

**Special Issue:**

COMMUNICATION & COVID -19 PANDEMIC

**EDUCATION DURING THE CORONAVIRUS PANDEMIC: AN EXPERIENCE FROM BHUTAN**Dhanapati Sharma¹, Indra Prasad Sharma² and Nima Wangchuk¹¹ (Department of English, Gedu College of Business Studies, Royal University of Bhutan, Gedu, Bhutan.)² (GKCW National Eye Center, JDW National Referral Hospital, Thimphu 11001, Bhutan.)**ABSTRACT**

Dhanapati Sharma



Indra Prasad Sharma



Nima Wangchuk



The novel Coronavirus (COVID-19) pandemic has emerged as a global public health challenge. With the rapid transmission and no proven vaccination or treatment, physical distancing has been the only measure to control the spread of the virus. Since the outbreak of the pandemic COVID-19, in December 2019, and its spread to remotest countries of the world, the pandemic has thrown normal activities into total disarray, leading many governments worldwide to impose lock-down and suspension on educational institutions. The closure of schools and institutions brought unparalleled disruption to the education sector and there was a sudden shift to distance teaching-learning methodologies. This article aims to discuss the challenges and responses in the educational sector in Bhutan during COVID 19 pandemic.

Keywords: *Bhutan, Coronavirus, Education, Public Health, Physical Distancing*



The Coronavirus Pandemic

The Coronavirus Disease (COVID 19) caused by a newly discovered infectious virus has shattered the lives of billions of people across the globe. COVID 19 emerged as a global health emergency and on 11th March 2020, the World Health Organization (WHO) declared COVID 19 as a pandemic [1]. Despite all the global efforts to contain the disease spread, the pandemic spared no countries with huge morbidity and mortality. With the rapid transmission and no proven vaccination or treatment, the virus continues to spread and risk the international community. While the highest of the science and scientific technologies have been deployed for medical supplies, the hunt for definitive treatment and the race for an effective continue; however, no country has any hopeful clue to its cure so far.

To contain the spread of COVID 19, it made most of the counties imperative to impose lockdown and suspension of all public services. The world has almost come to a standstill from businesses closed and jobs lost, institutions shut, public transportation grounded, extended lockdowns, and psychosocial fear. The obscurity of the disease kept the scientific community baffled, the public distressed, and leaders indecisive. The 21st-century pandemic has affected millions of lives. The lockdown imposed to decrease the human-to-human transmission of the virus has ruined the lives of people in various ways; aggravating hunger and poverty because of the closure of the sources of people's income and slowing down all the physical and manual task of development and human engagement. The situation has worsened in some countries because of the non-cooperative temperament of the people and the resulting community infection has gone out of control. **COVID 19 in Bhutan**

Bhutan, with a population of less than 800,000, is a small developing country in the eastern Himalayas landlocked between the two giants; China and India. The Constitution of Bhutan mandates free basic health care services to all its citizen and the state provides everything necessary for free to tackle the pandemic [2]. To overcome this challenge, preparedness plans and measures for prevention, identification, management, and mitigation are put in place.

With the lessons learned from the developed countries during the early phase of the pandemic. Bhutan has responded differently to the pandemic. Bhutan's preparedness and response plan began as early as 11th January 2020, almost immediately after the first case out of China was announced [3]. The extraordinary concern and guidance from His Majesty the King, the Prime Minister and the Health Minister lead the preparedness and response plans. The National COVID Task Force was formed with His Majesty the King as the Supreme Commander. The preparedness and response plan encompassed the national, district, and municipal level plans. Numerous guidelines, protocols, and standard operating procedures are put in place by these teams. Several trainings, briefings, simulations, and teleconferences have taken place with national and international teams on different perspectives of COVID-19 prevention, control, and management.

Bhutan's responses were unique; His Majesty the Kings too came in the forefront and oversaw all activities personally; mandatory 21-day quarantine for people entering the country was introduced, and the King's welfare program (DrukGyalpo'sKidu)and the government's economic stimulus package were introduced to the rescue of everyone on the socioeconomic front. Starting the initial phase of the pandemic, a mandatory 21-day quarantine for all people entering the country fully funded by the Government. During the quarantine period, individuals are tested by RT-PCR and rapid antibody test before releasing them along with the quarantine completion certificate. Besides, health workers attending confirmed cases reside in designated accommodation during their deployment in the isolation wards. All health facilities and logistic arrangements were done by the state. After weeks of preparation, Bhutan saw its first case of COVID-19 on 5th March 2020; an elderly American tourist. This was the first test of the plan and His Majesty personally oversaw the



overnight response. As the COVID 19 entered Bhutan, the country sprang its protective shield to safeguard its people.

Bhutan's Immediate Response to COVID19: Closure of schools and institutes

On detection of the first COVID-19 case on 6th March, Bhutan immediately closed schools in three areas which included the capital [4]. Soon after, the government decided to close down all schools and educational institutions throughout the country. It was a proactive measure taken by the visionary King and the dynamic leaders as a preventive measure to ensure physical distancing. With the traditional face-to-face teaching methods, physical distancing was next to impossible in hours of such a grave situation. Schools are considered the hubs of social activity and human interaction. The Prime Minister of Bhutan highlighted that many Bhutanese were returning home from overseas and as a precautionary measure, schools and institutes are closed. He urged parents to take an active role in ensuring the children were not wasting time at home and asked teachers to engage students using online means. It was not safe for children to move around freely as they could be more vulnerable.

Closure of all the international borders

On 22nd March, 11 days after the WHO had declared the novel coronavirus (COVID-19) outbreak as a pandemic, His Majesty the King in his royal address announced the closure of all the international land borders. From the morning of 23rd March, all the border gates across the country were closed. Foreigners and vehicles were not allowed to travel across the border or enter into Bhutan except for authorized vehicles. Bhutanese wanting to return to Bhutan from these border areas were allowed to enter but were mandatorily quarantined for 21 days. This step was necessary to trace contacts and contain the spread of the virus to the community. As per His Majesty the King's command, the government's efforts were geared towards avoiding any casualties due to Covid-19. The government started implementing the contingency plans to ensure zero deaths from COVID19.

Health advocacy

The Ministry of Health adopted the 3T (Testing, tracing, and treating) strategy immediately after the detection of COVID 19 in the country. Preventive measures such as hand washing, using a mask in the crowd, and physical distancing was advocated through national newspapers, Bhutan Broadcasting Service (BBS), and aired through various radio programs. Several protocols and guidelines were put in place for people and communities to follow to contain the spread of coronavirus. The Prime Minister's Office and the Ministry of Health frequently updated the citizen's regarding plans, progress, and current situation. The contact tracing app (Druk Trace) was developed and encouraged people to use it. Health advocacy and message were reached through mainstream media, social media, and through religious personalities and celebrities.

Other strategies

Acknowledging the importance of minimizing contacts among people as an effective fight against COVID-19 and stepping up the contingency plans, the government imposed several other restraints to prevent the spread of the disease. Public gatherings for non-essential activities were discouraged, prompted by the fact that countries have experienced outbreaks from such events. All non-essential and leisure travels within the country were restricted. Movements in groups, within the towns and communities are also discouraged. Hospitality and entertainment sectors were closed and strict protocols were put in place for other business entities. Games or sports requiring physical contacts like football and basketball were disallowed. Civil service, corporate, private, and other agencies were advised to devise and institute "work from home" system and encouraged to use technology for meetings and correspondence of all kinds.

