

**Assessment of reach, engagement, and effectiveness of
interventions for continuity of learning during school closures
as result of COVID-19**

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1. Introduction

After the first COVID-19 case in Bhutan on March 5, 2020, all education institutions in the country were closed indefinitely with effect from March 18, 2020. In collaboration with the Royal Education Council and the Bhutan Council for School Examinations and Assessment, the Ministry of Education has created several modalities to ensuring learning continuity. One such modality is the eLearning program that is broadcasted on different media (radio, television) and online (YouTube, Google Classrooms) by the Bhutan Broadcasting Service (BBS). These 30-minute recordings are created for each key stage (1-5) and broadcasted per a planned schedule. Teachers are expected to supplement communication with their students through additional channels such as WhatsApp, WeChat, and SMS. Video lessons are designed to include competency-based tasks, which students are required to complete and submit to their teachers through the channels mentioned above. To better understand students', parents', and teachers' experiences of the first phase of the eLearning program, the MoE conducted an online survey. This report analyzes and presents results from that survey.

The report briefly outlines the methodology for data collection and analysis and details the sample. It is important to note that as with any survey instrument, the data here are based on self-reports and are therefore subject to respondent bias. Moreover, the survey was not designed to provide representative estimates or to proportionately target participants by age, gender, location. Therefore, we were unable to use sample weights to adjust for the differences in participants' location, gender, age or grade. Moreover, since data were collected through an online survey, the survey could not reach a significant portion of the population that is not connected to Internet, in particular those in rural areas and from the poorest households. Only an estimated 59% of the population is online in 2020¹, and the rate is expected to be much lower for those in the poorest wealth quintiles. These limitations need to be kept in mind when reading through this report, and any subsequent changes in policy and program design and targeting must account for these significant gaps in the sample. The analysis presented here therefore needs to be considered as a first glimpse and non-representative snapshot into the eLearning program.

Data are first reported for the entire sample and then disaggregated by participant type (student, parents, and teachers). The report concludes with some brief recommendations.

2. Methodology

The survey was created on Google Forms and distributed online through the Ministry of Education's networks. There were seven questions that all participants had to respond to, after which questions were tailored based on whether participants were students, teachers, or parents. Some of the common questions all participants responded to on a 5-point Likert scale included participants' rating of the delivery of the presentation, its content and duration, and if they believed the program was helpful. Select examples of other questions that were customized included participants' communication with teachers, support for learning from parents, and their ability to

¹ <https://datareportal.com/reports/digital-2020-bhutan> , estimated from various sources; in 2017, it was 48% according to data from the International Telecommunication Union (<https://data.worldbank.org/indicator/IT.NET.USER.ZS>)

supplement the BBS lessons through different platforms. Participants were also asked three open-ended questions at the end, where they could provide general feedback on the program, interactions with teachers, and their access to technology. The survey was designed to be deliberately quick and easy for participants to respond to, given the many constraints on their time created as a consequence of the COVID-19 related lockdowns. Some demographic variables include students' class and the district participants were living in. However, given the data collection strategy responses cannot be weighted by these demographics. To encourage a greater response rate and to protect participants' confidentiality, no identifying information of any form, including e-mails, were collected.

Data were analyzed using Microsoft Excel. For preliminary analysis, STATA, a software for analyzing quantitative data was used. In most instances, the analysis in this report includes participants' responses for different questions. Since these are self-reports, they are subject to the usual biases in survey responses. Not all participants responded to the open-ended questions and given the time constraints, the qualitative data have not been systematically organized. In their written feedback, most participants were appreciative of the program. However, participants' quotes that provided valuable insights about their challenges or suggestions for improving the program have been selected and included. This is not to suggest that the program is not useful. This feedback is shared in the hopes that the program can be further strengthened to meet diverse learning goals and needs.

2.1 Sample

A total of 13,340 participants responded to the online survey. Participants were not randomly provided the survey and participants self-selected, such that individuals with the strongest positive or negative views of the program might have decided to take the survey. Therefore, the results are not meant to be nationally representative. Figure 2.1.1 shows that nearly 50% of the individuals who participants were students, followed by parents (34%) and teachers (15%). 1% identified as 'other', and it is unclear who is represented by this category. While presented in the figure below, this category is not included in subsequent analysis.

