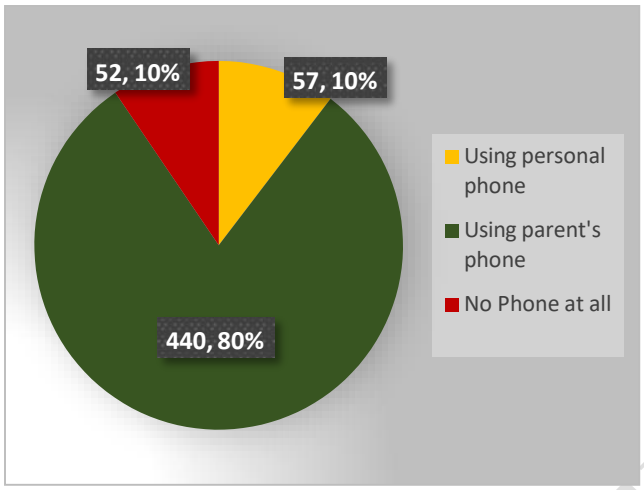

Figure 2: An overview of the availability of smartphone for the students of Kengkhar MSS

Figure 2 shows 440 (of 549) students use smartphones of their parents or guardian while 57 students possess a smartphone on their own. Still, there are 52 students without access to a smartphone by any means.

In other words, 90 percent of the students have access to a smartphone. It indicates the majority of the students have access to a smartphone through certain means. As far as the availability of the smartphone is concerned, only 10 percent of the students are disconnected from eLearning. Ceteris paribus, it indicates eLearning to be fruitful and productive. However, several other factors hinder the outcome of online learning. Figure 3 enumerates the students with and without access to the second essential factor, the internet facility.

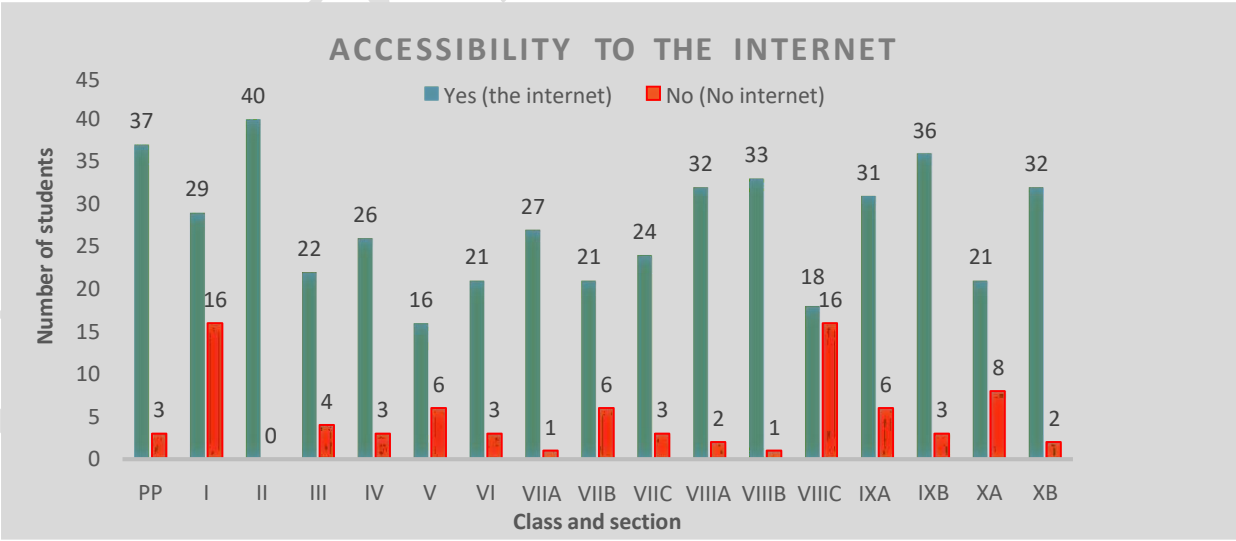

Figure 3: Accessibility to the internet for the students of Kengkhar MSS for eLearning.

For this study, the internet is referred to as Bhutan Telecom and the Tashi InfoComm network. Unlike in urban regions, communication network in certain villages is limited to phone calls whereby a person cannot browse on the internet. A student is considered to have access to the internet if he or she can browse the internet from home. (Note: It omits the availability of net package in the village).

In figure 3, green-shaded bars represent the students with access to the internet facility while the red-shaded denotes those students without access to the internet. It appears the majority of the students have access to the internet. Nonetheless, there are a considerable number of students residing in regions without access to the internet. Figure 4 shows an overview of accessibility to the internet for eLearning.

