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### **E-learning during COVID-19 Lockdown among College Students of Nepal: Opportunities and Challenges**

**Poonam Pokhrel**

MPhil Scholar, Graduate School of Education

Tribhuvan University, Nepal

Email: [pmsnancy@gmail.com](mailto:pmsnancy@gmail.com)

#### **Abstract**

COVID-19 pandemic had affected all sectors of human life around the globe. Education is one of them where traditional method of teaching had to shift to virtual learning all of sudden in both developed and developing countries. Therefore, the study reflects the opportunities and challenges of e-learning among college students of Nepal during emergency shift of teaching paradigm due to COVID-19 lockdown. Cross-sectional quantitative study with random sampling method using online questionnaire was used to collect 385 data from college students of Nepal during COVID-19 pandemic lockdown. The study showed that 85% of the students had engaged in e-learning during COVID-19 pandemic lockdown whereas only 30% of the students had all the required resources for e-learning. The study further found that 70% respondents had developed new skills and could manage time for study despite lockdown. However, more than half of the students had challenging situations to access the Internet surfing for e-learning followed by management of electronic devices and interaction with teachers by nearly 33%. Educational institutions need to be responsive towards the challenges faced by students during e-learning, so that learning needs of the students will be fulfilled even in crisis situation.

**Keywords:** Crisis education, distance learning, higher education, online learning, teaching

#### **Introduction**

Corona Virus Disease (COVID-19) has grown to be the only topic of discussion in 2020 around the world since it was first reported in Wuhan, China on 31st December 2019 (World Health Organization, 2020). COVID-19, a strong disruptive force that has not only influenced our global health and economy but also has changed the way we teach, learn and communicate with our students since it

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declared as Public Health emergency of International concern. It has disturbed the regular education pattern and the standard practices that we adapted over many years (Sahu, 2020). Most of the countries have restricted domestic and international travel, as well as the closure of all places of large gatherings such as academic institutions, schools, colleges, offices, stores, and other public places as preventive measures against the novel Corona Virus disease (Koomson et al., 2020).

Government officials and public health experts are engaging in several measures, including social distancing, self-isolation, and quarantine, strengthening health facilities, and asking people to work from home to control the epidemic inside the country (Mustafa, 2020). According to the UNESCO report, 150 countries closed schools and educational institutions since March 25, 2020, affecting more than 80% of the world's student population (Wan, 2020). Exams, conferences, workshops, and sports (within or outside the institution) have all been postponed or cancelled at a usual number of universities, colleges, and schools around the world (Sahu, 2020). The teaching learning process in most of the nations shifted to virtual classroom over face-to-face starting from China, European countries extending towards rest of the world to engage the students in academic activities (Koomson et al., 2020). Several studies had found that private schools of India, Pakistan, Bangladesh adopted online teaching methodologies whereas the government schools had completely shut down due to poor access to digital learning during COVID-19 lockdown (Sharma, 2020; Wan, 2020).

The majority of actions that other nations have adopted have also been adopted by Nepal, including the announcement that schools and institutions will be closed starting on March 19, 2020, affecting students from the elementary level up to the university level. The majority of graduate college students are in the middle of their semester, and postgraduate students are about to begin their new session ("Nepal to Introduce "Digital Education" Amid COVID-19 Lockdown," 2020). School kids were prepared to take their final exams. As a result, numerous schools, colleges, and institutions began to continue their classes using online learning platforms.

The Nepali Ministry of Education has allotted funds to begin the nation's preparations for online learning. Due to the uncertainties surrounding the pandemic situation in Nepal, a number of educational institutions have started to provide two to four hour online classes using video conferencing (Ghimire, 2020). Similar to this, Tribhuvan University, considered to be the oldest university in Nepal, has begun to put E-learning into practice for its students. Tribhuvan University's Register's Office requested that all educational institutions resume their classes on April 24; however, practical classes through online portals will no longer be considered formal classes (Ghimire, 2020).