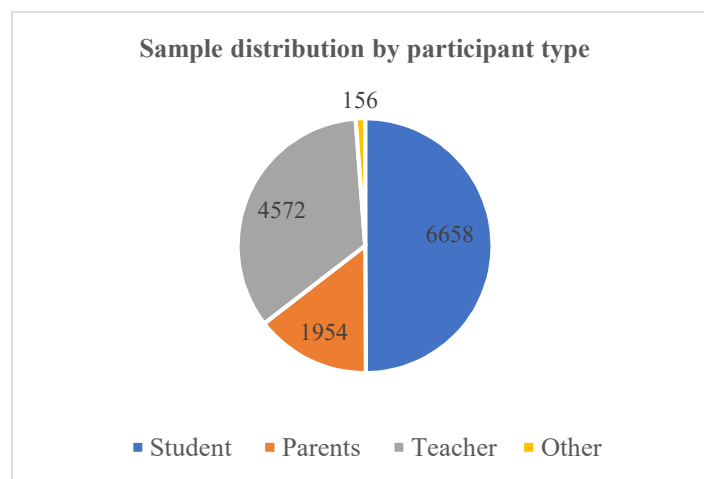


Figure 2.1.1: Sample distribution by participant type

Participants also shared the district they were reporting from. The number of participants (students, teachers, parents, other) by Bhutan’s 20 districts or Dzongkhags, is shown in Table 2.1.1. The largest proportion of participants were from Thimphu (42%), followed by Wangdue (14%). Under 1% of the participants came from Gasa and Tsirang.

Table 2.1.1: Sample distribution by participant type and district

District names	Student	Teacher	Parent	Other	Total
Bumthang	345	54	184	10	593
Chhukha	127	95	83	10	315
Dagana	76	49	30	1	156
Gasa	14	56	10	3	83
Haa	294	107	141	4	546
Lhuentse	62	72	29	1	164
Mongar	50	17	44	5	116
Paro	564	54	279	8	905
Pema Gatshel	84	20	34	4	142
Punakha	88	43	47	7	185
SJ	51	16	105	4	176
Samtse	157	151	144	10	462
Sarpang	196	56	51	3	306
Thimphu	2,581	433	2,538	39	5,591
Trashigang	127	216	89	22	454
Trashi Yangtse	247	110	47	6	410
Trongsa	478	138	45	2	663
Tsirang	10	6	13	2	31
Wangdue	1,085	177	637	9	1,908
Zhemgang	22	84	22	6	134
TOTAL	6,658	1,954	4,572	156	13,340

Finally, for the student sample (n=6,658), we see in figure 2.1.2 that there were more students from older classes (key stages 4 and 5) who participated in the survey. Given that participants in key stage 1 include students between pre-primary and grade 3, it is likely that their parents took the survey on their behalf.

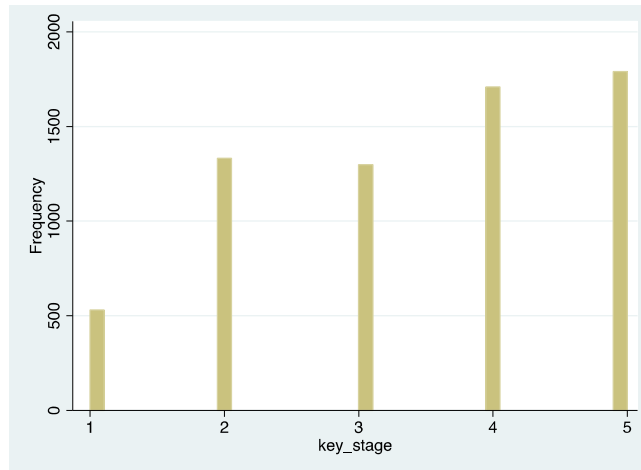


Figure 2.1.2: Student sample by key stage

1. All participants' perceptions of the program

Participants were asked to rate the content of the lessons delivered through the eLearning program. As shown in figure 3.1, 42% of students and 46% of parents rated the content as 'very good' or 'excellent'. The corresponding figure for teachers was 62%. Only 5% of the teachers believed the content to be 'fair.'

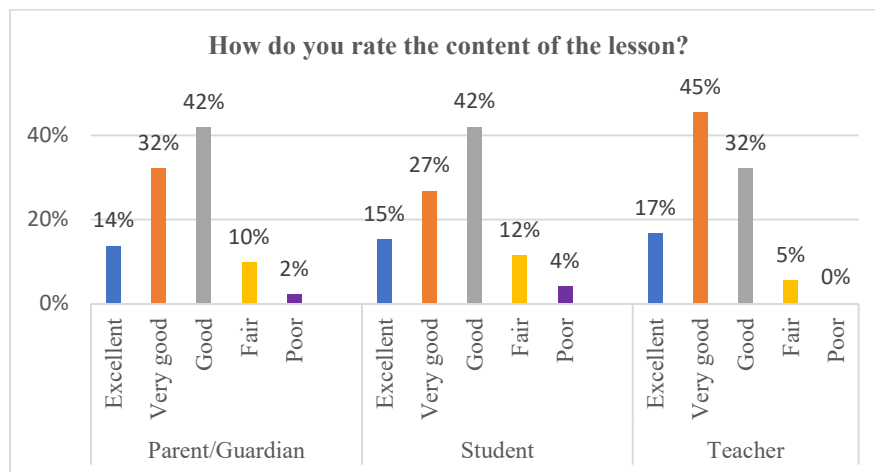


Figure 3.1: Participants' views on lesson content

Similarly, participants were asked to rate the overall delivery of the program. Overall delivery refers to the fluency, age appropriateness of vocabulary, and the presentation of the program. In figure 3.2, below, we see that across the sample, participants highly rated the delivery of the program. 89% of students and 93% of parents found the delivery to be 'good', 'very good' or 'excellent.' The corresponding figure for teachers was 96%.