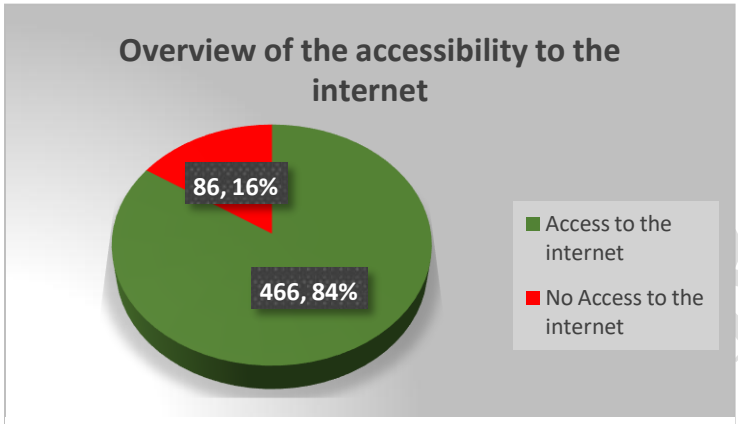

Figure 4: Overview of the accessibility to the internet for the students of Kengkhar MSS for eLearning

The overview presented in figure 4 shows 466 students have access to the internet at home. In other words, 84 percent of students of the students have access to the internet. On the contrary, it shows that 86 students (16 percent) do not have access to the internet.

Thus, the problem of internet facility appears more severe than the privation of smartphones.

Considering numerous issues of the students from various backgrounds, lessons are also delivered on BBS 2. Thus, this study has also examined the availability and connectivity of BBS television in the villages as presented in figure 5.

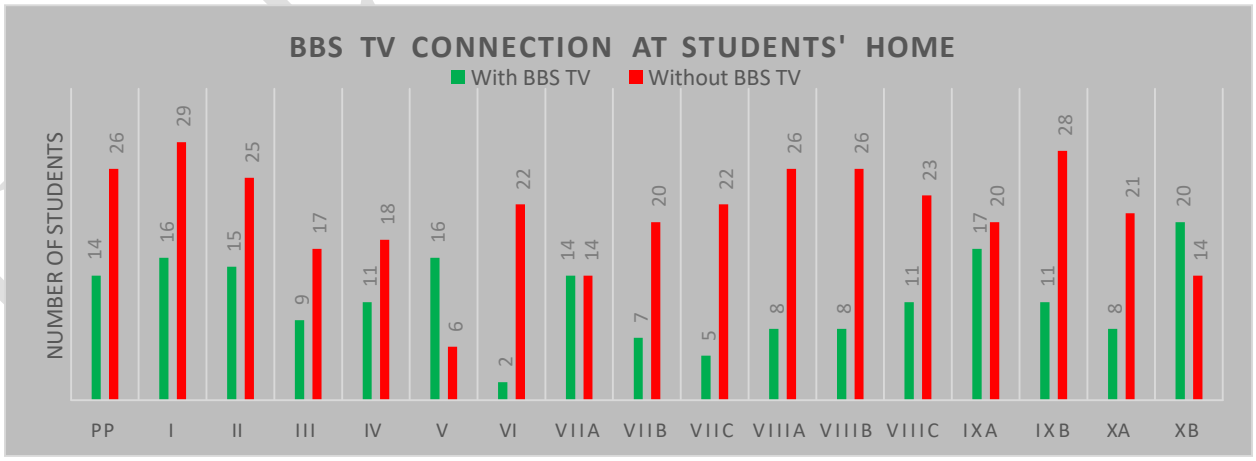

Figure 5: Number of students with and without BBS TV connection at home

In figure 5, green bars represent the number of students who have access to BBS television and red bars display the students without BBS TV at home. In the graph, the red bars are elevated compared to green-shaded bars. Thus, it signifies the majority of the students do not have BBS TV at home. Figure 6 shows the overall picture of the connectivity of BBS TV at students' homes.

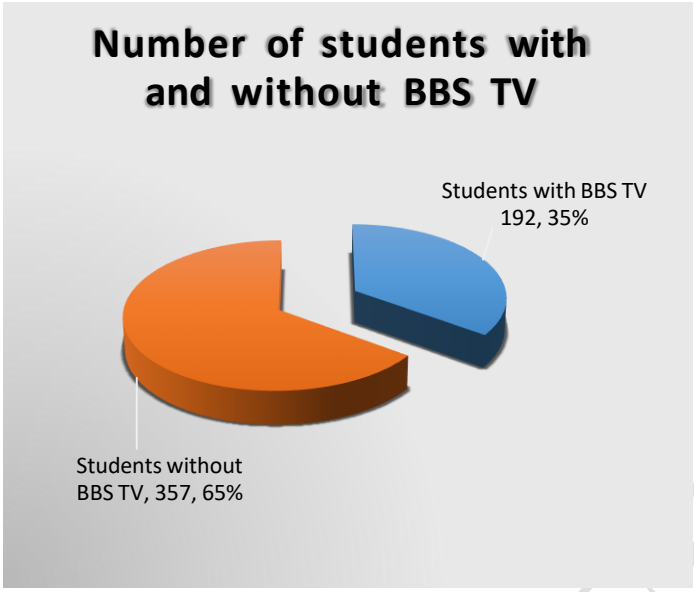

Figure 6: An Overview of BBS TV Connection at students' home for e-Learning

Figure 6 provides an overview of BBS television connectivity at students' homes. According to the pie chart, 65 percent of the students (357 out of 549) do not have BBS TV at home. In other words, only 35 percent of the students (192 out of 549) have access to BBS television at homes.

