



Enquiry into the Online Class Intervention during COVID-19 Pandemic: A Case at Shari Higher Secondary School, Paro, Bhutan

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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Case Study

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ABSTRACT

This paper is a first attempt to study the challenges of online teaching, learning and assessment for teachers and students during the COVID-19 school closure, at Shari Higher Secondary School, Paro. The intervention was on the adoption of online learning as a response to COVID-19, mode of learning presumed as alternative-that need reconsideration and redressing students' attitudes to this mode of learning. The study was a mixed method approach (both qualitative and quantitative) in nature and used purposive sampling. Data were collected from the students who were actively participating in online classes and all the teachers. The quantitative data was collected using the survey questionnaires as tool to understand the status of online learning in the school. The qualitative study encapsulated the teachers and students perceptions towards the online teaching learning in the school and was collected through open ended questions. Responses from the survey were analyzed using SPSS- descriptive and correlation. The study revealed that for an effective delivery of online teaching, learning and assessment, the mode of instruction needs to be altered, prioritized curriculum needs to be adopted, teachers need to make adjustments in teaching strategies, and students have to be more responsible.

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1. INTRODUCTION

With the first confirmed case of COVID-19 on the 6th of March, 2020, the government announced closure of schools and institutes in Thimphu, Paro and Punakha for two weeks immediately [1]. Shari Higher Secondary School (Shari HSS) in Paro was also to remain closed for the next two weeks as a precautionary measure to stop the spread of virus in the community. The close down extended till the end of June.

When the situation of COVID persisted beyond the 20th of March, the School Management Team convened a meeting on the 21st of March and the teachers were expected to create an alternative plan for online classes at an individual level. Teachers were trained for the Google Classroom by teacher colleagues versed on using Google Classroom (GC) Application. The use of GC application was not easy since many teachers were digital immigrants [2]. All teachers by the regulation of the Ministry of Education (MOE) had to meet the required teaching and learning based on the stipulated prioritized curriculum developed by Royal Education Council (REC). The Ministry of Education through Dzongkhag Education Office decided that every teacher carry out responsibly their academic tasks of assessment, teaching and evaluation through online mode.

Online learning in the school has become a significant component of the school learning system. Online learning has to be the greatest revolution in contemporary education for it has great advantage over traditional teaching-it is comfortable to attend, learn courses of your choice, self-paced and is cheaper [3]. There are many benefits of online learning like flexibility, plenty of choices, cost benefits, comfortable setting to study, progressing your career even while you are working, achieving skills, avoid traveling and learning at your own house [4]. Technology also adds on to the visual experience by incorporating animations that can be used interactively for effective teaching, and communication [5].

The online teaching looks like a driver on the road block [6] as teachers instantly faced with the situation of pandemic. An initiative of the Ministry of Education-Chigphen Rigphel, an IT Nationwide workshop was founded only for teacher's literacy in IT and not exactly to counter as an ICT pedagogy in a situation like this.

1.1 Elaboration of the Problems: Challenges

Shari HSS online learning is intended for an interactive exercise using Internet connection and other modern equipment and applications such as Smartphones and Google application. With a quick short crash course on Google Classroom, Shari HSS's online learning sought to primarily communicate information. The school considered reworking on online teaching to the learners with a planned timetable for different subject. With the help of the expertise from some teacher colleagues and ICT teachers, the school initiated different modalities of communication for learning. And it includes group email for all the classes, G-Suite, We chat, Messenger and keeping the school forum as standard dais for teaching and learning.

Despite challenges, Shari HSS ensures uncompromising learning outcomes. As some assessments modes could no longer take place as per the plan, alternative techniques were needed to assess the same learning outcomes. All learning outcomes must still be accomplished despite contingency measures that were in place. An assessment plan was written up to introduce flexibility with faster approval routes for changes that were needed. This ensured that all assessment changes were equitable and fair. Keeping students engaged through some form of teaching online was given the top priority. While it was possible for teachers to just upload recordings, many teachers chose to conduct live streaming classes (Google classroom) and attempted to use groups (We chat) and quizzes to engage learners.

Remaining student-centric as there were students who could not come to online learning, we communicated our stance that students are supported with alternative learning plans, as all the students are ensured that they were not missing out on learning. Rayens and Ellis [7] have experimented with creation of student-centered online learning environment and found out that students and instructors are positive about the new pedagogies (Pedagogy). Having technology on hand to allow them to participate in discussions whenever possible helped. While the assumption is that most students have smartphones to do e-learning, there is always a small number who don't. Arrangements were made for students who neither have

smartphones nor the Television. Students were introduced to Key stage wise Self Instructional Manual (SIM) from the REC and MoE.