As with the rating of lesson content, teachers were more likely to rate the delivery as very good or excellent: 68% of teachers rated the delivery as very good or excellent, compared to 54% of parents/guardians and 48% of students. These high ratings among the teachers are likely due to

desirability bias, where teachers knew that this was a survey administered by the Ministry of Education and therefore wanted to be viewed in a positive light.

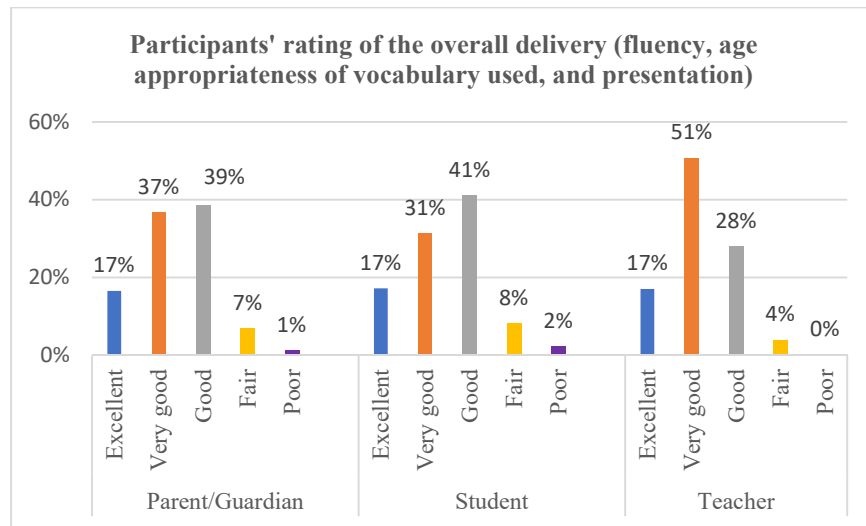


Figure 3.2: Participants' views on lesson delivery

Participants were also asked to rate the duration of the lessons delivered through the program. As shown in figure 3.3, the vast majority of the participants rated the program duration as 'adequate' (62% of parents, 57% of parents, and 76% of teachers). However, it is useful to note that 28% of the parents in the sample found the duration of the lessons to be short or too short, and only 10% long or too long. Similarly, more teachers indicated the duration of the lessons was too short. For students, the distribution is more even between those preferring shorter lessons compared to those preferring longer lessons. Further analysis reveals that 75% of the students who found the lessons long or very long were in key stages 2, 3 and 4.

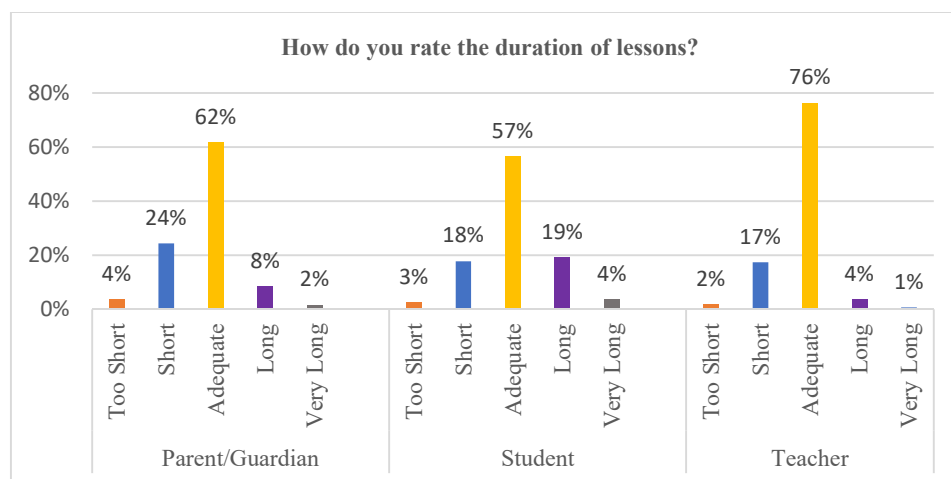


Figure 3.3: Participants' views on lesson duration

2. Students' perceptions of the program

Table 4.1 indicates the proportion of students, by key stage, who strongly agreed or agreed for each of the following statements:

Table 4.1: Proportion of students who agreed or strongly agreed

	Lessons are helpful	Parents are supportive of the eLearning program	I learn better due to the usage of sounds, animations and examples.	Subject teachers supplement BBS lessons through different platforms
Key Stage 1	83%	94%	84%	94%
Key Stage 2	88%	94%	86%	95%
Key Stage 3	85%	93%	84%	91%
Key Stage 4	79%	93%	79%	91%
Key Stage 5	65%	87%	74%	84%

Students in key stages 4 and 5 found eLearning less helpful (79% and 65% respectively) and were less likely to agree that the e-lessons helped them learn better due to use of sounds, animations, and examples, compared to students in lower classes. Across key stages, students agreed that their subject teachers supplemented these lessons through different platforms, but these percentages fell across key stages. 68% of students used social media to interact with their teachers and 29% used Google classroom. At least 87% agreed or strongly agreed that their parents were supportive of the eLearning program. However, as shown in figure 4.1, older students were less likely to agree that the assignments given by the teachers were aligned with the eLearning lessons through BBS.