**The Scenario of COVID in Bhutan**

Bhutan was able to stop the spread of the virus outside the quarantine facilities for over 6 months. As of 30th August 2020, there were 184 confirmed cases and zero deaths. The country was still in the orange zone and had conducted 125,645 tests per million population; one of the highest in the region. The major milestone of COVID 19 is tabulated in Table 1.

Table1. The major milestone of COVID 19 in Bhutan.

Dates	Events
6th March 2020	<ul style="list-style-type: none"> Bhutan confirmed its first COVID-19 case. Bhutan immediately restricted the entry of foreign tourists for two weeks and schools in three areas including Thimphu were closed.
18th March 2020	<ul style="list-style-type: none"> Schools and institutes closed throughout the country.
23rd March 2020	<ul style="list-style-type: none"> All international borders were sealed.
25th March 2020	<ul style="list-style-type: none"> First Bhutanese returning from UK tested positive for COVID 19.
31st March 2020	<ul style="list-style-type: none"> The quarantine period for COVID-19 in Bhutan will be extended from 14 to 21 days.
8th April 2020	<ul style="list-style-type: none"> Isolation hospital equipped to treat any COVID-19 was setup in Mongar, eastern Bhutan.
10th August 2020	<ul style="list-style-type: none"> A woman who completed her quarantine tested positive after she moved back home resulting in a national lockdown. Contact tracing and testing for all the primary and secondary contacts were completed in 72 hours and found to be negative on RT-PCR testing.
16th August 2020	<ul style="list-style-type: none"> The first case in the community was detected in Phuentsholing and the area was declared red zone.

General Education

The education system of Bhutan is broadly categorized into three; (i) general education, (ii) monastic education, and (iii) non-formal education. General education is the largest form, constituting a large number of students and commonly considered the formal structure of education. The general education is further categorized into two; (i) mainstream school education and (ii) institutional education.

The mainstream education is school-based education it comprises of 11 years of free basic education from classes PP to X, with seven years of primary education (PP- VI), which starts at the age of six, and four years of secondary education (VII-X). At the end of the cycle (Class X) there is a national board examination, Bhutan Certificate for Secondary Education (BCSE). After class X, students either continue their education in higher secondary schools, enroll in the technical training institutes, or enter the labor market (Figure 1). Enrolment in higher secondary school is determined by their performance in the Class X board examinations. Students who do not qualify for public higher secondary schools have the option to continue their studies in private higher secondary schools. The school education starting from pre- primary (PP) to standard XII, is under the Ministry



of Education (MoE). The Ministry is responsible for policy formulation, planning and administration of basic education (Classes PP-X), higher secondary education (Classes XI & XII), and non-formal and continuing education. It is also responsible for the implementation of ex-country undergraduate scholarships, and the design and implementation of higher education policy.

The institutional education is offered to those students who do not qualify from class X can enroll in vocational courses offered by public and private training institutes. The duration of the program in both government and private training institutes varies from six years depending on the type of course. After completing class XII, some students continue their studies at the tertiary institutes within the country for a diploma or bachelor degree or enter the job market. Those who do not qualify for public tertiary education institutes attend private tertiary education institutes in the country or abroad. A limited number of students are selected for scholarships for professional studies abroad. A few graduates from the Technical Training Institutes continue their education at the tertiary level. Ministry of Labour and Human Resource (MoLHR) is responsible for providing technical and vocational education and training for class X graduates. Similarly, tertiary education institutes are responsible for the provision of higher education programs for class XII graduates. Monastic education is under the central monastic body and privately managed by their respective independent monasteries.

Table 2. School and educational institutes in Bhutan (*Annual Education statistics, MoE 2019 Bhutan*).

Schools/Institutes/Centers	Government	Private	Total
Early Childhood Development			
ECCD Centers	319	60	379
School Education			
Primary Schools	302	15	317
Lower Secondary Schools	63	1	64
Middle Secondary Schools	72	1	73
Higher Secondary Schools	52	21	73
Special Institutes	2	0	2
Sub-total	491	38	529
Extended Classrooms	74	0	74
School with SEN Programme	19	0	19
Central Schools	64	0	64
Autonomous Schools	59	0	59
Tertiary Education			
Tertiary Institutes	15	3	18
Technical Training Institutes			
Technical/Vocational Institutes	6	1	7
Institute of Zorig Chusum	2	0	2



Sub-Total	23	4	27
Other forms of Education			
Monastic Education Institutes	213	0	213
Continuing Education Centers	0	3	3
Non-Formal Education Centers	482	0	482
Sub-Total	695	3	698

Source: Annual Education Statistics, MoE 2019 Bhutan

Figure 1: Structure of general education in Bhutan.

LEVEL	Early Child Care and Development	Pre-Primary	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	1st Year	2nd Year	3rd Year	4th Year
ISCED 0		1							2					3			5	
Type	ECCD Centers	Primary Education (6-12 years)							Secondary Education (13-18 years)					Tertiary Education				
		Primary School							Lower Secondary School	Middle Secondary School	Higher Secondary School		Under Graduate Courses					
											Continuing Education							
										Non-Formal Centres								
										Vocational Education System (TTI/IZC) [ISCED 3-4]								
		Labour Market																

School Education

According to the Annual Education Statistics 2019, there are 603 schools, with 166,653 students and 9279 teachers [Table 3-5]. The mainstream school education comprises of four different levels as; Extended Classrooms (PP-II/III), Primary Schools (PP-VI), Lower Secondary Schools (PP-VIII), Middle Secondary Schools (PP-X), and Higher Secondary Schools (PP-VII/IX/XI-XII).

**Table 3:** Different levels of schools in Bhutan in 2019.

Schools/Institutes	Government	Private	Total
Extended Classrooms	74	0	74
Primary Schools	302	15	317
Lower Secondary Schools	63	1	64
Middle Secondary Schools	72	1	73
Higher Secondary Schools	52	21	73
Special Institutes	2	0	2
Total	565	38	603

Source: Annual Education statistics, MoE 2019 Bhutan

ECRs are an extension of the nearest school (parent school) and are generally housed in Lhakhang (temples), community learning centers, NFE centers, outreach clinics, and village houses, and temporary classrooms. The ECRs are conducted in multi-grade settings with a minimum of 20 children under the supervision of one or two teachers who have been trained in multi-grade teaching. The parent-school supports the ECRs in terms of teachers, teaching-learning materials, and overall management. Primary education (PP-VI) begins at the age of six and span for seven years of schooling. Secondary education comprises of two years of lower secondary (VII-VIII), two years of middle secondary (IX-X), followed by two years of higher secondary school (XI-XII)

Table 4: Total students in schools in Bhutan in 2020 (Annual Education statistics, MoE 2019 Bhutan)

Schools/ Institutions	Government		Private		Total		Total Students
	Female	Male	Female	Male	Male	Female	
Extended Classrooms	795	777	0	0	795	777	1572
Primary School	18,902	19,108	1016	1056	20,164	19,918	40,082
Lower Secondary School	12,999	12,961	57	72	13,033	13,056	26,089
Middle Secondary School	22,449	21,526	267	273	21,799	22,716	44,515
Higher Secondary School	22,888	21,335	5304	4868	26,203	28,192	54,395
Subtotal	77,238	74,930	6644	6269	81,199	83,882	166,653



Teachers are the backbone of any nation, and in Bhutan, teachers are highly regarded as individuals with high values and etiquette. In the country, there are a total of 9279 teachers of which 37.9% of them are women. The majority of the teachers (62.1) are male. The reason for inequality in the choice of the teaching profession is not spelled out in any of the studies. However, the obvious barrier for the womenfolk to join the teaching profession is the geographical terrain of the country. As the schools are scattered equally all across the 20 districts of the country, the chances of serving in the urban schools are relatively less.