Kathmandu University's schools have conducted classes using Google handouts and Google meet Platforms for their Bachelor to Postgraduate Engineering, Education, Arts, Management, and Science students (Lamichhane, 2020). Online videos that had already been recorded were shared to speed up the teaching and learning process. For both the teacher and the student to engage in the teaching and learning process, they must have access to a computer, laptop, tablet, or smart phone with a reliable internet connection. Urban kids may have a device and access to the internet, but because of bad connectivity, they have either missed or been unable to finish the ("Nepal to Introduce 'Digital Education' Amid COVID-19 Lockdown," 2020.). Similarly, students in remote areas missed the sessions because of limited access to electricity, inadequate data services, or even a lack of equipment. The 'e-education' package has been introduced and deployed at universities by Nepal Telecom Communication ([www.Sharesansar.com](http://www.Sharesansar.com)) and N-cell Company ([www.techsathi.com](http://www.techsathi.com)) to make online teaching and learning more convenient while there is a lockdown. In a similar vein, other individuals involved in online education have started a variety of programs to support students' learning environments. Our lessons learned over the last few months will change how our pupils learn in the years to come. Therefore, it is crucial to pinpoint the influencing variables and difficulties that college students face when using online learning during the COVID-19 lockdown in order to transform the paradigm and integrate traditional classroom teaching with virtual learning.

Though, Digital education transformation has found to be a crucial step, a huge gap has seen in terms of access of learning among students. Although the change of education to a digital one has been proven to be an important step, there is still a big disparity in students' access to learning. According to a 2018 survey in the Western region of Nepal, 50% of students prefer online learning to traditional classroom settings. However, the precondition for the online class must be offered (Sharma & Bhatta, 2018).

According to a study from England, children from disadvantaged backgrounds and those who have less access to resources like Wi-Fi, the internet, smart devices, etc. than any other group of students will be the most vulnerable group in terms of education due to abrupt closures and less instruction time for parents (Eyles et al., 2020). The research also indicated a negative influence on academic achievement over the long and short terms. According to a Nigerian study, online education is by a factor of 89% the best substitute for traditional classroom instruction and learning in the event of a pandemic in the future (Hasan, 2020). Primary and secondary education had been imparted to students in South Africa

through a partnership with national television. Similar to this, they had begun using online learning for the territory's education, including YouTube, Microsoft Teams, Zoom, Skype, WhatsApp, and DStv (Mhlanga & Moloi, 2020).

During the COVID pandemic in India, students favored smart phones over other devices for online learning. Due to technological issues such internet access, data limits, device issues, and a lack of face-to-face engagement, they encountered significant virtual learning challenges (Aditya & Jha, 2020). Furthermore, according to more than half of the Indian respondents, online learning is convenient and takes place in a welcoming environment (Thiyaharajan et al., 2020). The owners of the program have worked hard to enhance its capacity as more schools, colleges, and institutions have embraced online education. Google stated that G-suite for education clients starting on July 1, 2020, would be able to record videoconferences with up to 250 people. Similar to that, Microsoft provided Teams' premium edition for free for a period of six months. The Zoom app had been upgraded. Zoom, the most downloaded app, increased the time restriction for its free video calls in schools in China, Japan, Italy, and the US upon request (Molla, 2020).

Various evidences showed that the adoption of virtual classes in both developed and developing countries was found to present challenges for both students and teachers in terms of technology, a lack of ICT skills, and financial constraints (Almaiah et al., 2020; Aung & Khaing, 2016; Almaiah & Al Mulhem, 2018). Although Nepal Telecom and N-Cell have advertised economic data e-packages to schoolchildren (Nepali Sansar, 2020) they were confronting device and network connectivity problems, that 30% of respondents characterized as a source of stress (Samikshya, 2020). As a result, the majority of students still prefer in-person instruction over online instruction. However, due to the new technology, educational institutions will eventually be required to change their teaching methods to include the use of the internet. Furthermore, it is believed that only approximately 56 percent of Nepal's population has access to the internet, with the majority of them residing in urban areas.

As a result, under the current situation, providing online classes in Nepal's rural schools is impractical. The inequities that occur between students who reside in metropolitan areas compared to those who live in rural regions, as well as between the rich and poor who are unable to use the internet, will widen the gap in continuing education with e-learning throughout the epidemic. Moreover, in a country like Nepal, the valid question of how we bridge the digital divide arises.

From the administrative standpoint of an academic institution, using any e-learning site before learning about the preferences and difficulties of e-learning from the views of students is not advisable. Thus, the study will be useful to get

understanding of college students' perspectives on online learning. The research may be useful for the academic stakeholders involved in the digitalization of the educational system with regard to students. In order to increase students' full participation in the teaching and learning process, organizations will decide on their target groups. Any information system's effectiveness depends on how its users use it. Therefore, it is important to take into account students' accessibility to and acceptance of the e-learning system in the context of e-learning during a pandemic.