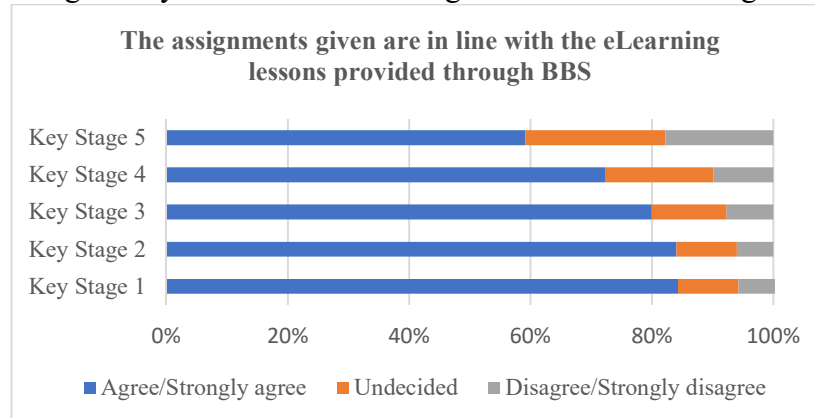


Figure 4.1: Students' views on assignments

Students differed in their opinions when comparing communicating with their teachers online versus doing so in the classroom. These differences are visible in figure 4.2, when examining students' perceptions across different districts.

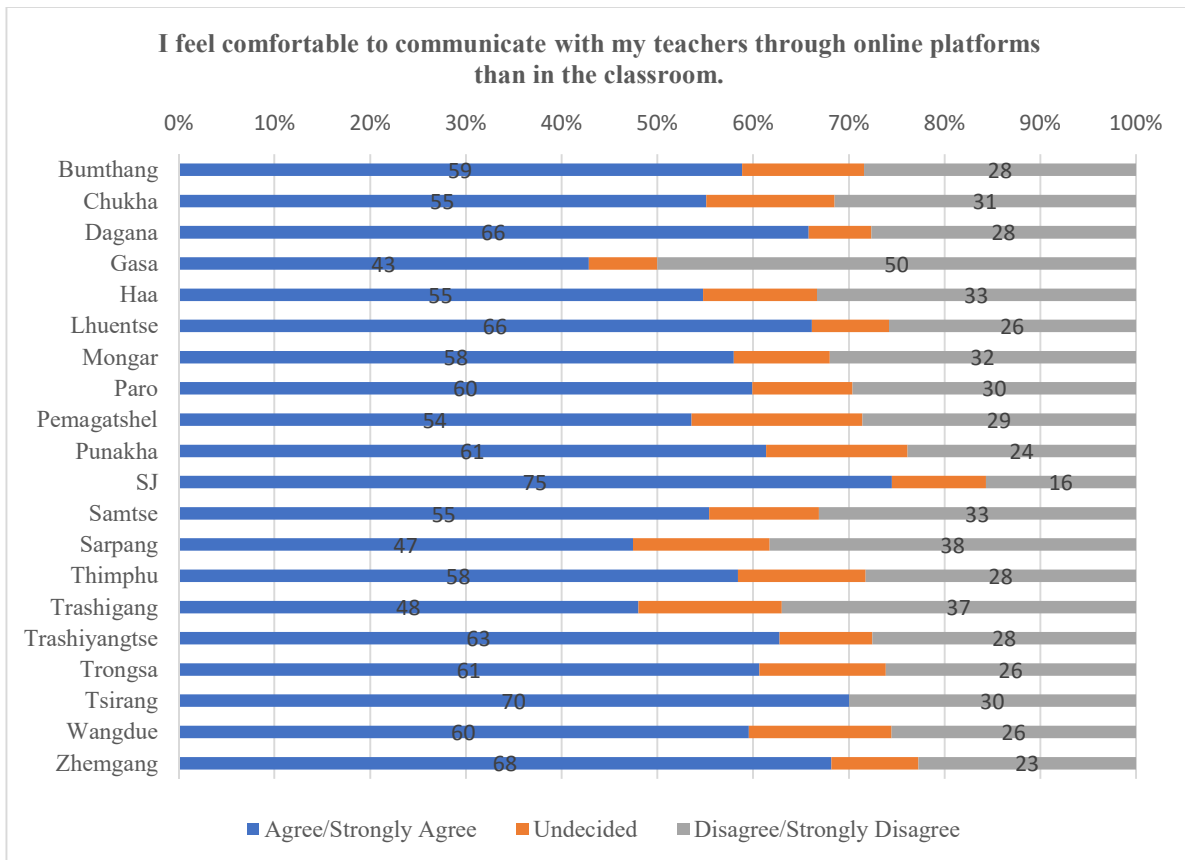


Figure 4.2: Students' views on communication with their teachers, disaggregated by district