The school administration carried out a school-wide survey during the e-learning time. Students' feedback was consolidated and communicated to all teaching staff. Common concerns included effectiveness of online teaching, changes in assessment, and self-discipline when learning online. More communication channels were important, ensuring that despite not physically seeing each other, concerns and experiences were shared. It was also important to check in with students who were academically weak, to see if they were transitioning smoothly into a different mode of learning. Principal ensures that all the students are deliberated a quality learning and no one is left behind.

1.2 Research Objective

To identify and assess the problems and challenges faced by teacher and students in their online learning process.

The objective will be guided by the following research questions:

1. What are the basic problems faced by each individual student in accessing and using online learning platform?
2. What are the challenges faced by teachers in the delivery of online lessons?
3. What could be the possible reasons for the problems and challenges?

2. RESEARCH METHODOLOGY

The study was an explanatory mixed method approach where findings from the qualitative data were supported by explanations from the quantitative data. The quantitative data was collected using the survey questionnaires as tool to understand the status of online learning and related challenges in the school. It consist of demographic information, polar questions, multiple choice questions, and optional commentaries. Descriptive data were analyzed using graph and frequencies extracted from excel sheet. The qualitative study encapsulates the teachers and students perceptions towards the online teaching learning in the school. It is themed under teaching, learning, and assessment and their related problems. The qualitative data were collected through

focus group interviews and open-ended questionnaire. For the focus group interview, the questions were developed based on the descriptive findings of the quantitative survey data. The population of the study comprised of 23 teachers and 78 students. It was a purposive sampling. Since the data required were basically on the problems and challenges encountered when accessing and using the online learning platform as a teaching and learning tool, the respondents were selected based on their active participation in online classes, irrespective of gender, and class level.

3. RESULTS AND DISCUSSION

3.1 Students' Views and Perspectives

By mandate all the students are required to use the Google Classroom platform. Other platforms used by students are messenger, YouTube, television, and we chat forum. Besides Google classroom, other most used mode was televised broadcast of the recorded lessons.

Table 1 illustrates the difficulties in accessing the e-learning platform. Some students face more than one problem and the table depicts only one most pressing individual challenges for each student. Out of 78 students, almost all the students face at least a challenge on accessing and using Google classroom application as an online learning tool. Of all the challenges and problems 60% of the students claimed to have financial difficulties. 87% of the students say that they prefer televised lesson over the use of messenger, YouTube, and/or we chat forums. Open interview suggested that most of the lessons are in the form of video and watching them online consumes a lot of data. Students also stated that their preference of lesson through BBS was because of the cheap source of learning. There are only 2 students who claimed that they do not face any problems.

As many as 64% of the students spent their time on the e-learning for around 1-2 hours in a day. There were only 2 students who have claimed to have attended the classes for more than 5 hours. Jamaludin et al. [8] also found that students spent most of their time on non-academic purposes. As per the students' responses from the follow-up interview, most students get distracted and spent their online time on non-academic interfaces.

Table 1. Difficulties in accessing e-learning in Shari HSS

Statements	Frequency
Cannot understand anything	1
Financial difficulties in recharging mobile data	47
I don't face any difficulties	2
No cable connection to watch televised lesson	8
Lack of internet facilities	2
Lack of technical skills	6

(Number of hours spent in e-learning)

Maximum number of students are not sure about how effective the teaching and learning is through e-lesson. Comparatively, students felt that google classroom is more effective than the televised lesson. It is because televised lesson does not involve any interaction whereas google classroom allows for some form of interaction with the teachers. They can ask questions and clear their doubts. While television lessons are not as valuable as online interactions with teachers and other students, Mueller & Taj [9] opines that educational

broadcasts do help in children's academic progress, their success in the job market and even their social development. Teaching through television is complicated because it does not consider the rhythm or ways teachers plan and develop their classes [10]. Students were also asked about their teachers' skill level on using google classroom as presented in Table 3.

Over 70% of the students felt that teachers' level of skill in using google classroom is good. Teachers' survey has also revealed about 75% of them with good or better skills in using google classroom application. 2 out of 23 teachers never used google classroom and they depend on wechat forum as the online teaching tool. Albrahim [11] also noted that instructional staffs have to keep pace with new innovative paradigms including technology. Competent teachers are key to successful online learning implementations and they should have the appropriate skills and experience for the effective implementation of online learning [12].