When learning and teaching at home, both students and teachers have difficulties. In a developing nation like Nepal, there are socioeconomic, educational, and technological barriers that could impair the effectiveness of online education. Additionally, it will be beneficial for other researchers to carry out additional research on the subject of distant learning and education for underprivileged and minority populations. Hence, the study on opportunities and challenges of E-learning during COVID-19 Pandemic lockdown among college students of Nepal has been conducted. Online instruction was not a significant mode of instruction in schools and colleges prior to the epidemic, therefore the majority of teachers and students have little to no expertise with it.

### **Methods and Procedures**

A cross-sectional quantitative study was carried out to collect data. Due to the COVID-19 Pandemic lockdown condition, a purposive sampling approach was adopted to contact the instructors in various colleges. We contacted the instructors who had been in touch with the researcher and team. Afterwards, the teachers from the respective institution had given the survey form to their students through email, social media platform. Afterwards, they provide the google form links to their students randomly. Sample size of 385 was calculated from  $\frac{z^2 p(1-p)}{d^2}$  precision based method sample size calculation. The semi-structured responses were recorded in Google form and later imported and analyzed in STATA 13.0 software for descriptive analysis.

College students those are Nepal residents and are enrolled in one of the country's colleges were included in the study. There was a possibility that a student taking the Proficiency Certificate level would be under the age of 18, college teachers were approached to obtain their permission before distributing the survey's Google form. Informed consent was done by asking the respondents to fill the form and submit the response if they were willing to participate in the research. Likewise, it was clearly mentioned that if they didn't like to continue then they were not forced to submit the form. The study was approved and funded by research management cell, Balkumari College.

## Results

Students were from the age group of 17 to 37 years with the median age of 20. Table 1 presents the socio-demographic characteristics of the study population.

**Table 1**

*Socio-demographic Characteristics of the College Students (n=385)*

	Characteristics	Frequency (n)	Percentage (%)
Current age of the respondents (in years)	17-23	323	84
	24-30	47	12
	31-37	15	4
Gender	Female	332	86
	Male	53	14
Marital status	Unmarried	350	91
	Married	35	9
Family type	Nuclear family	299	78
	Joint family	86	22
Residence	Urban area	200	52
	Semi-urban area	141	36
	Rural area	44	12
Age at first computer use	Mean 12.9( $\pm$ 3.86)		
Basic computer skills before pandemic	Yes	317	82
	No	68	18

The majority of respondents (323 (84%) were between the ages of 17 and 23, 47 (12%) were between the ages of 24 and 30, and the remainder were between the ages of 31 and 37. The majority of respondents (332/86%) were female. 350 (91%) of respondents were single, and 299 (78%) were from nuclear families. More over half of the respondents (200) were from urban area, with 141 (36%) from semi-urban areas and the remaining 44 (12%) from rural areas. The respondents' average age at first computer use was 12.9 $\pm$ 3.86. Before the COVID-19 outbreak, the majority of respondents (82% of them) possessed basic computer abilities.

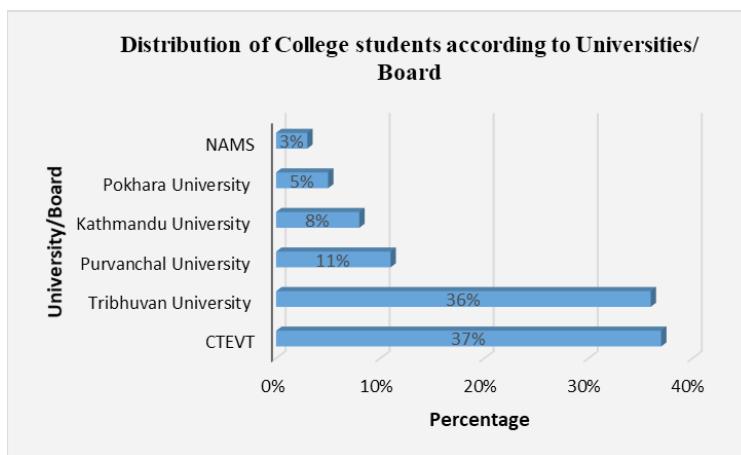
**Figure 1***Distribution of the Respondents according to the Universities/Board*

Figure 1 shows that more than one third students 37% were pursuing their degree from Council for Technical Educational and Vocational Training affiliated colleges followed by (36%) Tribhuvan University. Others were from Purvanchal University (11%), Kathmandu University (8%), Pokhara University (5%) and National Academy of Medical Sciences (3%).