The students graduating from Higher Secondary Schools are allowed to join the teaching profession. However, they need to go through three years of training. After the completion of the Bachelor of Education (B.Ed), the teachers sit for a selection test to join the civil service. It is the Royal Civil Service Examination that decides the candidature of a teacher in Bhutan. For the professional growth and development of the teachers in the field, the Ministry of Education conducts various workshops and refresher courses for the teachers during the winter and summer breaks. The teacher up-gradation program facilitates the interested teachers to upgrade their qualifications. They are granted study leaves and extra-ordinary leave based on the time requirement of the subject. Areas on able package of salary along with teaching allowances makes teaching one of the highest-paid civil services in the country.

Table 5: Total teachers in schools in Bhutan in 2019 (Source: Annual Education statistics, MoE 2019 Bhutan)

Schools/ Institutions	Government		Private		Total		Total Teachers
	Female	Male	Female	Male	Female	Male	
Extended Classrooms	29	98	0	0	29	98	127
Primary Schools	892	1404	124	61	1016	1465	2481
Lower Secondary Schools	613	719	8	7	261	726	1347
Middle Secondary Schools	1092	1342	25	20	1117	1362	2479
Higher Secondary Schools	902	1422	190	326	1097	1748	2845
Total	3528	4895	347	414	3520	5399	9279

Existing Challenges in school education

With the rapid development in school education and a tremendous increase in the number of students enrolment, the Bhutanese education system has confronted several challenges even before the outbreak of COVID-19. One of the major challenges faced by the Ministry of Education was Teacher Attrition Rate. On average, about 3.6% of the teachers in public schools leave the profession every year for different reasons.



Between 2017 and 2018, a total of 355 public school teachers left the profession. This was a huge concern for the ministry. The Student-Teacher Ratio (STR), also referred to as "Teacher-Pupil Ratio (TPR)" measures the number of students per teacher. The Student-Teacher Ratio (STR) is calculated on the assumption that a smaller ratio of students to teachers means better student's access to teaching resources. The lower the STR, the higher the availability of teacher services to students and vice versa. The student-teacher ratio for schools shows that, on average, the schools located in urban and semi-urban areas have slightly higher STR than schools in other areas. A high and uneven distribution of teachers among the schools has created a higher ratio in some schools.

Internet connectivity is one of the much-needed facilities for 21st-century learning pedagogies. However, internet connectivity in schools shows that about 94% of private schools and 51% of public schools are connected to the internet. This hinders a lot in terms of delivering current information that is related to the subjects taught. Information and Communication Technology (ICT) Education has been introduced in all schools at all levels to build the capacity of Bhutan's educational system to deploy ICT skills for independent and life-long learning. Given this, ICT is to be used as a pedagogical tool to create a stimulating and empowering classroom learning experience with the ultimate objective of enhancing the quality of education. To arrive at a realistic student to computer ratio, the total number of students in schools with computers is divided by the total number of computers in these schools. As of 2018, the average computer per student for schools with computers is one computer per 23 students. The middle secondary schools have the lowest student computer ratio of 1:25 and primary schools have the highest computer to student ratio of 1:37 in public schools.

Apart from the above-mentioned challenges, there is also a problem with road connectivity. Indeed accessibility by road is another important indicator. It enables the supply of goods, teaching and learning materials and facilitates the movement of teachers and students. About 80% of our schools (including ECRs) have access to the road. But few schools are located in far-flung villages that are not accessible to a motorable road. There could be many more challenges; however, the progress and the priority assured by the government to the education sector has tremendously reduced the challenges.

2.4 Institutional Education

Institutional Education in Bhutan can be broadly categorized into two; (1) vocational training and, (2) tertiary education.

Vocational Education

Technical and Vocational Education and Training (TVET) began in 1965 as Don Bosco Technical School, in Kharbandi (presently known as Rinchending), Phuentsholing. Over the years, the responsibility of providing technical and vocational education also shifted from one agency to another until the National Technical Training Authority (NTTA) was established in the late 1990s and finally placed under MoLHR in 2002. After that, three Technical Training Institutes (Khuruthang, Punakha; Rangjung, Trashigang; and, Samthang, Wangdue) were established in 2003. As of 2018, there are six Technical Training Institutes and two Institutes of Zorig Chusum (Thirteen traditional arts & crafts) managed by MoLHR and, one autonomous institute of tourism and hospitality managed by the Tourism Council of Bhutan. As of 2019, there are 1,793 trainees with 161 instructors.

Students generally enter the TVET programme after completing class X. The theoretical entrance age for pursuing vocational education is 17 years old, which is the same as that for higher secondary education. As per UNESCO's International Standard Classification for Education (ISCED) 2011, this programme falls under upper secondary Level 353 with orientation as vocational. Under the vocational skills curriculum, students are taught



general electrical and house wiring, basic automobile engineering, carpentry, plumbing, tailoring, hardware training, and Zorig Chusum. The summary of trainees and instructors in vocational education is shown in Table6-7.

Table 6. Trainers and instructors in vocational education (*Source: Annual Education Statistics, MoE 2019 Bhutan*).

Districts	Institute	Trainers		
		Male	Female	Total
Bumthang	Chumey TTI	15	8	23
Punakha	Khuruthang TTI	7	11	18
Sarpang	Jigme Wangchuck Power Training Institute	17	6	23
Thimphu	Thimphu TTI	7	2	9
Thimphu	Royal Institute for Tourism and Hospitality	10	8	18
Trashigang	Rangjung TTI	12	3	15
Trashiyangtse	Institute of Zorig Chusum	12	5	17
Wangdiphodrang	Samthang TTI	12	5	17
Total		111	50	161

Table 7. Trainees in Technical Training Institutes (TTI), 2019 (*Annual Education Statistics, MoE 2019 Bhutan*)

District	Institutes	Trainees		
		Male	Female	Total
Bumthang	Chumey TTI	133	108	241
Punakha	Khuruthang TTI	147	93	240
Thimphu	Thimphu TTI	66	13	79
Thimphu	Institute of Zorig Chusum	232	63	295
Thimphu	Royal Institute of Tourism and Hospitality	51	52	103
Trashigang	Rangjung TTI	121	62	183
Wangdue	Samthang TTI	124	30	154
Sarpang	Jigme Wangchuk Power Training Institute	202	99	301



Trashiyangtse	Institute of Zorig Chusum	119	78	197
Grand Total		1195	598	1793

Tertiary Education

The Tertiary Education system in the country began with the upgrading of Sherubtse Junior College to an undergraduate degree college in 1983, followed by other tertiary education institutions (TEIs). As of 2019, there are ten constituent TEIs and two affiliated private colleges under the Royal University of Bhutan (RUB). Besides, there are three institutes under the Khesar Gyalpo University of Medical Sciences of Bhutan (KGUMSB) and a private Institute of Health Sciences affiliated to KGUMSB. There are also two autonomous TEIs; the Royal Institute of Management (RIM) and Jigme Singye Wangchuck School of Law. As of 2019, about 11,781 students were pursuing various courses in all tertiary institutions within Bhutan with 753 lectures. Female enrolment is slightly lower than males, making up 46% of the total enrolment at the tertiary level in Bhutan. The summary of teaching staff for tertiary education is tabulate in Table 8.

