Online Learning during COVID-19 Pandemic Period: Secondary Schools' Students Perception

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Abstract

COVID-19 has resulted in closure of educational institution across the world.Online learning had played a vital role in the process of teaching and learning during this pandemic. There was a shift of face to face teaching learning to online. The objective of this study was to explore the perception towards online learning of the students of secondary level students. It also identified student responses to online teaching, offered by their schools during the period of the COVID 19 pandemic. This study has utilized a survey research design with a quantitative approach. For this study, secondary level students of Kathmandhu were taken as population. A web-based cross-sectional survey was undertaken among 282 secondary level students from two schools of Kathmandu who had participated in the online classes during this COVID-19 pandemic. A structured questionnaire consisting of 21 items covering students' perception domain was distributed to the students using Google Form. The study found that the majority of the students 74% were satisfied with online learning. The finding of the study revealed that there was statistically significant in the association of students' satisfaction in software used in online class since the p value is less than 0.05 and the relationship between the software used in an online class and students' satisfaction is modest.

Keywords: COVID-19 pandemic, Learners' perception, online learning, Software

Introduction

COVID-19 has a massive impact on human life. This misfortune has moreover shaken up the education sector. Schools have been experiencing a change in teaching from traditional in-class face-to-face education to online education since the early spring of 2020. Due to the widespread Coronavirus disease (COVID-19) around the globe, educational institutions have started alternative ways of teaching and learning. As a

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consequence of the prolonged lockdowns, educational institutions in Nepal have been temporarily closed, and UNESCO (2020) estimated that nearly nine million (8,796,624) students in Nepal are affected due to nationwide closures in response to the pandemic. It has left a severe impact on the education sector. The United Nations Development Programme (UNDP) has warned that the attendance of children in schools may be bombarded back to the pre-1980 level, indicating that the level of attendance may be greatly slashed once schools reopen after the situation has come back to normal.

In a short period, teachers started to teach in front of a computer screen, and their students have to stay at home and take the courses through the internet. The current situation of pandemic (Covid-19) creates the importance of technology on education however there are some challenges and opportunities that the integration of technology into education (Bajracharya, 2019). Internet has become a common medium for interaction, communication, and collaboration within which learners and teachers engage in 'unique and irreplaceable learning opportunities' (Burbules&Callister, 2000). Online education is electronically supported learning that relies on the Internet for teacher/student interaction and the distribution of class materials. With online education, students can turn anywhere with internet access and electricity into a classroom. It can include audio, video, text, animations, virtual training environments and live chats with professors via zoom, google meet, messengers, Facebook, etc. which is a rich learning environment with much more flexibility than a traditional classroom.

Internet has increased the opportunity for flexible approaches to learning in the education environment (Reushl & McDonald, 2004). Institutions have responded to these opportunities moving into online learning as an assistant to face-to-face modes of course provision.

ICT Policy in Nepal

ICT policy in Nepal has remained relatively stagnant and is not being utilized to its potential by the government even though Nepal has the required human resources. The development of modern ICT policy started with the Telecommunications Act of 2053 (1997) and the Telecommunication Regulation of 2054 (1997), but the major policy on Information Technology was the Information Technology Policy of 2057 (2000). After a demand for the revised policy featuring Information Communication Technology as a whole, the government of Nepal devised the Information Communication Policy 2072 (2015). This policy stresses the need for a well-defined and consistent enactment

and regulatory framework for addressing converged regimes of telecommunications, broadcasting, and ICT. These policies as a whole regulate all the activities regarding information communication technology. This policy is also aimed at private sector participation for the Information Technology development in Nepal but the government is still not able to harness the potential and integrate ICT into the system. This policy is intended to create the foundational groundwork for an overarching vision of "Digital Nepal". As per this vision, Information and Communication Technology will be a key driving force in transforming Nepali society into a knowledge and information-basedknowledge society and strengthening Nepal's pursuit of equality and sustainable growth by leveraging Information and communication technology. National Information and Communication Technology Policy (2015) states that appropriate measures will be taken to facilitate and promote the integration of ICTs within the entire Nepali educational system to support administration, pedagogy, learning, and research, to improve the quality of education and training at all levels and enhance access to education. However, there are some barriers to implementation as Nepalese instructors need continuous guidance and support to integrate technology while delivering lessons (as cited in Bajracharya, 2019).