It appears that a greater number of students have access to WeChat groups and Google classroom than BBS television. The lessons broadcasted on BBS serve as an alternative but eLearning seems more plausible and effective through WeChat and Google Classroom for the students of Kengkhar MSS.

The student census on the availability and accessibility of resources for eLearning provides three major conclusions. First, the majority of the students have access to the basic resources and facilities for eLearning through certain means (for instance, using parent's smartphones). Still, there are a considerable number of students who are entirely disconnected. Secondly, considering the availability of resources, eLearning is more pragmatic through smartphones than BBS television. There are 357 students (out of 549) without BBS TV while there were merely 52 students without access to smartphones. Third, the eLearning requires paramount support from the parents and guardians. For instance, 80 percent of the students are using parent's smartphones.

Survey data and Interpretation

The survey was conducted for 288 randomly selected students from classes pre-primary till ten. The data were gathered through three basic means: a) emails for the senior students, b) phone calls for the primary children, and c) face to face interview with the nearby students. To minimize errors in the findings owing to misconceptions, the statements were translated and explained into local dialects for the participants from primary classes. This section presents survey data using tables,

bar graphs, and pie charts. Subsequently, data are interpreted using the descriptive method and the findings are analyzed, interlinked, and compared with the conclusions derived from the census.

The census report suggests the majority of the students have access to the basic resources and facilities for eLearning through certain means. According to figure 2, 90 percent of the students have access to smartphones (10 percent of the students own a personal phone while 80 percent of the students use smartphones of their parents). Similarly, figure 4 shows 84 percent of the students have an internet network connection at their home.

However, during the interview, many teachers reported poor attendance of the students as a major drawback of the eLearning. On 5th May 2020, subject teachers took a random attendance on WeChat groups to check the student's turnout rate for eLearning. Table 2 shows the result.

Table 2: Students' attendance on WeChat groups on 5th May 2020

Class	X (A, B)	IX (A, B)	VIII (A, B, C)	VII (A, B, C)	Total (no.)	Total (%)
Subject	Chemistry	Chemistry	History	English	-	-
Present	26	43	19	39	127	39.3%
Absent	37	33	83	43	196	60.7%
Total	63	76	102	82	323	

Table 2 shows that out of 323 students in classes seven and above, 127 students have attended online classes. In other words, around 40 percent of the students have attended eLearning on 5th May. On the other hand, 196 students have not attended the class. It suggests over 60 percent of the students from senior classes do not attend eLearning classes on an average.

Thus, the student survey attempts to identify other challenges besides resources and facilities. The first statement of the survey was *I prefer eLearning to classroom learning*. The primary purpose of the statement is to study students' interests and opinions toward the eLearning. The result is presented in table 3.

Table 3: Number of students who prefer or disapproves eLearning

Response	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Number of respondents	51	64	44	50	79
Total	**115 (39.9%)**		**44 (15.3%)**	**129 (44.8%)**	

According to table 3, 115 out of 288 respondents prefer eLearning to normal classroom teaching. However, 129 respondents disapprove of the statement. By a simple majority, it indicates the students prefer normal teaching-learning than eLearning. Essentially, 79 participants responded 'strongly disagree', which implies that students are less enthusiastic about the eLearning.

There could be various determining factors behind poor enthusiasm and attendance for eLearning. Among others, parental support is recognized as a principal factor for children's education. Moreover, one of the major findings from the census was the need for unprecedented support from the parents and guardians. Hence, the second statement of the survey, *I receive support from my parents/guardians/siblings for eLearning,* attempts to examine the supports and guidance from the parents, guardians, or siblings for their eLearning. Figure 7 presents the responses of the statement.

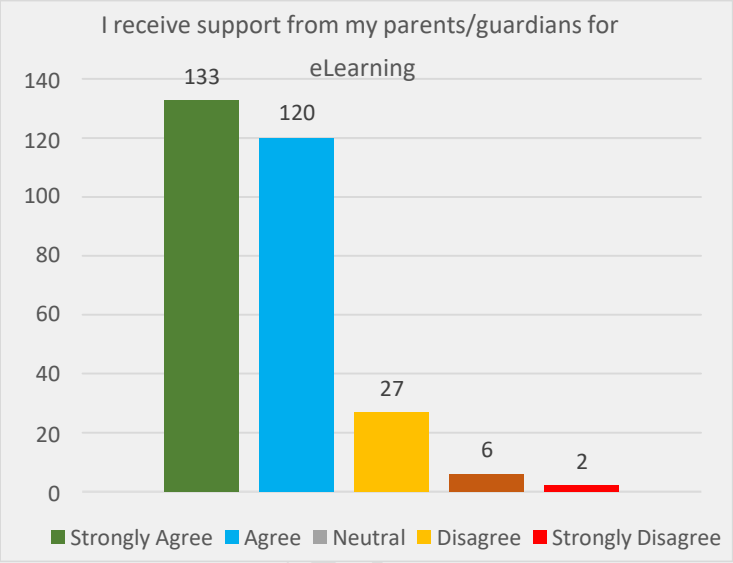

Figure 7: Students of Kengkhar MSS receive immense support from their parents for eLearning.