For instance, in Haa, 33.33% of the students disagreed or strongly disagreed that they felt comfortable communicating with their teachers through online platforms compared to in the classroom. Nearly 60% of all students who took this survey in Haa were older students and from key stages IV and V, which might explain why one third of the students from Haa felt this way. In general, though, the majority of students indicated that they agreed or strongly agreed that they are comfortable communicating with teachers through online surveys compared to the classroom. In future surveys, it may be useful to distinguish whether they feel comfortable communicating through the online platform in general (without the comparison with classroom communication).

Students were asked to share their feedback on access to technology, support from subject teachers and general feedback on the program. Some excerpts of students' responses are included below:

“Everything [is] perfect. I take reference of previous lessons from elibrary, which is helpful. But sometimes sound distortion in lessons and power supply interruption to television in the middle of lessons leave us helpless.” – Grade 8 student

“All the presenter and the presentation are great but due to short time presenters have to rush on presenting and it's little hard to catch.” – Grade 9 student

“Most teachers are using hard language, that's why we don't understand anything. It is good to use simple language then we can understand” – Grade 4 student

“From teachers they have full support to us. From parents they don't have full support and they doubt whether we use internet fruitfully or not.” – Grade 9 student

“There is not a lot of support from my teachers as all they do is provide questions and not even supplement on what's taught on TV. My parents agree with me that there is no need to show e-learning on BBS as they only waste the time of children and some students have no access to it whereby it's unfair and doesn't promote the vision of "One nation, One people".” – Grade 12 student

“Ove all presentation and presenters are good, but lesson content is fair only as mostly the content is of higher classes (example, from classes PP-3 were teaching together but the content is mostly of class 3 and it's difficult for classes PP & 1). Lesson relevancy is good enough.” – Grade 6 student

Students also offered practical tips for improvement. For example, some students wanted the lessons on BBS staged air wise and wanted the name of the lesson to be named on the timetable. Some also found the presentations too fast to catch up and found the BBS logo too large, preventing full readability of some of the materials and presentations.

3. Parents’ perception of the program

In general, parents in the sample reported being largely satisfied with the eLearning program. In Table 5.1, below, we see the large proportion of parents who agreed or strongly agreed with the different elements of the program. 16% of the parents were ‘undecided’ if online platforms provided a better opportunity for children who cannot speak up in the class. Similarly, about 15% were unable to tell if their children were learning better through this medium.

We are unable to disaggregate this data by key stage because parents who had multiple children in different key stages filled the survey while considering all their children in the household, and not children in a particular key stage.

Table 5.1: Proportion of parents who agreed or strongly agreed with statements

My child/children are able to learn better due to the usage of sounds, animations and examples.	79%
Children who cannot speak up in the class, can use online platforms to get help from teachers.	74%
Teachers supplement the BBS lessons through different platforms (e.g. WeChat, WhatsApp, Google Classrooms)	92%
My child/children submit(s) all the assignments on time	89%

In figure 5.1, we see differences in their involvement in their child’s eLearning program: 6% of parents were rarely or never involved in their child’s learning through the eLearning program, 19%

of the parents reported being involved occasionally/sometimes, and the majority reported being involved in their child’s learning almost every time or every time.

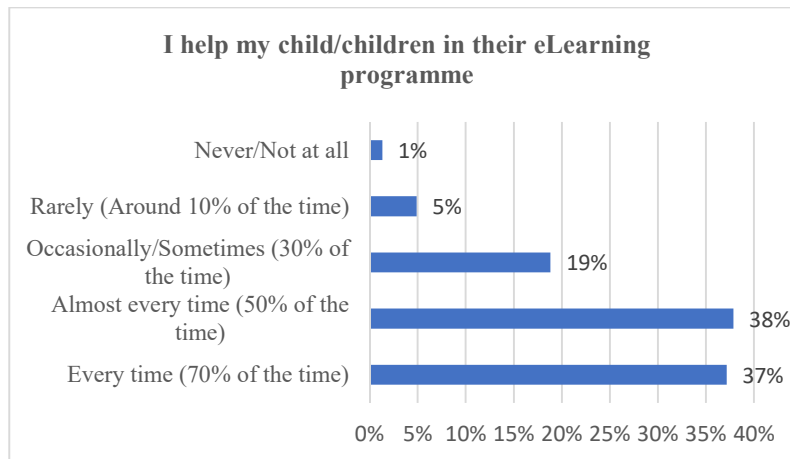


Figure 5.1: Participants’ views on their involvement in children’s learning through eLearning