Table 8. Number of teaching staff in tertiary education in Bhutan 2020 (AES, Bhutan 2019)

Sl. No	Institute	Ownership	Teaching Staff		
			Male	Female	Total
Royal University of Bhutan					
1	College of Natural Resources	Public	20	34	54
2	College of Science and Technology	Public	18	47	65
3	Gaeddu College of Business Studies	Public	14	55	69
4	College of Language and Culture Studies	Public	12	37	49
5	Jigme Namgyel Engineering College	Public	10	43	53
6	Paro College of Education	Public	12	52	64
7	Samtse College of Education	Public	14	34	48
8	Sherubtse College	Public	22	64	86
9	Gyalpozhing College of Information Technology	Public	11	11	22
10	Yongphula Centenary College	Public	1	3	4
11	Royal Thimphu College	Private	30	46	76
12	Norbuling Rigter College	Private	2	16	18
Sub Total			166	442	608
Khesar Gyalpo University of Medical Sciences					
1	Faculty of Postgraduate Medicine	Public	3	6	9
2	Faculty of Nursing and Public Health	Public	18	14	32



3	Faculty of Traditional Medicine	Public	3	8	11
4	Reldi Academy of Health and Science	Private	6	2	8
Sub Total			30	30	60
Autonomous Institutes					
1	Jigme Singye Wangchuck School of Law	Public	23	32	55
2	Royal Institute of Management	Public	9	21	30
Sub Total			32	53	85
Grand Total			456	1050	1506

Table 9. Enrollment of students in Tertiary Education in 2020 (AES, Bhutan 2019)

Sl. No	Institute	RGoB Funded			Self-Funded			All Total		
		M	F	Total	M	F	Total	M	F	Total
Royal University of Bhutan										
1	College of Natural Resources	430	341	771	128	92	220	558	433	991
2	College of Science and Technology	190	541	731	82	125	207	272	666	938
3	Gaeddu College of Business Studies	508	642	1150	236	233	469	744	875	1619
4	College of Language and Culture Studies	558	501	1059	63	36	99	621	537	1158
5	Jigme Namgyel Engineering College	169	419	588	54	79	133	223	498	721
6	Paro College of Education	606	867	1473	38	83	121	644	950	1594
7	Samtse College of Education	293	296	589	96	56	152	389	352	741
8	Sherubtse College	641	674	1315	144	119	263	785	793	1578
9	Gyalpozhing College of Information Technology	122	142	264	0	0	0	122	142	264



10	Yongphula Centenary College	11	33	44	0	0	0	11	33	44
11	Royal Thimphu College	53	31	84	519	380	899	572	411	983
12	Norbuling Rigter College	2	3	5	81	76	157	83	79	162
Sub Total		358	4490	8373	1441	1279	2720	5024	5769	10793

Khesar Gyalpo University of Medical Sciences										
13	Faculty of Post-graduate Medicine	14	22	36	0	0	0	14	22	36
14	Faculty of Nursing and Public Health	236	217	453	9	7	16	245	224	469
15	Faculty of Traditional Medicine	34	50	84	4	3	7	38	53	91
16	Reldi Academy of Health and Science	0	0	0	26	6	32	26	6	32
Sub Total		284	289	573	39	16	55	323	305	628
Autonomous Institutes										
17	Jigme Singye Wangchuck School of Law	40	22	62	0	0	0	40	22	62
18	Royal Institute of Management	74	71	145	86	67	153	160	138	298
Sub Total		114	93	207	86	67	153	200	160	360
Grand Total		398	1872	8853	1566	1362	2928	5547	6234	11781

Education System in Bhutan: An overview

The Royal Government of Bhutan gives a high priority to education and provides free basic education to its citizen as its constitutional mandate. The government recognizes education as a basic right and prerequisite for achieving a country's social, cultural, and economic goals. Until the 1950s was primarily monastic education was the only education. Modern education was started in Bhutan in the 1960s, and over the last decade, Bhutan has made significant progress to expand access to education.



Bhutan remained in relative isolation from the rest of the world until the middle of the last century. It was only in the early 1960s that Bhutan deliberately and actively increased contact with the outside world as it embarked on its First Five Year Plan in 1961. However, Bhutan's modern period began in 1907 when Ugyen Wangchuck (reign: 1907-1926) became the first hereditary King and uniting the country. The year 1914 saw the inception of modern education when 46 boys traveled overseas to study at mission school in Kalimpong, India [5]. Thereafter, several schools were constructed toward the end of the reign of the Second King, Jigme Wangchuck (rein: 1926-1952) [6]. Most of the teachers were Indians who came to Bhutan to teach the Bhutanese students. According to the Jesuit priest William Joseph Mackey, who came to Bhutan in 1963 states that the language of instruction at these schools was Hindi and a total of between 7 and 10 primary schools were established throughout Bhutan [7].

However, the medium of instruction was changed from Hindi to English in 1961. Thus, the modern school system in Bhutan is publicly claimed to have begun throughout the country during the reign of the third King, Jigme Dorji Wangchuck (reign: 1952- 1972), who is also known as the "Father of Modern Bhutan." Consequently, an education system was established under the First Five Year Plan from 1961 as the government began to plan the expansion of school education in Bhutan. Subsequent educational developments occurred as a result of successive educational policy submissions and introductions under the Five Year Plans.

Over the last six decades, the education system in Bhutan has undergone major transformations both in terms of policies and in terms of implementations of various educational philosophies that are at par with international standards. For instance, Education Policy - The Bhutan Education Blueprint 2014–2024, which has been launched in 2014, concludes that there are many policies in different documents and calls for a need to consolidate all the policy directives into one legal framework in the form of an Education Act [8]. Given this situation, if one has to tease out the education policy that is currently followed, the mother of all laws is the Constitution of the Kingdom of Bhutan promulgated in 2008.

The Constitution of Bhutan states:

Article 9.15 *"The State shall endeavour to provide education for the purpose of improving and increasing knowledge, values, and skills of the entire population with education being directed towards the full development of the human personality.*

Article 9.16: *"The State shall provide free education to all school-going children age up to tenth standard and ensure that technical and professional education shall be made generally available and that higher education shall be equally accessible to all on the basis of merit."*

These provisions in the constitution of Bhutan are outcomes of what is possible and desirable based on the last 50-years' experience of building up a public education system and making it accessible to its people. Education in Bhutan is provided but not compulsory. Within about six decades, the modern education system has expanded from about 11 schools before 1961 to 880 schools and other educational institutes in 2018, spanning from early childhood care education to tertiary, technical, and vocational education.

The impact of COVID 19 on Education

COVID-19 has affected all levels of the education system, from pre-school to tertiary education. Different countries have introduced various policies, ranging from complete closure of schools, universities, and colleges. Most governments around the world have temporarily closed educational institutions in an attempt to contain the spread of COVID-19. School closures impacted not only students, teachers, and families but have far-reaching economic and societal consequences. School closures in response to the pandemic have shed light on various social and economic issues, including student debt, digital learning, etc. School closures



have negatively impacted the learning outcomes of the students. Schooling provides essential learning and when schools close, children and youth are deprived of opportunities for growth and development. The disadvantages are disproportionate for underprivileged learners who tend to have fewer educational opportunities beyond school. When schools are closed, parents are often asked to facilitate the learning of children at home and can struggle to perform this task. This is especially true for parents with limited education and resources.