According to figure 7, the majority of the respondents receive supports from their parents or guardians. Of 288 participants, 133 respond strongly agree while 120 respondents agree with the statement. In other words, over 87 percent of the respondents agree they receive supports from their parents. Thus, it indicates parents support their children for eLearning.

However, support is different from guidance. While smartphones and the internet package are provided, students are oftentimes engaged in household chores. During the interview, some parents mention that children are left unattended since they are engaged in farming and other chores. Similarly, some teachers also mention in the interview about students seeking leave to assist their parents with electric fencing, performing rituals, and carrying luggage.

Therefore, the survey also attempts to examine the convenience of the eLearning hour and suitability of timetables for the students. Statement 3, *Timing for eLearning is suitable*, refers to the duration, interval, and instructional hours allotted for a day. (As mentioned above, the morning period extends from 9:00 am to 1:00 pm while the afternoon period extends from 2:00 pm till 8: pm). Statement 4, *Timetable for e-Learning is suitable*, refers to the subject timetable. (Please refer table 1 on page 3). The data for statements 3 and 4 are represented in figure 8 and figure 9

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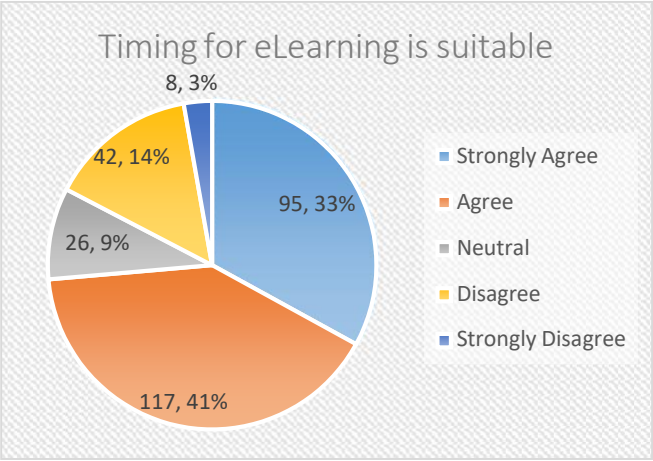


Figure 8: Suitability of the eLearning schedule developed by the school for the students.

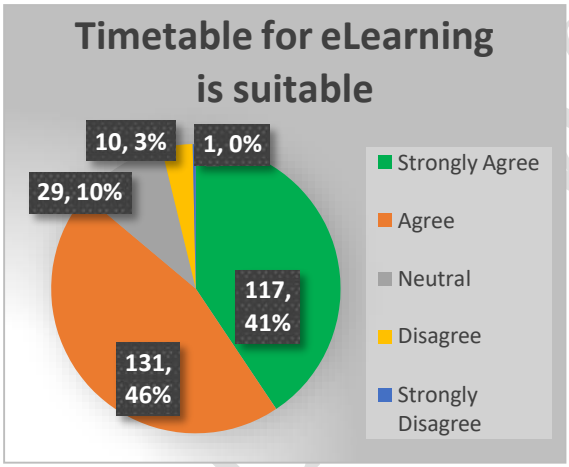


Figure 9: Suitability of eLearning timing developed by the school for the students.

As per figure 8, 95 respondents (33%) strongly agree that the online teaching hour is convenient while 117 participants (41%) agree with the statement. Nonetheless, 42 respondents do not agree with the statement and 3 respondents strongly disagree. It indicates the majority of the students are comfortable with the eLearning period but a considerable number of students seem not contented with the current time allocation.

Similarly, figure 9 shows that 87 percent of the respondents are comfortable with the subject schedule developed by the school. Remarkably, 41 percent of the respondents strongly agree that the timetable is suitable. There is only one participant who strongly disapproves of the timetable and ten respondents responded 'disagree'. According to figure 9, students are comfortable with the prevailing subject schedule.

In conclusion, the student survey suggests that students are comfortable with the allotment of time, duration, and timetable for eLearning developed by the school. Therefore, the time factor can be omitted from the hypothetical cause of poor attendance for eLearning. Another potential factor is the adequacy of digital knowledge and skill as discussed below.

The fifth statement, *I have enough IT knowledge for eLearning,* aims to gauge students' perceptions of the adequacy of IT digital knowledge and skills. Specifically, IT knowledge refers

to the ability to use smartphones and familiarity with eLearning platforms, which include the WeChat group and Google Classroom. The result is presented in figure 10.