While parents were appreciative of the program, some excerpts of parents’ responses to the open-ended questions indicating their concerns and suggestions are presented below:

“As it is for group classes lesson, sometimes students cannot catch anything and even parents gets puzzled.” – Parent from Thimphu

“The overall presentation on BBS are excellent and the presenter are excellent too but the lesson content not fair to class pp to three...they didn’t understand anything while teachers are teaching on BBS.” – Parent from Wangdue

“I being a single working parent my kid hardly get phone after I reached home from work so by that time it is late for them to do their assignment which is given in WeChat and Google classroom.” – Parent from Paro

“As we are residing in remote part of Trongsa dzongkhag we are not access to Television, more importantly BBS.”

“Accessible but Internet rate is too high for our level.” – Parent from Sarpang

“Thought the e-learning session is effective and one good medium of learning for the kids ... but kids are becoming more dependent on gadgets and they might misuse the mobile phone.” – Parent from Thimphu

4. Teachers’ perceptions of the program

Only 15% of all participants in the sample represent teachers. The results in this section are based on 1,954 teachers’ responses. In general, teachers overall had positive perceptions of the program. Table 6.1 demonstrates the large portion of teachers who agreed or strongly agreed with different statements asked in the online survey. Only 60% of teachers agreed or strongly agreed that students

were submitting their assignments on time. Though 96% of teachers believed their students learnt better given the use of animations and sounds, only 81% of students believed the same statement. Similarly, while 58% of students preferred communicating with their teachers through online platforms than in their classrooms, 84% of the teachers believed that these online platforms made it easier for children who are otherwise quiet in the classroom to communicate with them.

Table 6.1: Proportion of teachers who agreed or strongly agreed with statements

eLearning lessons on BBS are appropriate and helpful	85.70%
Children who cannot speak up in the class, are making better use online platforms to get clarification and support	83.70%
My students submit all the assignments on time	59.40%
My students learn better due to usage of sounds, animations and examples	96.30%

Class teachers were also asked to report the proportion of students in their classrooms who did not have access to television, Internet, or a mobile phone. 1396 teachers of all the teachers in the sample could report on these statistics, probably because they were class teachers, while the rest of the teacher participants may have been subject teachers. Figures 6.1, 6.2, and 6.3, show the proportion of teachers who believed the number of students in their class do not have access to different technologies. As can be seen from these figures, in most instances class teachers reported that less than 10 students were unable to access these technologies. However, it should be noted that there is a significant proportion of students that do not access to any of the three technologies. Interestingly, results are similar for TV, Internet and mobile phone, but in reality, it is likely that there are bigger differences in access rates between these technologies, especially when disaggregated by district.