School closures due to COVID-19 brought unparalleled disruptions to the education sector in Bhutan. Like most of the countries in the world, Bhutan has also been greatly impacted by Covid-19. Student drop-out rates have increased as an effect of school closures. This is especially true to those disadvantaged children who are more likely not to return to school after the closures are ended, and the effect will often be a life-long disadvantage from lost opportunities. Schools are also hubs of social activity and human interaction. When schools are closed, many children and youth miss out on social contact that is essential to learning and development. COVID-19 has had an impact on social mobility whereby schools are no longer able to provide free school meals for children from low-income families, social isolation, and school dropout rates. It has also had a significant impact on childcare costs for families with young children. Additionally, there exists a wide disparity amongst populations with a higher income who are able to access technology that can ensure education continues digitally during social isolation. Covid-19 has increased exposure to violence and exploitation: When schools close, early marriages increase sexual exploitation and abuse of girls and young women rise, teenage pregnancies become more common, and child labour rises. There is clear evidence of an increase in the number of domestic abuse cases in Bhutan over the last four months. Therefore, all these short-term disruptions are felt by many families. Homeschooling is not only a massive shock to parents' productivity but also to children's social life and learning. Teaching is moving online, on an untested and unprecedented scale. Student assessments are also moving online, with a lot of trial and error and uncertainty for everyone.

Many assessments have simply been canceled. Importantly, these interruptions will not just be a short-term issue, but can also have long-term consequences for the affected cohorts and are likely to increase inequality.

Of all the major economic sectors, the worldwide COVID-19 outbreak has hit tourism the hardest. For Bhutan, a country that relies heavily on tourism for its revenue, the economic crisis caused by COVID-19 is far more severe than the public health crisis. Furthermore, the impact of COVID-19 on tourism has a direct impact on Bhutanese financial institutions as numerous hotels constructed amidst the recent tourism boom are unable to repay their loans. A prolonged halt in travel and tourism will leave many unemployed and vulnerable. From tourism to trade, the COVID-19 crisis has affected the livelihoods of many. It is a testing time for everyone, but more so for the world's most vulnerable countries and population. The initial reports indicated that the temporary restriction on tourism has affected the livelihoods of some 50,000 Bhutanese workers in the sector, including hoteliers, travel agents, and tourguides.

Bhutan's quick and thorough response was also seen in the education sector. All Schools in Bhutan closed on March 18, 2020, and resulted in 170,263 children from classes PP to XII out of school across the country. All International borders were closed on March 23, 2020, to limit the risk of the virus entering the country. As the world continues to face a global pandemic Bhutan has made many bold and difficult decisions and significant policy changes, and embark on more ambitious and long term initiatives to build a more robust society and economy.

Education during COVID in Bhutan

Unprecedented change in the education system

As the cases in India increased and the first positive case was detected on the 6th of March, the country decided to close its international boundaries. Immediately, on 23rd March, the international border was



sealed. However, the essential items were still imported from India. The government implemented a strict quarantine strategy for all those items imported from India and abroad. The cases were at a gradual rise. Sensing the gravity and the impact of the aggravating situation, The King's Relief Fund (Kidu) was issued to support citizens in need and give them the choice to stay home. Amidst the odd hours, the government of Bhutan adjusted its focus and aligned it towards education as the country believes that education is the backbone of any developing nation.

Immediately after the country resorted to the closure of schools in three districts (Thimphu, Paro, and Punakha) on 6th March, and immediately after on the 18th of March all the schools in the country were closed and, the country started working on its second priority, the education. The Ministry of Education decided to develop Education in Emergency in the form of an adapted curriculum and prioritized curriculum for various grades. The online teaching of the prioritized curriculum was the need of the hour. The Prime Minister in his address stressed the need to engage our students productively through various learning programs. The government and higher educational institutions (HEIs) immediately announced that online teaching needs to replace real-time teaching. The first and foremost task for the planners was to develop the ways and means to accelerate the educational programs within the country.

It is easier said than done! While such teaching can be deployed for any student audience irrespective of their geographical location, there were particular challenges for students in certain far-flung areas of the country. There were also some issues of whether all staff is experienced in using online education and communicating with students however, even with sound equipment and reliable Wi-Fi in place, online teaching was not a solution for everyone in Bhutan.

As the situation prolonged, the Ministry of Education could feel the seriousness of the impact. The schools and students residing in the remotest part of the country people faced serious and continuous problems in getting access to the online facilities provided by the government, especially with lower-class students and uneducated parents. Even though they had resources at their disposal, they were not able to utilize the resources properly. Many teachers and parents were apprehensive about online teaching initially however, the Prime Minister shared with the people that Online classes may not have the same impact as normal classes, but it is one of the measures to engage students. Besides, he also shared that the government will discuss with the two telecom companies on the internet service and explore ways to provide tabs to remote schools [9]. The government tried every possible way to make education a possibility for all the children across the country, despite all odds.

On 4th May, the Ministry of Education launched yet another facility, the Self-Instructional Materials (SIM). It was an alternative educational resource for those who do not have access to the internet, BBS, and e-learning facilities. This was a small handbook (printed material) that covered the lessons taught through BBS for classes PP to XII. This initiative of the government aimed to support around 17,000 students across the country. The designs of the learning activities in SIM are intended technically to promote self-engagement and independent learning of the students at home. The initiative taken by the government to ensure education for all at this hour of COVID-19 is worth praising. Despite a few criticism and hiccups from the people with regards to education programs, the Bhutanese government kept its mind open and welcomed all the possible ideas to keep the flames of education burning. The Prime Minister reminded and bestowed responsibilities to every parent in educating their children. He said that closure of schools meant that parents could put in efforts to encourage students to read and he emphasized, "We are in a situation where we all must come together and work together instead of bringing in differences"[9].

For a small country like Bhutan, it is always a great risk and a challenge to devote much of its revenue and resources for education at least at this hour of risk and uncertainty. However, the government has strategized the resources and all the faculties of the schools and institutions are paid their full salary.

Responding to the COVID-19 crisis, many countries and tertiary education institutions have been able to transform their operations online at a relatively quicker pace, with no exception to Bhutan and her Higher Education. As COVID-19 swept across the neighboring countries, the first decision the royal government of Bhutan took in the field of education was to close down schools and colleges including university campuses. Given the new rules on social distancing, traditional face-to-face teaching was next to impossible. The



government and higher educational institutions (HEIs) immediately announced that online teaching would be conducted by the faculty. But this was easier said than done. While such teaching can be deployed for any student audience irrespective of their geographical location, there are particular challenges for students in a certain part of the country. There were issues of whether all staff is experienced in using online education and communicating with students remotely or have the equipment to do so at home. Even with sound equipment and reliable Wi-Fi in place, online teaching is not a solution for everyone.

On the other hand, towards the end of March 2020, the UNICEF office in Bhutan received a GPE grant of US\$70,000 to support the Ministry of Education [10]. A workshop on Education in Emergencies was held in late April to develop a COVID- 19 Response Plan focusing on education continuity, especially for the unreached, with wide participation. The plans of the Bhutan government include four options for re- opening schools based on the Global Framework for Reopening Schools, developed by UNICEF, the World Bank, UNESCO, and WFP. A study on online learning was conducted, focusing on children, parents, and teachers.

Bhutanese approach to education during the pandemic

Measures taken for school education

The Ministry of Education initiated various educational programs with the help of volunteer teachers and other school teachers. Immediately after the first COVID-19 case was detected in the country, the teacher volunteers of Bhutan (VToB) came forward to extend their service to the nation [11]. Requesting the government, the VToB urged the government to call them anytime for support and said that the team is ready to deliver their service. In line with the re-opening announcement of the schools from the office of Prime Minister of Bhutan on June 19th, 2020, the Ministry of Education informed the schools (both Public and Private) that all the students studying in X and XII will resume the academic session from July 1, 2020. The government also clarified that the schools will implement a prioritized and adapted curriculum.