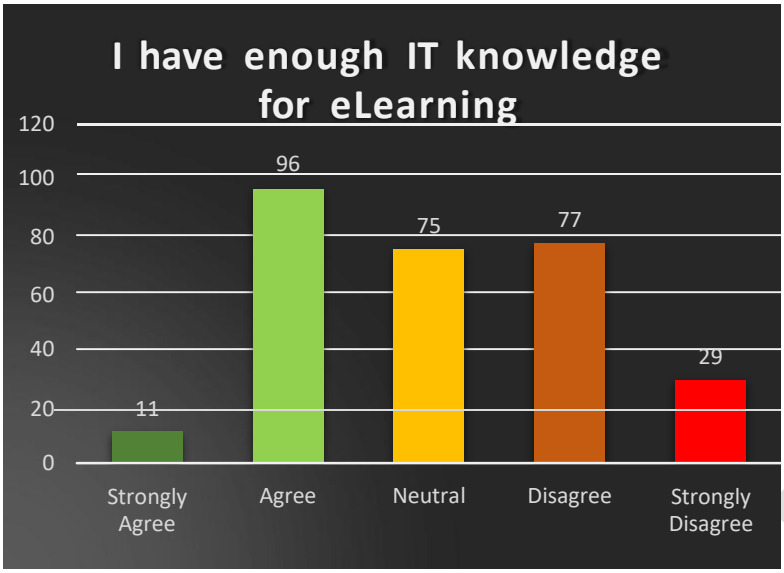


Figure 10: Student's opinion on their level of IT knowledge required for eLearning

Figure 10 shows that 11 participants feel they have adequate knowledge and skill to use smartphones and online platforms for eLearning. Similarly, 96 participants agree with the statement. But, 106 participants responded 'strongly disagree' and 'disagree'. Moreover, 75 respondents remain in neutral. Thus, it indicates that unlike in urban regions, a majority of the students in the school do not possess adequate knowledge and experience in using smartphones and social media.

Therefore, the inadequacy of digital knowledge and experience stands as a potential cause of poor attendance in eLearning platforms. This finding corresponds with a finding from Table 6 on page 15 under the section *E.3 Online Assignment*.

Online Assessment

The primary purpose of assigning online tasks was to examine the feasibility of assessing the learning outcomes of the students online. Students were allotted 7 days to complete the assignment. Table 4 shows the assignment turnout rate by the due date.

Table 4: Assignment turnout rate within the due date

Class	Total no. of student	No. of student submitted	% of student submitted	No. of student NOT submitted	% of students NOT submitted
X A	29	19	65.52	10	34.48
X B	34	26	76.47	8	23.53
IX A	41	28	68.29	13	31.71
IX B	35	20	57.14	15	42.86
Total	**139**	**95**	**66.91**	**46**	**33.09**

As per table 4, 95 students (out of 139) submitted their assignment while forty-six students have not submitted their assignments by the due date. In other words, only 66.91 percent of the students have submitted their assignment by the due date. Similarly, the assignment turnout rate is slightly greater for class ten compared to the ninth grade.

Questionnaire

Subsequently, a questionnaire was conducted based on the performance and turnout rate of the assignment. There were three questions each with multiple responses. However, unlike the assignment, the respondents for the questionnaire was randomly selected. While the online task was assigned to 139 students, only 113 students took part in the questionnaire. Table 5 shows the number of days taken for the students to obtain information and instructions about the assignment.

Table 5: Number of days taken for the students to know about the assignment.

No. of days Class	1st day	2nd day	3rd day	Later than 4 days	After the due date	Never	Total
X A	28	1	0	0	0	0	29
X B	21	2	8	1	0	0	32
IX A	24	4	0	2	0	0	30
IX B	20	0	1	0	0	1	22
Total	**93**	**7**	**9**	**3**	**0**	**1**	**113**

According to table 5, 93 participants (out of 113) have responded that they knew about the assignment on the first day of assigning the task. By the second day, 100 participants have obtained the information, and only one respondent reported that he or she has never heard about the assignment.

It indicates that the majority of the students obtain information about the assessments without further ado. While the question, instructions, and other information were circulated on WeChat groups and posted on Google Classrooms, numerous students are inactive on online platforms. Moreover, some students do not have smartphones and internet facilities in their homes. Thus, the second question was essentially designed to identify the effective means of circulating information. Figure 11 shows various means of acquiring information about the assignment.