Regarding the resource's needed for e-learning devices, internet, and software were mentioned by more than 80% respondents in each followed by electricity 78% and separate room by 60%. Only 34% of respondents identify IT skill as a resource for e-learning (Table 2).

**Table 2***Findings Related to Resources Needed for E-learning*

S.N.	Characteristics	Frequency(n)	Percentage (%)
1	Devices	323	84
	Internet	326	85
	Software	323	84
	IT skill	129	34
	Electricity	301	78
	Separate room	231	60

Multiple Response  $\psi$

Table 3 represents the findings related with opportunities and challenges of e-learning faced by College students during COVID-19 pandemic lockdown. The respondents were asked about their benefits aroused during E-learning at COVID 19 lockdown were more than two third of the respondents 270 (70%) had developed new skills followed by 162 (42%) felt e-learning helped to manage time.

**Table 3**

*Findings Related to Benefit and Challenges of E-learning during COVID-19 Pandemic*

QN	Characteristics	Frequency (n)	Percentage (%)	
1	Benefits of E-learning $\Psi$	Develop new skills	270	70
		Manage time	162	42
		Innovative learning	153	40
		Flexible	130	34
		Interesting	128	33
		Increased motivation	86	22
		Easy accessible	71	18
		Nothing	38	10
2	Challenges of E-learning $\Psi$	Access to internet surfing	219	57
		Managing electronic devices	151	39
		Interaction with Teachers	126	33
		Time management	107	28
		Stressed due to E-learning	86	22
		Motivation towards learning	81	21
		Access to software application	67	17
No challenges	38	10		

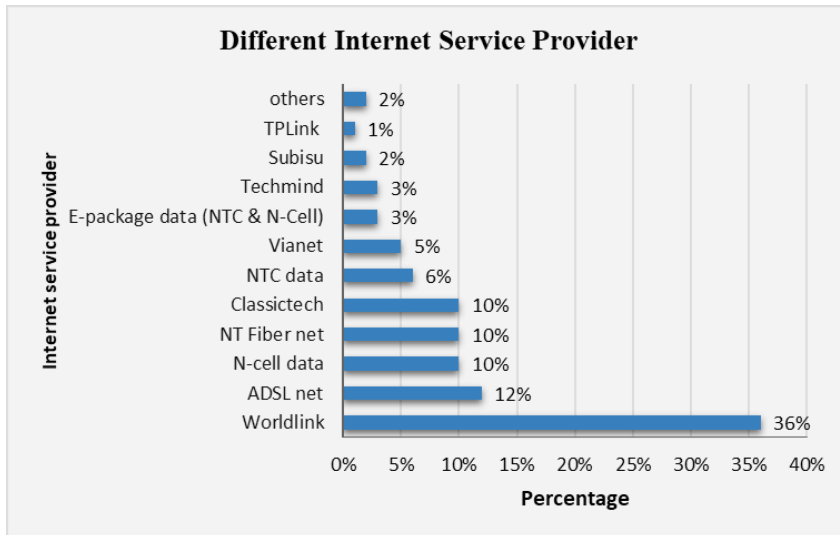


3	Recommendation for the better outcome of E-learning? $\Psi$	Training on uses of E-learning/ online learning uses	256	66
		Lecture notes	249	65
		Online library facility	232	60
		Useful websites	214	56
		Recorded videos	202	53
		Educational TV programs by National media	105	27
		Live sessions using Facebook	85	22
		Webinars	72	19
$\Psi$ Multiple response				

Likewise, 153 (40%) of the respondents felt e-learning as innovative learning. One third of the respondents took E-learning as flexible and interesting learning method respectively. 86 (22%) of the respondents were motivated for learning and 71 (18%) of them experienced E-learning as easily accessible method of teaching learning activity. Though most of the Nepalese universities had started E-learning in the lockdown due to pandemic, the College students had faced some challenges to continue their learning. More than half (57%) of the respondents had challenge to access internet surfing, followed by managing electronic devices by 151 (39%). The result show that respondents had encountered time management problem 107 (28%), felt stress for E-learning by 86 (22%), less motivation 81 (21%), and tough to access necessary software by 67 (17%). Only 38 (10%) reported that they didn't face any challenge during E-learning. Furthermore, the respondent's recommendation for the betterment of E-learning were training on uses of E-learning by 256 (66%), provision of lecture notes by 249 (65%), online library facility by 232 (60%), provide useful websites from the concerned colleges 214 (56%), provide recorded videos from the faculty by 202 (53%). Similarly, one fourth 105 (27%) of the respondents also mentioned TV Program in National media would be useful for better distance learning, and only 72 (19%) of them counted Webinar management to improve E-learning during pandemic lockdown. The respondents were further asked about the types of networks used for the internet connectivity (Figure 2).