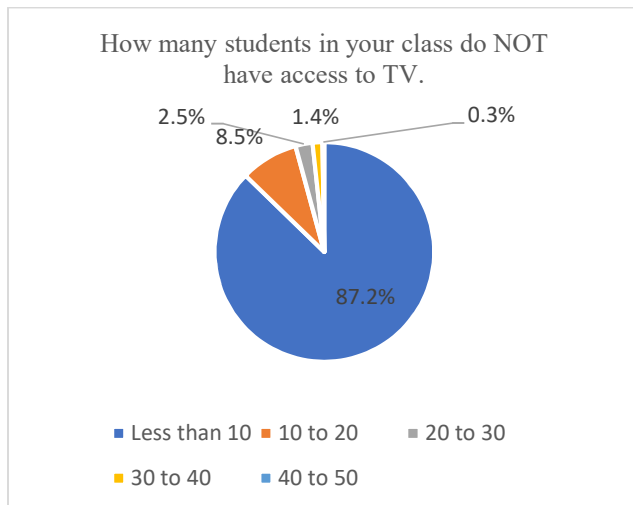


Figure 6.1: Students who do not have access to TV

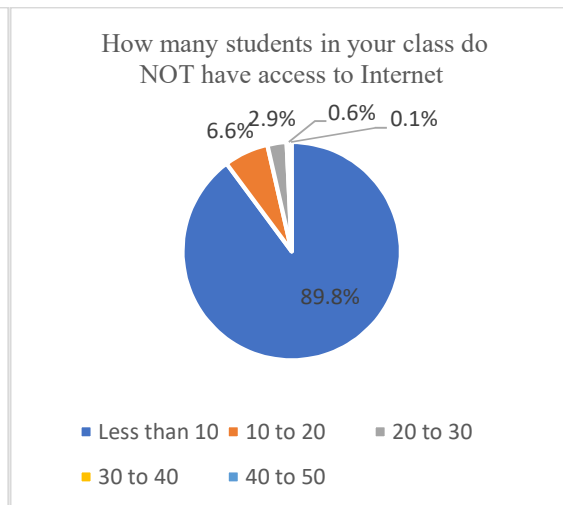


Figure 6.2: Students who do not have Internet

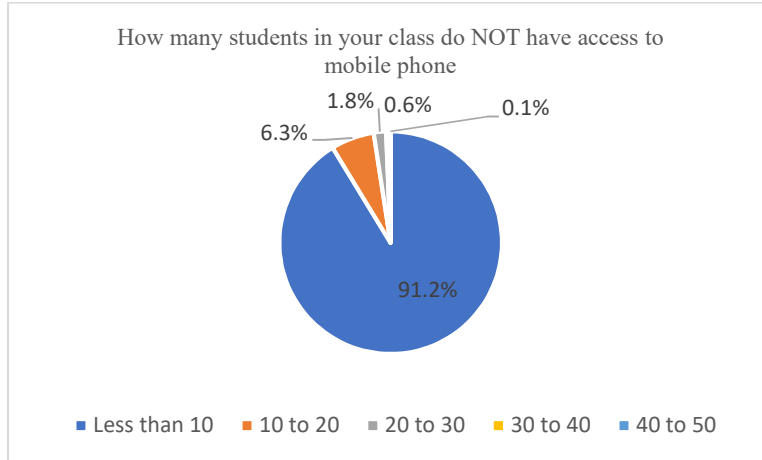


Figure 6.3: Students who do not have access to mobile phones

These figures hide variation in the number of students across districts who do not have access to these technologies. Subsequent version of this survey might explore technological penetration in different districts of the country to further explore these inequalities in access to technology.

Teachers were asked more open-ended questions than any other group. Select teacher responses to the different open-ended questions and their feedback to strengthen the program are noted below. Several teachers recommended printing the materials or supplementing with radio for broadcasting the lessons. Some teachers reported asking their students to share their phones with others in their community. While this is one way of trying to reach several learners, it is important to consider COVID-19 contamination risks associated with teachers asking students to share phones with neighbors or other friends.

Please share how you are delivering lessons to students who do not have access to TV, mobile phone, and the Internet:

“I send them hard copied written works.” – Teacher from Lhuentse

*“1. Provided follow up activities & notes through Facebook messengers to the one not having TV line. His place is connected with 3G though.
2. A girl residing in Tendruk Army camp doesn't own mobile. Requested her to watch BBS timely and maintain notes & do the follow up activities assigned. Requested her immediate friend who is also from the same class to share her mobile whenever required.” – Teacher from Haa.*

“Students nearby help their friends in getting the delivered lesson. They either watch BBS together or share mobile phones together” – Trashiyangtse

Please share any best insights/strategies that would help in delivering lessons to students who do not have access to TV, mobile phone and the Internet.

“1. Make hard copies and send to them so that they can write it down and submit later

2. Through SMS as all household or families are accessible to simple phones

3. Pass the directions, explanations, notes and worksheets forms through local in charges of villages (Lhuentse has already appointed)

4. Pass all information, teachings materials and explanation through nearby Schools to the respective students who are not accessible to any.” - Teacher from Lhuentse

“It would be better to use radios and Kuzu FM to facilitate the students without smartphone. – Teacher from Punakha

“Print the lesson and post through village Tshogpa or Gup”- Teacher from Trongsa

Feedback on overall presentation

“So far everything is good expect for some recordings as the background sound seems louder than the person who is speaking.” – Teacher from Punakha

“Thought provoking questions should be given at the end of every lesson.” – Teacher from Samtse

“The lesson taught on BBS mostly seems just the overview of the whole topic and it doesn't make children as involved as one can do in the class. At the end of the class on BBS a child only remembers the major topic. However the presenters are doing great work and we highly appreciate the effort and the dedication.” – Teacher from Mongar

“Delivery if good but during the activity, generalization should be avoided. For instance, few of the students are without the textbooks but the teachers instructs the students to flip the pages. Thus the teaching should be computerized or digitalized” – Teacher from Samtse

“In the lessons aired, I found activity questions were same for all level. This is confusing teachers as well as parents. Therefore, it would be better if presenter could segregate level in each key stage and give different question for different level.” – Teacher from Haa

Feedback on support from parents/guardians

“I have seen and heard that students in villages are busy attending to field works and helping their parents and they rarely get time to watch TV. The only time they get is in the evening and that too is used by their parents to update themselves with the news and panel discussion given on TV. On the other hand, the urban parents especially the office goers are too exhausted

helping their kids. Many parents personally shared how they are tired guiding their children.” – Teacher from Trongsa

“Even when many parents are illiterate, they are trying their best to be coherently active in the child's e-learning program which is quite motivating to see the seriousness in the school activities for which parents are supporting very much.” – Teacher from Thimphu Thromde

“There are some parents who are not supporting the children. We have found some children working at the construction site all the time.” – Teacher from Trashiyangtse