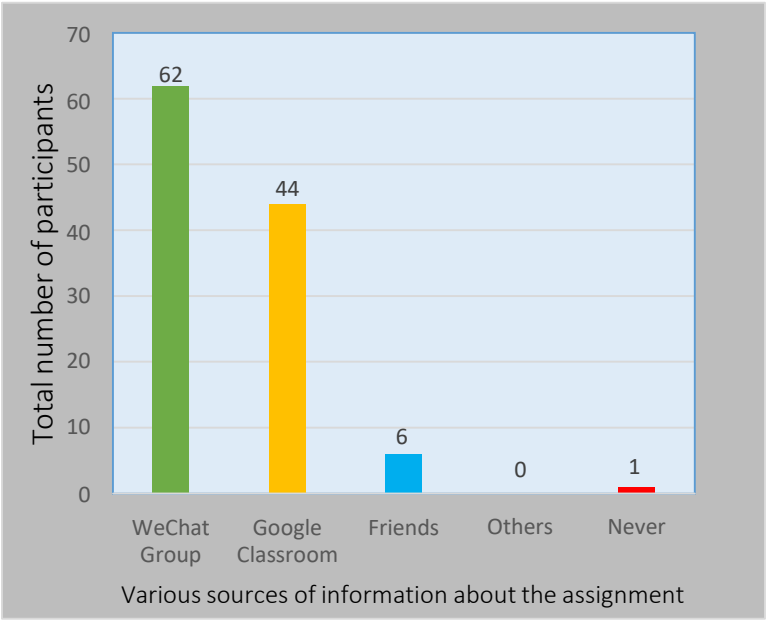


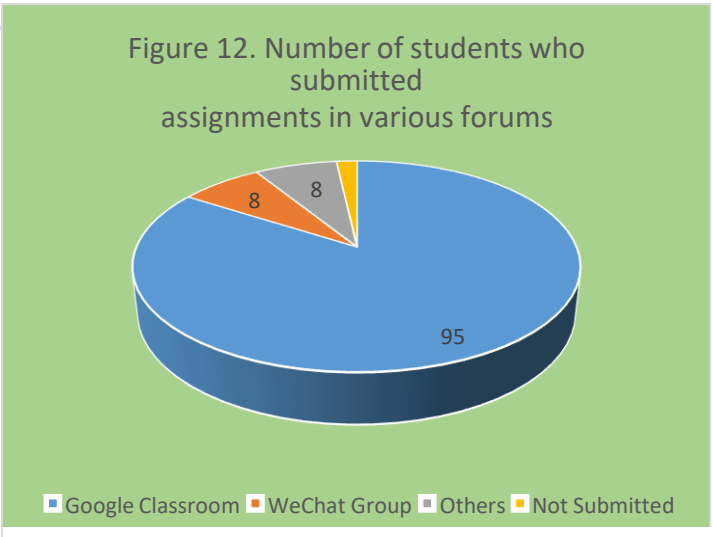
Figure 11: Various sources of information for students.

Figure 11 shows 62 participants have obtained the information from WeChat groups and 44 participants from the Google Classroom. The graph also shows that 6 respondents were informed by their friends. One of the respondents has not heard about the assignment.

Thus, figure 11 suggests that WeChat is the most effective means of circulating information to the students followed by Google Classroom. Similarly, it shows that students share information.

As suggested by the survey result, another pertinent challenge for the students is limited knowledge and experience with smartphones and eLearning platforms. Figure 12 enumerates students who have submitted their assignments on various forums. (Note that the students who submitted late are also included in the list. The primary motive is to identify the convenient means to submit online assignments).

Figure 12 shows that 95 (out of 113) participants have submitted their online assignment on Google Classroom. Eight respondents have submitted their work on the WeChat group while the 8 participants have submitted on other forums such as Messenger. Two participants have not submitted their assignments. According to the pie chart, the majority of the students have submitted their assignment on Google Classroom, which is new and complicated for the students compared to WeChat.



Therefore, figure 12 shows the senior students are familiar with Google Classroom. However, upon further research, it was found that numerous students have not submitted their assignment under the right platform on Google Classroom as presented in Table 6.

Table 6: Number of students who submitted their assignment on various online platforms

Forum	Google Classroom		WeChat Group	Not submitted	Others	Total
	Right platform	Randomly posted				
Total	43	52	8	8	2	113
	95					

Table 6 shows that of 95 students who submitted their assignments on Google Classroom, merely 43 students have submitted in the proper platform. The majority (52 students) have posted their assignments on a random forum on Google Classroom. It indicates the students are not versed with Google Classroom. Moreover, the survey result also indicated the mainstream students prefer the WeChat group to Google Classroom as presented in Figure 13.