The classes VII, VIII, IX, and XI were to resume in the next phase as the Ministry get the directives from the Government. Until the school reopens, the students will continue to follow the Adapted Curriculum and the lessons will be delivered through Bhutan Broadcasting Service (BBS), Self-Instructed Material (SIM), Radio, Google Classroom, and other social media platforms. It was also decided that once the school resumes, the prioritized will be followed as prescribed in Key Stages of III, IV, and V.

The Government also decided that the students of classes PP-VI will not undergo campus education and the school will remain closed for the academic year 2020. The very reason for such a vital decision is that in the event of local transmission of COVID 19, the children of lower classes are at higher risk as they may not be able to follow the COVID-19 safety and preventive protocols. The lessons for these groups of students is to be delivered through BBS, SIM, Radio, and other means of social media such as We Chat, Telegram, and Messenger. On the same note, Non-Formal Education (NFE) classes are to resume from July 1, 2020, and continue to follow their adapted lessons as per the schedule. Till the end of June 2020, EiE planned to engage the students in learning but from July onwards the assessment of students' key learning areas is introduced for certification and promotion to the higher grades. For classes X and XII, the Ministry of Education declared that there will be Board Examination on the Prioritized Curriculum.

Education in Emergency

To carry forth the process of education the children in the schools and to provide equal opportunities to all the students to get proper education even during such times of health crises, the Ministry of Education in collaboration with the Royal Education Council(REC) and Bhutan Council for School Examination and Assessment(BCSEA) have strategized different modalities of curriculum delivery. To effectively deliver the content to the children, a few relevant stakeholders such as; Bhutan Broadcasting Service (BBS), Bhutan Telecom (BT), Department of Information and Technology and Telecom (DITT) and the Volunteer Teachers of Bhutan (VToB) have joined the Education Ministry to successfully impart curriculum to the students through various innovative modalities.



The Ministry of Education wanted to ensure that the children do not lose instructional hours to achieve the desired learning outcomes for the academic year, 2020. The new curriculum implementation guidelines are developed to achieve the following objectives:

- Offer an avenue for the students to assess and avail educational services by mainstream and social media.
- To provide guidelines on the learning areas, tools, and support mechanisms from the relevant agencies such as MoE, REC, BCSEA, and V-ToB.
- Support students to continue their learning in achieving the desired learning outcome, more importantly, the students attending the board examinations (X&XII).
- To engage students productively at home and reduce direct contact to prevent the spread of the coronavirus.

Table 10. Plan of implementation of curriculum during COVID pandemic in Bhutan.

Sl. No	Conditions/Situation	Priorities
1	During the closure of the schools	Implement adapted curriculum
2	School re-opens before May 2020	Resume regular curriculum
3	School re-opens after May 2020	Deliver prioritized curriculum
4	School re-opens after August 2020	Continue delivering adapted curriculum

The Ministry of Education felt that the principals, teachers, and support staff must meet before students report to school to prepare a restorative program. It was then the responsibility of each and every teacher to instruct and follow Covid-19 protocols for the safety of the students. Besides, the Ministry of Education also instructed the teachers to get acquainted with the adapted and prioritized curriculum including the implementation guidelines. The following points were the condition set, to be considered while implementing the prioritized curriculum:

Make education welcoming for students.

Conduct a restorative program on the first day (bonding, team building, foster an informal link with the community and within the school).

Create a conducive learning environment.

- Adequate teaching-learning resources including human resources should be put in place.
- School management must ensure the safety of students, teachers, and support staff by following Covid-19 protocols.
- Principals, teachers, and support staff need to be more understanding, caring and supportive towards students and build a good rapport with them.
- Enforce school rules and regulations.
- Ensure cleanliness of classrooms, toilets, and school campuses.
- Use Saturdays as full instructional days.
- Use summer break as full instructional days.



- Teachers should be proactive and set positive expectations from the learners.
- Explore the opportunity to reduce class size where possible.
- Reprioritize resources towards more inclusive education services.
- Library books should be issued to students in a staggered manner to avoid crowding.
- Make Internet services available to all teachers.
- All teachers and support staff must work from their respective schools to deliver the curriculum.

The Ministry of Education set the conditions to start off with the prioritized curriculum and to successfully implement the prioritized curriculum, the following strategies were used:

- Orientation on Prioritized Curriculum implementation to be conducted before school re-opens.
- Principals, teachers, and support staff to plan for restorative programs before schools reopen.
- Discuss and familiarize the Adapted and the Prioritized Curriculum including the implementation guidelines.
- Develop an academic plan individually before schools reopen.
- Reporting of students to schools to be staggered separately for class 10 and 12.
- Provide guidance and counseling class (psycho social education).
- The requirement of 80 hours of professional development for teachers does not apply during an emergency.
- Inform students and parents that the Adapted Curriculum and Prioritized Curriculum cater to the education needs of the students in an emergency.
- Minimize homework and assignments to reduce burden and stress on students.
- Minimize the conduct of tests.
- Take students' attendance daily and follow-up on absentees and report to the school management.
- Keep track of student's learning and provide the necessary support.
- Do not conduct extra classes, however, schools can conduct remedial classes on need basis.
- Adapt and modify the curriculum to meet the requirements of the children with disabilities.
- Provide Life Skills Education to students with disabilities (Activity of Daily Living, Orientation and Mobility, Vocational Education, and Total Life Curriculum).
- Do not use teaching strategies such as field trips, surveys, and excursions.
- Do not use teaching strategies that involve physical contact.
- Optimize available teaching-learning resources including ICT.
- Strengthen reading culture and encourage students to read more.
- Use video lessons, SIM, and radio lessons to supplement teaching and learning.
- Continue with study routine for boarding schools with proper supervision.



- Use social media platforms to provide information about students' learning to parents so as to avoid gatherings.

Adapted Curriculum

The Adapted Curriculum was specially developed to engage and continue the education of students through video lessons, SIM and radio lessons, Google Classroom, and other social media platforms (WeChat, Telegram, and WhatsApp). The schools that are yet to reopen will implement the Adapted Curriculum. Teachers should continue to deliver lessons online and follow up on the students' learning. All the records of student learning should be maintained and used for assessment and promotion purposes.

Conditions for the Adapted Curriculum

- I. Adapted Curriculum will be implemented for classes PP to VI and secondary schools that are yet to open.
- II. Teaching learning should be based on video lessons, SIM, radio lessons.
- III. Class PP to III will be delivered through social media such as WeChat, WhatsApp and Telegram and class IV to IX and XI through Google Classroom.
- IV. Class PP to IX and XI will be assessed using conventional test/short assignments/ objective type questions based on the accessibility and affordability.
- V. Students' promotion to the next grade will be based on the records of activities and assignments maintained by the individual subject teachers.
- VI. Schools to pay special attention to the students who do not have access to electronic gadgets and TV.
- VII. Schools need to be more caring and supportive towards students to resolve their personal and academic challenges.
- VIII. Teachers should inform the timing of re-sequenced video lessons that will be aired on BBS TV and radio.
- IX. All teachers and support staff to work from their respective schools to deliver the Adapted Curriculum.
- X. Create awareness on online safety and media literacy (cyber bullying, fake news, scams, etc.) by schools.

Strategies for the successful implementation of the Adapted Curriculum

- Continue providing support to students through video lessons, radio lessons, SIM, Google Classroom and other social media platforms.
- Minimize homework and assignments to reduce burden and stress on students.
- Maintain records of students' learning and provide timely feedback and support.
- Schools to explore alternative ways of lesson delivery for students who have no access to electronic gadgets and TV.
- Encourage students to read and ask them to maintain reading portfolio.