Theories of Online Education

Theories represent a set of assumptions, which says why something occurs and how it occurs. Educators consider the means, the end, the tools, activities, environment, and relevance/context of learning (Barab& Duffy, 2000). Online learning shows some unique qualities in that it crosses several of these considerations: it is a process (through activities), a tool, and is the environment itself in which learning takes place. Although there is no set theory of Online Learning educators and researchers (Anderson, 2008) highlight essential elements that create the foundations of such a theory. Online Learning has also been referred to as E-Learning. Constructivists see learners as active rather than passive. Knowledge is not received from the outside or someone else; rather, the individual learner interprets and processes what is received through the senses to create knowledge. The learner is the centre of the learning, with the instructor playing advising and facilitating role. Learners should be allowed to construct knowledge rather than being given knowledge through instruction (Duffy & Cunningham, 1996). The construction of knowledge includes both physical and intellectual learning activities (Phillips, 2005). A major emphasis of constructivists is situated learning, which sees learning as contextual (Hung, et al.

2004). Learning activities that allow learners to contextualize the information should be used in online instruction. If the information has to be applied in many contexts, then learning strategies that promote multi-contextual learning should be used to make sure that learners can indeed apply the information broadly. Learning is moving away from one-way instruction to Construction and discovery of knowledge (Tapscott, 1998). In his transformation theory, Mezirow (1991) uses both constructivism and cognitivism to explain how people learn. He sees learning as "the process of using a prior interpretation to construct a new or revised interpretation of the meaning of one's experience to guide future action".

Transformative learning involves reflectively transforming the beliefs, attitudes, opinions, and emotional reactions that constitute our meaning schemes or transforming our meaning perspectives. The use of transformative learning theory in the context of online teaching is grounded in three fundamental premises: (a) viewing online teachers as active adult learners, (b) recognizing that transformative learning occurs through critical reflection, and (c) considering that transformation happens as teachers conduct a pedagogical inquiry with technology (Taylor, 1998, p. 19).

According to Siemens (2004), connectivity theory is for the digital age, where individuals learn and work in a networked environment. As a result, we do not have control over what we learn since others in the network continually change information, and that requires new learning, unlearning old information, and/or learning current information. Siemens proposes some guidelines for designing learning materials for the learner, based on connectivity theory. Students need to understand, and be provided with, experiences in navigating and recognizing oceans of constantly shifting and evolving information. Siemens proposed eight principles of connective are which is particularly appropriate for courses with very high enrolments and where the learning goal or objective is to develop and create knowledge rather than to disseminate it.

Online Education in Nepal during COVID- 19

In Nepal, schools have remained closed since March. Schools have tried to resume classes several times but the raging COVID-19 has acted as a deterrent. As such, alternative methods of learning-teaching have been explored. Accordingly, some schools are conducting online classes through the internet. The government is also conducting online classes through radio and TV. However, not all school children can attend such classes as access to such technology is not available to all children across

the country. On the other hand, the Ministry of Education, Science and Technology has launched an e-learning portal for students up to grade 10. The materials contained in the portal include contents on all topics, which can be downloaded. The basic thrust of the portal is to supply required materials to those students who have been deprived of education due to the COVID-19 pandemic so that it will be easier for them to keep up with their studies when schools reopen. The government has asked both government and private schools to use the required materials kept in the portal.

The coronavirus may impact school children disproportionately. Children from poor families, mostly in rural areas, may find it difficult to afford textbooks and other required materials like exercise books and stationery. Such children and their parents perceive that education may not guarantee employment. Now, COVID-19 has affected poor families to a great extent. They have lost jobs and hence their income has also been affected. In such a situation, it is most likely that they may not send their wards back to school after classes have resumed. This is because such children may be forced to engage in labour to support their families. On the other hand, girl children may be married off. So the impact of COVID-19 may be pronounced on poor families, giving rise to an increased incidence of child labour and child marriage and a higher dropout rate in schools. Children from underprivileged groups are the first to suffer whenever a crisis such as the COVID-19 pandemic crops up. Some children, especially in rural areas, are educated through the remittances sent by their parents or siblings working in the Gulf and other countries. Many of such workers have lost their jobs and are either in the country or still marooned abroad. The children or siblings of such workers may drop out of schools for lack of financial resources. Ergo, the dropout rate is expected to rise.Inequality in education is based on geography, castes, socioeconomic backgrounds, gender, and other factors. UNESCO considers these factors responsible for the poor quality of education around the world. When it comes to education, male children, children from higher castes, and children from urban areas prove to be fortunate. Now that children have been confined to homes, some children may face psychological problems when schools reopen. Although some children have attended online classes, most are deprived of such education. Due to the disruption of classes, they may feel psychological burnout.Schools have resorted to online learning activities to minimize the impact and keep the students engaged during a pandemic. But there are challenges to conducting online learning activities due to the lack of tools required to connect and engage teachers and students online. The challenge is