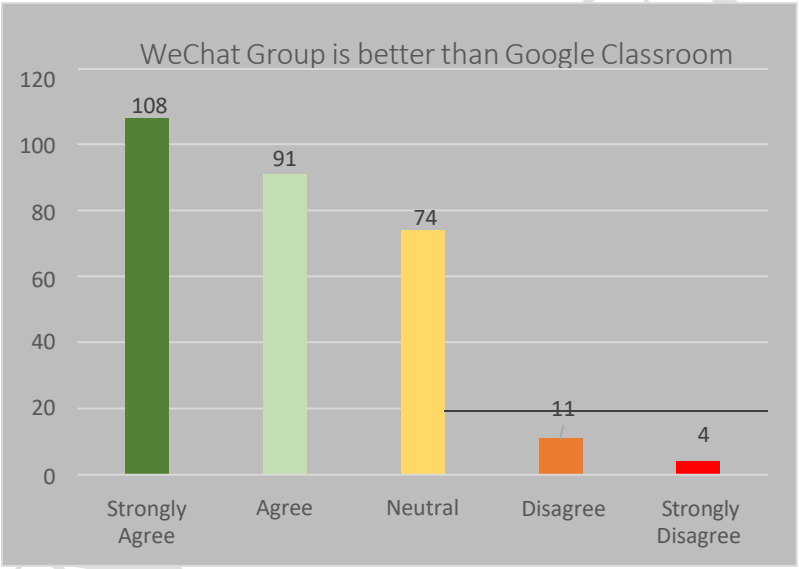


Figure 13: Students prefer WeChat to Google Classroom

Figure 13 shows 108 participants 'strongly agree' and 91 students 'agree' that they prefer WeChat to Google Classroom. In total, 199 students have responded WeChat is better than Google Classroom for eLearning. Excluding 74 respondents who remain neutral, the number of respondents who disagree (and strongly disagree) is negligible.

Therefore, it indicates WeChat is better than Google Classroom for the majority of the students. It is consistent with the findings from Figure 11 and complementary to Figure 10, which suggests students do not have adequate digital knowledge and experience for eLearning. (Note: During the interview, teachers also stated WeChat is better than Google Classroom to deliver lessons, disseminate information, and provide guidance).

To surmise the findings from the students, the students are well-equipped with eLearning materials but over half of the students do not partake in eLearning. The survey, online assignment, and questionnaire show the majority of the students receive support from their parents and guardians for eLearning. Moreover, it suggests students are comfortable with the eLearning period and timetable developed by the school. However, it appears inadequate digital knowledge and unfamiliarity of eLearning platforms undermine the outcome of eLearning.

Interview with Parents

As suggested by the student census and survey, eLearning demands unprecedented supports from parents and guardians. For instance, parents have to provide smartphones, net packages, and BBS television for their children's learning. Besides materialistic supports, parents and guardians are obliged to guide and monitor their children daily. Therefore, an interview was conducted to gather opinions and suggestions from parents and guardians.

The participants for the interview (that involved 52 parents) were randomly selected from different chiwogs. Since the participants are illiterate, a written interview was not feasible and the questions were translated into a local dialect. Subsequently, the responses were transcribed and translated into English. This study uses thematic analysis to evaluate the responses of the interview. The major findings from the interview are discussed below.

Firstly, the majority of the respondents do not have a clear understanding of eLearning. Some parents dub eLearning for learning through WeChat while others limit to education through smartphones. It shows parents are not able to provide proper guidance and supports.

Second, parents and guardians face a financial burden as their children compel them to purchase a smartphone and net packages. For instance, a participant from Tongla had to purchase two smartphones for his daughter and son by selling an altar. Similarly, other participants said they spend around Nu. 200 weekly on an average for the net package alone. Parents with multiple children stated indicated financial burden as the primary challenge.

The third prominent challenge reported during the interview was time management. It is pertinent principally for the parents and guardians of the primary children who require constant guidance and monitoring. Several participants stated they have to compromise their household chores, errands, and other farming works for their children's learning. Many parents are skeptical about their children's enthusiasm toward eLearning. Parents are also skeptical about wasting time on YouTube videos and social media.

Finally, several participants expressed their concern about the quality of eLearning, disciplinary problems owing to social media, and misusing smartphones. Children were often spotted chatting, playing games, and watching playing music and videos.

Interview with Teachers

Children's education ultimately depends on the teachers and emergency education has imposed numerous challenges for the teachers. While the teachers are lifted from the normal teaching-learning practices, eLearning has yielded entirely different sets of problems. Thus, a written interview was conducted for the teachers to identify issues and gather their insights and suggestions. 21 teachers (out of 25) took part in the written interview. The responses were coded and analyzed through thematic analysis approach. The major findings of the interview are discussed below.

First, teachers use various online platforms including WeChat, Google Classroom, and Messenger. Several teachers stated that teaching is not limited to a single platform to provide options for students. However, the majority of the teachers believe WeChat groups to be the most convenient and effective means of online teaching and assessment. It suggests teachers are also not familiar with Google Classroom.

Secondly, several teachers have stated that poor attendance of the students on online platforms as a major concern. Poor attendance leads to several other challenges. "Since many students do not have smartphones and internet service, it seems unfair for them to assign tasks and award marks," remarked one of the teachers in the interview. Similarly, several teachers stated they feel uncomfortable to proceed with online teaching since over half of the students are "left out".

Additionally, some teachers mentioned the 'language barrier' as another challenge especially for the primary children (Pre-primary to class three). Normally, English is used as a medium of instructions except for Dzongkha. However, online teaching for the primary classes mandates teachers to provide instructions in their local dialect since their lessons are routed through their parents and guardian. Moreover, pupils are unable to understand the lessons and instructions unless explained in their local dialect.

Similarly, many subject teachers said online teaching is ineffective and inconvenient. Subjects such as Chemistry, Physics, Economics, and Biology involve technical terms and requires practical works. Besides, Mathematics involves symbols and figures which cannot be decoded in some smartphones. Thus, the majority of the teachers are skeptical about the efficacy of the eLearning.