- Adapt and modify the curriculum to meet the requirements of the children with disabilities.
- Provide Life Skills Education to students with disabilities (ADL, O&M and Total Life Curriculum).
- Provide bridging classes for the current cohort of students in the following academic session to fill knowledge gap created due to closure of schools.

Mode of Delivery

The curriculum during the emergency focused on the delivery of content through different platforms such as broadcast media (TV and Radio), YouTube, Google Class- rooms, and print media to reach out to the students across the country.

Modalities of Online Teaching & Learning

The Ministry of Education has segregated online teaching into two different categories considering the developmental age of the child and their ability to handle the technicalities of modern gadgets to effectively deliver the curriculum. The levels and implementation mechanism used by the Ministry of Education to deliver the online lessons is shown in Table 11.

Table 11: Levels and implementation mechanism of curriculum during emergency.

Sl. No	Levels	Method	Implementation Mechanisms
1.	Classes PP-III	The approved social media platform for this level is; WeChat, Tele- gram and WhatsApp. Assistance of the parents was required to access the learning material as well to complete the	Class teacher create the group and invite all the subject teachers and parents. Use just one social media plat- form for each section. Class teacher frame weekly timetable and share with the parents.
		learning activities. Classes under this cate- gory were not required to create google class- rooms.	Students carry out the assigned task in their respective subject notebook.



2.	Classes IV-XII	Students are recommended to use google classrooms.	<p>All students and teachers must create Google account in the domain education.gov.bt</p> <p>Class teachers should create a Google classroom for a particular section.</p> <p>Class teachers use ONLY one Google classroom for each section.</p> <p>Class teacher create topics for each subject within the Google Classroom.</p> <p>Class teacher need to add all the subject teachers as co-teachers.</p> <p>Subject teacher needs to guide students through the EIE broadcasted by the Bhutan Broadcasting Service(BBS).</p> <p>Share additional materials through Google Classrooms, provide follow-up questions for the BBS lessons and make BBS lessons available for references to the students.</p>
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The Ministry of Education has been proactive in delivering required education facilities during the crisis. As the country declared the closure of schools and institutions, the teachers and educators started brainstorming on strategies to take forward the teaching-learning process in the country. Four days after the closure of schools in the places, Punakha, Paro, Wangdiphodrang, Thimphu, and Phuentsholing, on 10th March 2020, a group of teachers from these schools formed a group called, "Volunteers Teachers of Bhutan" (VTOB) and presented the proposal to the government.

As the plan got immediately approved, the Bhutan e-Learning Program was formally launched on 26th March 2020. The lessons were aired through national television, Bhutan Broadcasting Service (BBS-2). The students across the nation got the opportunity to attend the lessons taught by some of the most enthusiastic teachers. The lessons were aired every day from 9:00 am to 4:00 pm through a scheduled timetable for different levels and subjects. Through a swift journey, educational programs are taken care of by the government within a short period. The lessons were broadly categorized based on thematic values as shown in Table 12.

Sl. No	Levels/ KeyStages	Class Levels	Subjects Taught
1.	Stage 1	Classes Pre-primary –III	Math, English, Dzongkha
2.	Stage 2	Classes IV- VI	Math, English, Dzongkha, Science, Social Studies
3.	Stage 3	Classes VII-VIII	Math, English, Dzongkha, Science, History, Geography
4.	Stage 4	Classes IX-X	Math, English, Dzongkha, History, Geography, Economics, ICT, Physics, Chemistry, Biology



5.	Stage 5	Classes XI- XII (Arts/Commerce)	Business Math, ICT, English, Dzong- kha, Economics, History, Geography, Geography, Media Studies
		Classes XI- XII (Sci- ence)	Math, English, Dzongkha, Media Studies, Physics, Chemistry, Biology

Table 12. Lesson broadcasted based on thematic values

On the 26th March 2020 a guidebook titled, „The guidelines for curriculum implementation plan for Education in Emergency (EiE)“ was also launched[12]. The EiE contained detailed guidelines on the implementation of e-Learning in school education, roles, and responsibility of different stakeholders like early childhood care and development and special education needs, non-formal education, reaching the unreached through print media, and volunteer teachers of Bhutan [13]. As per the support and guidance provided by the EiE guidelines, the teachers across the country gave their full support in making online education a grand success. The broadcast lessons were well received by both students and parents. Besides televised lessons, teachers across the country explored different modes and online teaching tools like Google classroom, Zoom Classroom, Camtasia, other lesson recording tools to enhance the learning.

Measures taken by the Royal University of Bhutan.

- The world-threatening pandemic made the entire RUB colleges prepared their response plans. Looking at its implications to teaching, research, and service, the following objectives are set.
- RUB shall continuously explore ways to respond to the emergency situation of COVID-19 to safeguard the safety and wellbeing of staff and students.
- Ensure that the faculties and the administrative staff support the students“ learning online and ensure that no student is left behind in terms of their learning needs.
- Ensure that all academic, research, and logistics services of the Colleges continue uninterrupted and keep the students engaged in meaningful learning throughout the semester.
- Provide teaching and learning resources to the students according to the online learning and teaching schedules set up by each College and ensure that the students take full ownership of their learning.
- Set up strategies for all academic staff to deliver their programs by tapping into the dynamic features of Moodle and adapting to other digital tools.
- Contribute to the national efforts to overcome emergency situations.

Institutional Arrangements

The Royal University of Bhutan created the forum for the Executive by the name, “University Strategic Response Committee”(USRC), and decided to meet fortnightly through online forums to discuss the developments in COVID-19 and strategies to handle the same. The committee will be sphere header by the Office of the Registrar and the basic responsibilities will be to; follow-up on the decision taken by the USRC, communicate with the college, disseminate information and updates, and collaborate with other agencies and represent the University at times of emergencies. Establish an Academic Task Force at the Office of Vice-Chancellor and engage all the Deans of Academic Affairs to formulate broad guidelines for online teaching learning, assessment, examinations, and attendance. Besides, it will also assess the situation of students“ online learning system, and evaluate the impact the students“ actual learning and report to the Director of Academic Affairs at the Office of the Vice-Chancellor.



Task Force for Online Teaching and Learning has been formed at the college level with the following members:

- The College President
- Dean of Academic Affairs
- Programme Leaders
- ICT Officers
- Exam Record Officer
- Students Record Officer
- Exam Coordinator

The role of this group of people was to ensure the full implementation and success of online teaching and learning.

- The program committee and the College Academic Committee will discuss the most suitable forms of assessment, which is convenient, fit-for-purpose, able to monitor and evaluate.
- At the University level, ICT officers will ensure academic success by supporting the technicalities and connectivity issues.
- The college President shall be the focal person for the response plan of the college. He/she will provide information and communicate with the outside agencies besides; he/she will form a special group in case of need.

Challenges and opportunities

Challenges

The country had to go through a rigorous change in education. Schools and educational institutions are confronted with a sudden and unprepared shift to online teaching to respond to the need to continue teaching and learning activities. Continued education is to engage and motivate students when social distancing measures are in place. However, the transition to online teaching does not come without challenges. Several interconnected challenges can be discussed as follows:

- Technical capacity of human resources.
- Infrastructural capacity and accessibility.
- Practical session.
- Assessment and examination.

Technical capacity of human resource

Technical capacity, infrastructure, and accessibility are a prerequisite for shifting to distance teaching and learning. For distance teaching and learning different learning competencies and pedagogies are required. One of the greatest challenges was for teachers and faculties to seamlessly make a sudden and unprepared shift from face-to-face to distance teaching and learning. Most teachers rely on traditional methods of face-to-face classroom teaching, while most teachers who are active online have not taught in online modules before this crisis. Teachers are not prepared to impart online teaching due to the lack of capacity to deliver courses remotely. The level of readiness or preparedness of teachers to lift this challenge is very diverse. While there are a lot of materials online, there is no technical and pedagogical support available for the teachers. The



teachers in the present education system are not trained in distance teaching-learning modes and need digital skills training.