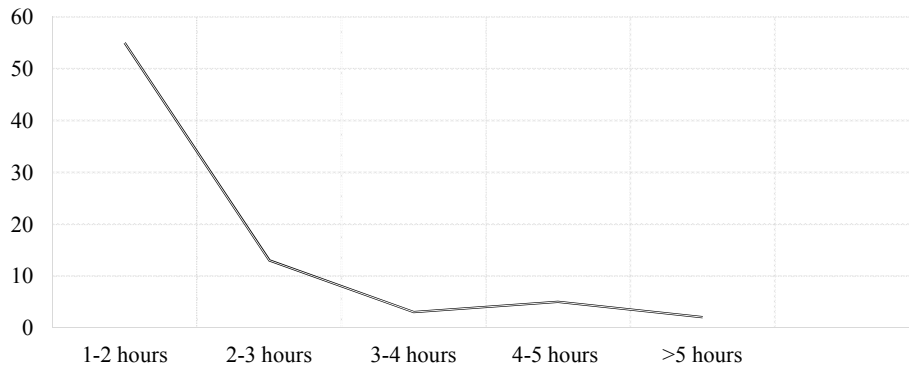


Fig. 1. Time spent on e-learning by students

Table 2. Students' perception on effectiveness of e-lesson through television and google classroom

	Poor	Average	Not sure	Good	Excellent
BBS televised lesson	2	21	44	9	2
Google classroom	2	10	48	13	5

Table 3. Students' perspective on teachers' level of skill in using google classroom

Level	Poor	Average	Good	Excellent
frequency	2	15	55	6

3.2 Teachers' View and Perspectives

An adapted curriculum was immediately developed by REC for five different stages. Each stage were to follow the same prescribed syllabus. Stage i: grade 3 and below; Stage ii: grade 4-6; Stage iii: grade 7-8; Stage iv: grade 9 and 10; and stage v: grade 11 and 12. The mean coverage of the prescribed syllabus within four months of school closure was about 54% (SD = 25.46). There is a gap on the coverage. One report of having a high coverage state: "The online platform for students to learn enabled me to provide additional learning materials that could make up the coverage of syllabus in line with the action plan." While the online coverage is of diverse as some teachers have over taught and were almost to complete the prescribed syllabus, there are some subject as low as 30 percent coverage. Teachers noted that number of students mattered in the coverage of syllabus since each individual student have to be addressed and attended to for every lesson covered. In a longitudinal study of around 10,000 students for over 3 years, Blatchford et al. [13] found that smaller class size allows for greater individualized teacher support for learning within shorter duration [5]. Responses from teachers revealed that the coverage is much better due to small class size and active student participation in online classes. Where the student turnout is poor, teachers have to repost the same lesson again and again thereby affecting the coverage.

Teachers have mixed response on the effectiveness of the online teaching learning process as indicated by the statement of teachers. A respondent stated that "Lesson delivery and coverage during regular classes are better and more effective." While the delivery seem to have happened, its effectiveness remains to be examined. A teacher respondent specified:

Coverage of the syllabus can be done, but effectiveness in learning is poor in online learning. The delivery of the subject in regular class gave more satisfaction as it entails close interaction leading to deeper teaching and learning activity. Different abilities of learners are also a serious concern. Subject like mathematics is very challenging to be taught in Google classroom as most of the concept involved are calculation and it is not as easy to understand by uploading the concept in the Google classroom.

Out of 23 teacher participants, 19 teachers felt that achieving learning objectives remain questionable with the online teaching learning. Remaining 4 teachers felt that with proper orientation and user training, online class could prove to be equally effective in achieving the learning objectives. Lee and Ko [14] found that with a curriculum guide, discretionary online educational technologies can be used successfully to teach concepts to the students. Following excerpt summarizes the responses of teachers on not being able to achieve learning objectives through online learning

Achieving all the learning outcomes prescribed for the subject would be impossible even if the subject matter is covered. There are some subjects that demands rigorous coaching and guidance in learning the concepts. Lack of students' interactive participation would impair their comprehension ability. Learning outcomes will be compromised since there are lot of practical (experiments) that needs to be carried out for hands-on-experience. It will also depend on the psycho-social supports students receive from their family member. It will be difficult to cover the syllabus since online teaching takes longer time and it is also difficult for students to understand the lessons. The turn-up rate for the lesson is also a concern. Students cite economic and logistic reasons for not being able to turn up for the lessons and it affects flow and continuity of the topic. One of the most important reasons is the inaccessibility of the Internet by significant proportion of the students. There is also lack of standard monitoring and assessment. Poor comprehension skill, limited teaching skill, limitation in IT skill for both students and teachers are also impeding online teaching learning process.

On the other hand, teachers optimistic of achieving learning objectives through online teaching learning tools expect to explore more tools and applications to support their teaching learning process. Using applications like google meet, zoom meeting, and other social networking will be as good as face to face interaction even though they agree that it will be expensive for most students to avail such facilities frequently. They also feel that teachers and parents will need to provide proper guidance and resources. A meta-analysis on the effectiveness by Nguyen [15] also found concrete evidence to suggest that

online learning is also as effective as the traditional format.