**Figure 2**

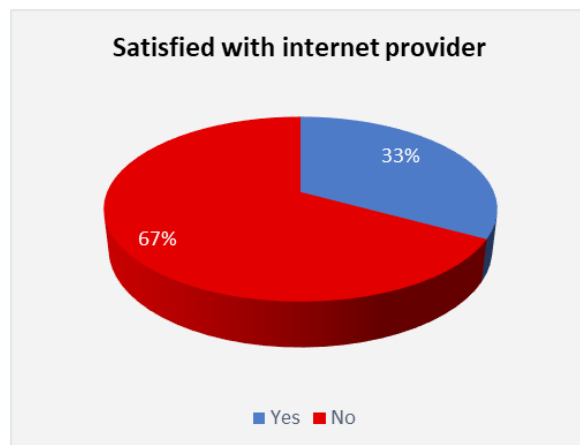
*Distribution of the College students according to Internet Service Provider*



Various internet service provider has provided internet facility to the students. Among them the Worldlink is the highest used server with 36% followed by ADSL net (12%). N-Cell data package, NT Fiber net and Classictech were equally used by 10% of the respondents in each category. Surprisingly, e-package data of NTC and N-Cell that can be used for learning purpose were used by only 3% of the respondents. Despite the e-package of N-cell and NTC for special recommendation to student along with other internet server had not provided satisfactory service by 67% (Figure 3).

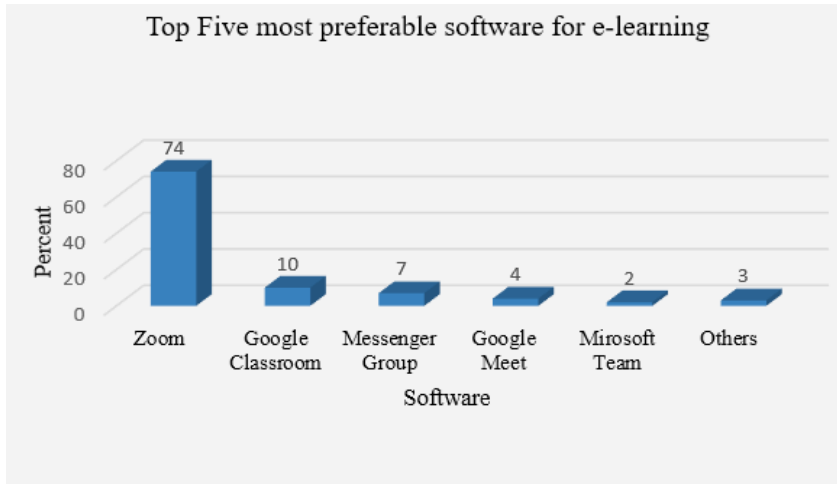
**Figure 3**

*Distribution of the College Students with Satisfaction to the Internet Service Provider*



**Figure 4**

*Top Five most Preferable Software used for E-learning*

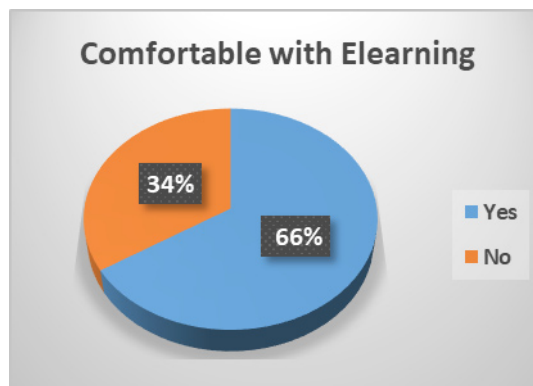


While using E-learning, the respondents were asked to list the preferable software that was used in teaching methods during the COVID Pandemic. The top five most preferred software were shown in figure 4. Zoom is the most preferred software application by 74% of the respondents followed by Google classroom, Messenger group, Google meet and Microsoft team by 10%, 7%, 4%, 2% and rest 3% preferred others respectively.