F) Discussion

This study is based on the primary data gathered during the first month of eLearning. The data and information are subject to change especially about the availability of smartphones. Moreover, students might be able to enhance their digital knowledge and experience as the pandemic prolongs. Furthermore, the government takes various initiatives to support students from a poor background. For instance, the Ministry of Education has distributed Self-Instructional Materials (SIM) for the students without smartphone and BBS television while this study was undergoing data interpretation.

However, the majority of the data and information such as internet connectivity, BBS TV connection, and people's livelihood will remain valid. Rather, as the pandemic prolongs, students might lose interest in eLearning, and supports from their parents and guardians might deteriorate over time.

Nevertheless, having identified various challenges for students, this study will serve as a situational analysis for action researches. Indeed, this study calls for numerous action researches. Some of the subject areas include enhancing students' attendance on online platforms, improving eLearning outcomes, designing effective ways to assess students' eLearning outcomes, developing the efficiency of Google Classroom, and ensuring active participation of the students on eLearning platforms. Similarly, opinions gathered from the parents and teachers will provide better insights from the grassroots that might benefit the education ministry, planners, and policymakers in designing the programs to enhance eLearning outcomes.

G) References

Choden, K., Wangchuk, J., Yoezer, D., Wangdi, N., Wangchuk, S. and Tenzin, K. (2018). Climate Change Vulnerability Assessment in Kurichhu Watershed: A case of Gangzur and Kengkhar, Bhutan. *UWICER Press*: Lamai Goempa, Bumthang.

Ministry of Education. (2020). Guidelines for Curriculum Implementation Plan for Education in Emergency (EiE). Thimphu, Bhutan.

Mongar Dzongkhag Administration. (2014). *Kengkhar*. Retrieved from http://www.mongar.gov.bt/kengkhar

Namgay, T. (2020, March 27). e-Learning begins today. *Bhutan Broadcasting Service*. Retrieved from https://kuenselonline.com/e-learning-begins-today/

National Statistics Bureau (NSB). (2007). Poverty Rate 2007 (Mongar). Retrieved from http://www.nsb.gov.bt/map/thematic/g_details.php?id=7&cat=1

Palden, T. (2010). Mongar: Kengkhar's acute water shortage. *Kuensel*. Retrieved from https://www.raonline.ch/pages/bt/ecdu/bt_water0101.html

Tshering, S. (2017). Khengkhar's Palang business grows. *BBS*. Retrieved from http://www.bbs.bt/news/?p=81747

Zam, T. (2020, March 18). Schools and educational institutes closed as precautionary measures. Bhutan Broadcasting Service. Retrieved from http://www.bbs.bt/news/?p=129835

Annexure A: Students' census form used for gathering information about the availability of resources for e-Learning

Sl. No	Name	Class	Village	Chiwog	Gewog	Dzongkhag	Personal smartphone	Parents' smartphone	Internet connection	BBS TV

Annexure B: Survey for Students

Rating scale→ Statement ↓	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer E-Learning to Classroom Learning					
I receive support from my parents/guardian/siblings for E-Learning					
The timing for E-Learning is suitable					
The timetable for E-Learning is suitable					
I am happy with the workload assigned					
I have enough IT knowledge for E-Learning					
The lessons taught online are important for me					
WeChat group is better than Google Classroom					
I am satisfied with E-Learning					

Annexure C: Instructions for Online Assignment

Instructions for Book Review:

a) Write a short book review including:

i) Title of the book
ii) Author
iii) Characters
iv) A summary of the book
v) Lessons learned from the book

b) Your assignment will be graded out of 10 using the rubrics attached (rubric was posted on Google Classroom)

c) Due date: 13th April 2020 (from 6th April to 13th April 2020)

Annexure C: Questions for the questionnaire

Name: ……. Class …….. Section ……

Q.1) When did you know about the assignment?

On day 1	On the 2nd day	On the 3rd day	Later than 4 days	After due date (7 days)	Never

Q.2) From where did you know about the assignment?

WeChat group	Google Classroom	Messenger	Friends	Never	Others (please specify)

Q.3) Where did you submit your assignment?

Right place (Google Classroom)	WeChat group	Others (specify)	Not Submitted

Annexure D: Interview Questions for Teachers and Parents

Interview questions for teachers

1. Which mode do you think is the most effective/convenient for online teaching?
2. How do you take attendance for online classes?
3. Do you think online teaching is effective for the students?
4. How do you assign a project/homework/assignment to the student?
5. How do you assess the work of the students?
6. Are you comfortable with the timetable for online teaching? Please comment
7. Do you have any other comments regarding online teaching?

Interview Question for Parents

1) What is your understanding of E-Learning?
2) Could you please share some major challenges you face during e-learning?
3) Would you recommend e-Learning for your children?
4) How can you support your children for effective e-Learning?
5) Do you have any other comments on e-Learning?