Student assessment has been another pertinent issue in regard to online teaching learning. Though all the teachers are assessing students' work, there is no agreed format and framework on how to go about assessing and assigning works for students. Turn-up (non-responding) issue and duplication of each other's work creates problem while scoring students work. Students have to be repeatedly reminded to complete their assignments on time and there are always the issue of non-respondents. There are students with no access to online modes of teaching learning and others with connectivity issues. According to Kearns [16], adaptations resulting from the necessity of using technology for communicating with students, and the ongoing need to collect a variety of assessment data and provide feedback are the challenges associated with assessment of students work. Unless a proper guideline is framed and concerns addressed, all these issues will remain.

There are some specific challenges and issues in the daily teaching learning process through online learning platforms:

3.3 Teaching

Video lessons are uploaded. Power-point presentations are shared and uploaded to simplify the concepts, short video, demo lesson. Presentations would add more stress for students, therefore, the approach used were more of PowerPoint, videos, notes, examples, and question and answer. Teaching approach used was Google Classroom and other eLearning platforms.

I usually explain the concept with the help of simple videos that are available online and sometimes explained with PPT slides. I have conducted the practical by taking the pictures of real specimen (eg. Pea flower), arranged and labeled the parts of the flowers on the paper and labelled it and then sent it through Messenger or Google Class.

3.4 Teaching Problem

The online platform have problems in the delivery. The usual inter-reaction, voice modulation, eye contact, simulation is difficult. Only viva-voice may be possible online. Even the

voices on line are difficult as it is very expensive for the students of marginalized economy.

I rarely conducted Google hangout and Google meet as some students could not afford to recharge their data package. Most of these are not applicable to my subject, but few quizzes were conducted to test their understanding.

3.5 Learning

The general perception of teachers and students indicate that students are learning through online platforms. On the contrary, Adedoyin and Soykan [17] felt that it will be effective for very few students—those who are intellectually independent, have full support from their parents and siblings, and have no economic and logistic problem in accessing the online learning. This study also found that most students face difficulties in recharging data packages for internet.

3.6 Learning Problems

The Teaching Learning requiring experimentation and practical are not possible practically. Usually students are provided with video clips and they practice on their own. They just learn it theoretically. Mostly through videos and sometimes through voice call (Asynchronous) and little of interaction (Synchronous). It is also exposed to the issues of equity and inequality [18].

Inequity will be an issue. Only foreseeable solution could be first clearing all the obstacles of accessibility issues. It will include technology, connectivity, and user knowledge.

3.7 Assessment

Assessment was done based on tasks assigned through development of rubrics keeping record of individual student's performance. At the end of the lesson, these materials, assessment questions are also provided to evaluate the learning outcomes of the concept. Assessment is done through practice exercises and homework.

Quizzes, questions answer session was conducted. Mainly assign questions and conduct tests. Conducted online test by framing MCQs (Multiple Choice Questions) and Short Answer Questions.

3.8 Assessment Problem

It was not possible to meet all the requirements as many students are not able to work out the assignments individually and did not submit the assignments. Group work and practical was not possible in such a situation but exam/test was possible with limited time given to the students.

Assessment are to set with criteria and not be penalized in learning. The teachers need to give clear assessment criteria for students (Rubrics). I did not conduct any kind of examination online.

The online classes are a move away from traditional classroom to a technological classroom (Bush, 2012). On-line class is understood as one of the approaches and strategies and not a replacement for conventional classroom. It is adopted to address the need of the prevailing situation. There is an intention proposed looking from the perspective that Shari HSS's students can still learn with teachers' intervention and its proactive stimulus plan.

3.9 Challenges That Need Rectification

Planning the google classroom and communication for the new learners is challenge. The online learning is initiated with a new psychology of the growing and growth mind [19] and not stranded by the likes of Pavlovian conditioning. There is a need to balance data, information, knowledge and wisdom-Practical, pedagogy and content in the online learning [20]. On the recent feedback from the students, it is recommended there is so much of information leaving in the name of teaching & learning. It is advised that faculty prepares the instructional materials and make students learning meaningful.

4. CONCLUSION

The situation of COVID 19 is assessed as new frontier of teaching, learning and assessment. The online learning was not a choice but strategic measure to cope the crisis. Many teachers were taken at bay with the online teaching and many of the teachers felt and some expressed: Satisfaction, while few expressed for the need to get acquainted to the way of teaching learning (senior teacher on lost with the online approach to teaching and learning). The COVID-19 pandemic is first and foremost a health crisis

in schools. The severe short-term disruption is felt by many students: home and online learning is not only an untested and unprecedented scale of teaching and learning. Assessments of students are also done online with a lot doubt and ambiguity for everyone. Many assessments modes have to be either removed or modified. Importantly, these interruptions will not just be a short-term issue, but can also have long-term consequences. This study is just a case of educational response for COVID-19 in one Higher Secondary School and may not reflect the overall picture of the responses of other educational institutions.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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