On the other hand, students are acquainted with classroom teaching and the jump in learning was a huge challenge. Students' capacity to adapt to and understand online teaching has also been a challenge, as most students are not experienced as online learners. While they may be quick to adapt, students face challenges that lead to dissatisfaction with their academic experience. Feedback from students can be leveraged to strengthen teaching, but feedback can also risk exposing frustrations that are challenging to address.

Infrastructural capacity and accessibility

Internet being the engine of online teaching and learning, one of the challenges faced by the students is the poor internet connectivity. Students in rural areas in the country are unable to move to online provision simply because they do not have access to the internet from home. Even assuming that the faculty have the facilities and intellectual capability to do online teaching, students have complained about the lack of facilities in their rural homes where they have returned following the closure of the schools and institutions.

The far-flung areas have issues of internet connectivity and poor satellite coverage of the mainstream national news provider, Bhutan Broadcasting Services (BBS). Furthermore, the availability and affordability of digital devices to support internet connectivity was another major challenge. Student's parents' were forced to purchase smart phones for their children because of the online mode of teaching adopted by the government. However, it was a huge financial implication amid the pandemic. Some institutions also distributed technical material (tablets or phones) to underprivileged students to minimize disruption in education. Noteworthy to mention, even cities, schools, and institutions did not necessarily have adequate technical infrastructure in place or technical tools available that are required to optimize distance learning. Those students who do not have the necessary access to online communication tools and the internet are hardest hit. There are a few instances, where the teachers traveled in remote villages to teach children in small groups, especially the areas with problems of connectivity. In the initial days, when schools and institutions were closed and social distancing measures were in place, teaching and learning were fully disrupted and looked unrealistic for students to be able to complete the academic year. Some institutions initially decided to fully interrupt their activities during the pandemic because they would not be able to reach the majority of their students through distance teaching.

Practical sessions

Learning through practical sessions are paramount aspects of education, and it varies from one field of study to another. Imparting specific practical lessons was another major challenge experienced concerning distance teaching and learning. Distance learning was a limitation particularly in science subjects involving hands-on sessions and access to laboratories. Most vocational training institutes and courses in medical and health, engineering, and several other disciplines faced challenges as the practice could not be substituted by distance teaching and learning. In these fields, students cannot perform well when studying from home where they do not have access to the required equipment. Performing the more practical aspects of a study is a challenge and the teaching provided during distance teaching learning is often limited to the theoretical dimension of the curriculum. The availability and accessibility of technical infrastructure is a necessary prerequisite for ensuring adequate distance teaching and learning. However, even in institutions where technical infrastructures are reliable and where teachers are ready to adapt to the change of mode of delivery, it was not possible to uphold the same quality of education without practical sessions.



Assessments and Examinations

The digital divide remains strong, both between and within countries. The recent pandemic further exacerbates already existing inequalities. The pandemic has stroked the early academic session of 2020. There is anticipation for the cancellation or postponement of final assessments and examinations; especially given that there is no clarity on how long the present circumstances will continue. The government, however, signaled to continue online education and devise some mode of assessment for promotion. The government advised that the teachers must ensure that their approach to making a reasonable assessment for students remain appropriate and effective in the current situation. As such students are not assessed on their learning outcome through structured exams, tests, and assignments; they are engaged in their educational journey to be independent learners by their respective teachers with continued support through online discussion. Nevertheless, the regular follow up activities are meticulously conducted to check students' learning outcomes. However, this method of assessment is new and worries students about their performances and grades.

Opportunity

While the pandemic has created havoc, confusion, and instability, it has also been an opportunity to change and evolve things for the better. Teacher's experience of working and teaching from distance is an important opportunity to learn from this exceptional situation. The situation has given us lessons to propose more flexible learning possibilities, explore blended or hybrid learning, and mixing synchronous learning with asynchronous learning. This unprecedented change in distance teaching and learning has led to the capacity building of teachers and faculties. Teachers have learned teaching tools that existed and tested new tools and systems to enable distance teaching and learning. The concepts of education are evolving positively and the shift in mindset is noticed. The experience of distance teaching has opened a new horizon of opportunities for teaching and learning. It also prepares the education system for future global emergencies and situations.

For assessment and examination methods, the urgency of the situation is not a call for lowering standards or changing learning outcomes. It allows educationists and policymakers to revisit our courses with a focus on critical learning outcomes. Over some time, there could be greater acceptance for online teaching, learning, and assessment methodologies. This could offer a push forward in terms of exploring the potential of flexible or mixed-mode learning. The distance online learning could become a more integral part of study plans and we could expect to see an increase in innovation in the field of teaching pedagogies as well as delivery modalities of teaching and learning. It provides us the opportunity to review online assessment and examination tools build on from the present experience.

The experience may provide scope for schools and institutions to revisit investments to improving human resource capacity and technical infrastructures. The shifts could involve shifting from management learning systems to cloud services, to the digitalization of administrative processes and access of documents, resources, and libraries. This upgradation would ultimately enhance teachers' opportunity to work from distance and provide an opportunity for learners to access lifelong learning. Age, disabilities, or distance would not be a barrier to teaching learning.

The end of the pandemic is unpredictable and accepting new normal and changes in teaching-learning pedagogies are highlighted. The current situation provides an opportunity for us to re-think and transform education policies. It is time to embrace technology and underpin the digital transformation in the education system.



Conclusion

COVID-19 has caused a universal impact on health, education, and economy. The collective fight against COVID-19 has secured a good place in the history of man-kind. While all sectors have experienced stress and constraints, one area that has suffered from a huge impact is the education system. The pandemic has shaken the traditional mode of teaching and it's a sharp nudge for all the academicians and universities across the globe to rethink and equip about online education. While it spawns big data, we know rather little about the value of online education. We know even less about how countries, universities, schools, and families will distribute time and money across physical, technological, and intercontinental platforms.

Education has just been shaken by forces beyond its control. Such a shock is un-surprising given the role schools now play in the general economy. Schools can and must direct their future for the global good and quickly reform national policies to embrace an online piece of learning for now and the future. There is an incredible amount of pressure on education institutions to cope during the current crisis and at the same time their resilience and creativity.

In Bhutan, besides health, education has received a high priority during the pandemic. Bhutan's response to COVID-19 and response to education in an emergency is applauded by the WHO and UNICEF. All schools and institutes were closed countrywide, leaving almost 190,000 students to attend classes online. The rapid delivery of lessons on television and radio, through online learning, as well as via the mass distribution of Self-Instructional Materials (SIM) has helped many children to continue learning despite schools being closed. All efforts are put in place to prevent a void academic year, to ensure future planning despite the high degree of uncertainty.

Prioritized Curriculum was developed by the Royal Education Council to facilitate students out of school to continue learning and progress to higher grades. Academic and non-academic staffs, across Bhutan, have gone beyond the call of duty, adapting to new teaching modalities and using innovative ways to ensure that their students continue to learn and receive support. There was minimal disruption to education and government provided the best possible support to reduce inequality of learning opportunities. In response to school and institution closures, UNESCO recommended the use of distance learning programs and open educational applications and platforms that schools and teachers can use to reach learners remotely and limit the disruption of education. The COVID 19 pandemic has brought disruption to education; however, it has thrown opportunity for the society to rethink future education and educational policies.

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