“Some of the parents they bought a new TV set with the setup box to ensure their children have access to eLearning. They are also allowing their children to use their mobile phones for WeChat and messengers. But since many of the parents are not academically sound they are not able to provide much feedback/ monitoring their children's learning. At the same time many of the parents are busy with their own work schedule.” – Teacher from Trashiyangtse

“Support from parents are declining daily. They say google classroom cost them dearly, they are not able to monitor how children use their phone. They say children interest in BEES lesson has gone down, most of them do not watch. Because of too many users net is very slow, it takes 10-15 to upload/ download their assignment. Parents and students still have a concept that eLearning program is for their engagement, thus neither students nor parents took it seriously. Now most of patents/students do not pick call from teachers.” – Teacher from Paro

5. Recommendations

School closures have undoubtedly created new and unanticipated challenges for education delivery in Bhutan. Based on the analysis, some brief recommendations are listed below:

- a) Exploring multiple medias to reach children: Other media such as radio and posting printed packets should be considered to reach children in families without access to television, or for whom the costs of buying Internet data packages is too high. The risks of contamination should be considered in cases where students and families are sharing mobile phones with their neighbors and others in their community. Similarly, teachers may consider reaching these students directly through text messages instead of applications that necessitate families owning smart phones.
- b) Supporting parents: Radio messaging and any printed materials may also include targeted messages and guidance on creating enabling learning environments for children at home. Some teachers and students report a lack of parental support and mistrust of students' time online. In other instances, parents may not know how to best support their children's learning and/or even require them to work and provide labor instead. It is also important that tasks/exercises for children are designed so that as far as possible, they can work on

them independently with little or no parental support (which is of course dependent on the age of the learners). Clear instructions, guidance, and trying to ensure they match the level of the learners are important components of this.

- c) Lesson differentiation: Survey data indicates that older children, particularly those in key stages 4 and 5 seem less satisfied with the eLearning lessons. They find their assignments less in line with the lessons on BBS and find their lessons less helpful too. In other cases, parents have suggested that content be differentiated and organized by class, instead of key stages, so that suitable content targets learners at different learning stages.
- d) Design of assignments and other assessments: Finding suitable ways to assess children's learning remains a challenge, particularly for learners who are unable to access the lessons online or submit assignments. While some teachers suggested more detailed assessment questions, this remains infeasible given the constraints on teachers' time and the inequities in access to technology. Some teachers recommended students and families maintaining a daily journal of what they have learnt, which could be shared with teachers on an ongoing basis, or when schools re-open, as a way for teachers to have some understanding of children's learning progress.
- e) Standardization of content: Participants have also offered helpful, practical tips to improve the content and delivery of the program. Some of these include: using easier language, smaller logos so content is easily visible, clearly communicating and sticking to timetables, ensuring content aligns with the right lesson number in the textbook, adjusting background sounds and volumes so that the presenter can be heard clearly, etc.
- f) Further analysis: Further analysis of the open-ended responses would yield important insights into improving the program. This is particularly important since there is less variation in responses, particularly those of teachers, across the sample. In addition, extra effort may be required to reach and encourage participants in certain districts to share their views. This is evident in the case of Tsirang and Gasa, each of which had under 100 participants take the survey.
- g) Future surveys: Potential future surveys may benefit from looking at examples from other countries; revising some of the existing questions to improve the usefulness and robustness of the results obtained; and including additional questions to enable further useful insights and analysis - for example, analysis by age, gender, location, and perceived usefulness of learning delivered through different media such as radio and television. Further efforts are required to include participation by some of the most marginalized households, including parents of children with disabilities, such that their views can usefully inform changes in the program design. This would require alternative methods for reaching respondents which do not require Internet connectivity, such as interactive voice response (IVR), telephone surveys, or SMS-based². Future surveys could also benefit from being designed around specific objectives in terms of how the results will be used, to inform the design of the questions, in particular around measuring effectiveness of different learning approaches with the view to improving them.

² E.g., using RapidPro

Acknowledgements

With the outbreak of COVID-19 in the country, and disruption to regular teaching and learning, the Ministry of Education with support of development partners and other stakeholders had to devise a number of interventions to not only safeguard the health and safety of students, but also minimize the learning loss as a result of school closures. This survey is conducted to assess the reach, engagement, and effectiveness of interventions to strategize and scale up the efforts.

In coming up with the survey report, we would like to acknowledge Dasho Secretary for the directives and guidance, Education COVID-19 Taskforce members for their support, Vidur Chopra and Frank van Cappelle (UNICEF ROSA) for supporting in the analysis, Natalia Muffel, Education Specialist, and Bishnu Bhakta Mishra, Education Focal, UNICEF Bhutan for their support and providing feedbacks.

We also gratefully acknowledge the efforts of our survey respondents and our forum participants who took valuable time to participate in this survey even at the peak of the COVID-19 outbreak.

Questionnaires for the survey can be accessed at:

<https://forms.gle/ytXkZjH9HCrc5QUd8>