Lastly, college students were probed whether they were comfortable with E-learning and wish for E-learning in future? Majority of the respondents two third (66%) felt comfortable with E-learning during COVID-19 pandemic (Figure 5). Remarkably, only 44% desire E-learning in future (Figure 6).

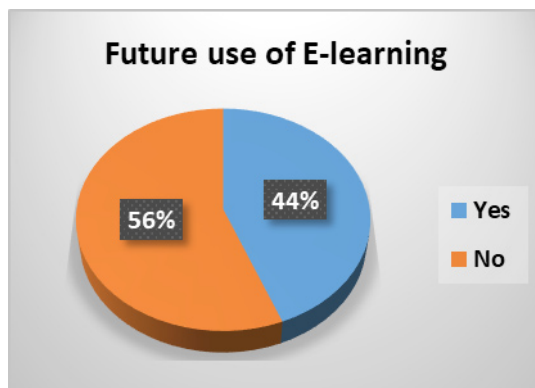
**Figure 5**

*Distribution of the Respondents with Comfort of E-learning*



**Figure 6**

*Distribution of the Respondents with their Desired of E-learning in Future*



### **Discussion**

The study has highlighted the benefits and shortcomings of e-learning faced by students during COVID-19 pandemic lockdown in Nepal. The COVID-19 outbreak has affected the world in various ways. In the same time with the advancement of technology, it also dramatically transformed the world in many ways. Among them, emergence of e-learning became the alternative of crisis management among academic institutions. Unavailability of the resources like internet facility, IT skills on application management were found to be challenging to the learners to participate in the online platform. Similar findings were shown in India and Nepal (T et al., 2020, Samikshya, 2020) where the bottlenecks of the E-learning were stated as connectivity problem, lack of face to face interaction, lack of devices from the consumer perspective.

Because more people are utilizing the internet to work, interact, and for entertainment during the lockdown, even those with high bandwidth internet have noticed that service is becoming interrupted or slowing down due to high collective consumption. In addition, geographical condition of Nepal has another role that hinder the availability and accessibility of the network. While mobile data packages are considerably more expensive for students to regularly afford, they are also comparatively quicker. Though the telecom organizations of Nepal NTC and N-Cell had offered E-package data for students, the users were very less in comparison to general data users. Due to internet and electrical issues, the respondents experienced disruptions throughout their online sessions. Additionally, students were required to use data packs or any other expensive mode of internet for their online courses.

In response to COVID-19 pandemic workplace software companies like Zoom, Microsoft, and Google have offered their software for free accommodate many more facilities like video meetings, waiting rooms, lecture, etc. (Molla, 2020). During this epidemic, e-learning tools are essential because they assist instructors, educators, and institutions of higher education facilitate student learning even while they are closed. Additionally, the majority of these tools are free, which can support ongoing education during this Coronavirus epidemic. The availability of mobile phones helped online learning succeed because most students used their social media in mobile phones. The results of this study are in agreement with (Kaid & Bin-Hady, 2019) observation, which supported the recommendation of better e-learning in future by utilizing social media platform.

### **Conclusion**

Emergency transition of educational pedagogy had various opportunities and challenges to the educational institutions, teachers and students. There is no certainty of emerging any other pandemic or crisis situation in future. Therefore, educational stakeholders have to rethink the teaching methods in different innovative ways in future, which will enable the college students to adopt the emergency management in education sector. Education system has to be strengthened with cooperation and collaboration among the policymakers, communities and other concerned stakeholders of national and international. College students and teacher both have to be trained enough in various ways of teaching learning method as well as college capacity has to be strengthened in terms of IT sector in future. Based on the study's findings, educational stakeholders were required to support higher education institutions with infrastructure that can be adapted to online education/ E-learning in the event of a future pandemic. Though the students were eager to participate in E-learning, they were hampered by a lack of accessibility and availability of materials. As a result, the government should ensure that the education budget for 2020 is completely implemented and that the basic infrastructure for online education, such as internet access, IT skill training, and an online library, is developed throughout the country. The findings of this paper also encourage to explore new horizons of digitalized, distance learning and the way forward. The teacher's perspectives on eLearning and their perception on opportunities and challenges have to be discovered in future so that the key stakeholders issue will be emerged and the way forward could be planned to improve educational activities.

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