complemented by the fact that a large section of students belongs to remote areas that lack basic internet connectivity. This study aimed to find out Students' perception towards online education during COVID-19. This study was only limited to finding out the perception of online education among students in secondary schools of Nepal. The study was limited to the selected schools of Kathmandu district. The research samples were 282 secondary level students of two schools in Kathmandu. The convenient Sampling method was applied for data collection due to the COVID-19 Pandemic Lockdown situation therefore the researcher couldn't gather the mentioned number of respondents.

Methodology

This study was a survey method with a quantitative approach. For this study, secondary level students of Kathmandu were taken as a population. They were students of grade nine and ten students of secondary schools of Kathmandu. The study site was the Kathmandu district. Random sampling was used to select the sample. A Google online survey was conducted to get a response in which 282 respondent students were taken as a sample. Due to the nationwide call for self-isolation and social distancing of all citizens, we have conducted a highly secured online delivered survey with a pre-structured questionnaire. The questionnaire was set to know about the effect of COVID-19 on the learning of each participant. The questionnaire consisted of demographic variables, socio-economic variables, and participants' reactions to different queries regarding their perception of online education. The statistical analysis of this study revolved around a cross-sectional type of research design, and the technique was carried out at one point time or over a short period where participants were selected based on a particular variable of interest. It consisted of both descriptive and inferential methods. Data were entered using Microsoft Excel and IBM SPSS software. Descriptive statistics analysis was done in SPSS software. Similarly, bivariate analysis was done using Chi-square and phi-square tests to know the statistical difference in online education with different demographic and associated variables. The p-value less than 0.05 was considered to be statistically significant. After the analysis process, the inferred data were presented as tables. The final report was prepared for publication.

Result and Discussion

Demographic Information

Table 1: Demographic information of the respondent

Variables	N	%
Gender		
Male	140	49.6%
Female	142	50.6%
Age in Years		
13-15	222	78.7%
16-18	60	21.2%
Education Level		
Class 9	156	55.3%
Class 10	126	44.7%

The above table shows the demographic representations of the respondents'. There were 50% male and 50% female students participating in this research. Out of 282 students, there were 140 male students and 142 female students. Most of the students 79% in this study belong to the age group of 13-15, and 21% of students are from the age group of 16-18. Among them, 55% of students are from class 9 and 45% of students are from class 10 as the respondents.

The practice of Using Computer and the Internet

Table: 2 Practice of Using Computer and the Internet

Variables	N	%
Experience		
First-time experience	246	87.2%
With previous experience	36	12.8%
Device Used		
Laptop	97	34.4%
Mobile	173	61.3%
Others	12	4.3%
Software		
Zoom	65	23%
Google Meet	37	13.1%
Teams	75	26.6%
Others	105	37.3%

The above table shows the practice of using computers and the internet by respondents. The majority of 87% of students had first-time experience of online teaching whereas only 13% of the respondents had previous experience of online learning. In the same way majority 61% students used mobile, 34% used laptops, and 4% of students used other materials for online learning.23% of students use Zoom app, 13% of students used Google Meet, 27% of students used Teams, of and 37% students used other devices for online learning.

Bivariate and Cross tabulation Analysis

Table 3: Cross-tabulation, of students' satisfaction and software used in online class

		Software used in an online class				Total
Satisfaction of students		Zoom	Google Meet	Teams	Others	
	Very dissatisfied	1.5%	5.4%	5.3%	8.6%	5.7%
	Dissatisfied	24.6%	13.5%	9.3%	5.7%	12.1%
	Satisfied	69.3%	75.7%	70.7%	78.1%	73.8%
	Very satisfied	4.6%	5.4%	14.7%	7.6%	8.5%
Total		100%	100%	100%	100%	100%

The above cross table shows that satisfaction level of students for using software in online class 1% of students was very dissatisfied with Zoom app, 5% of students were very dissatisfied with Google meet.5% of students were very dissatisfied with Teams and 9% students were very dissatisfied with others apps.25% of students were dissatisfied with Zoom 13% of students were dissatisfied with Google meet. 9% of students were dissatisfied with Teams and 8% students were dissatisfied with other apps. About satisfaction 69% of students were satisfied with Zoom.76% of students were satisfied with Google meet, 71% students were satisfied with Teams. And 74% of students were satisfied with other devices. Among those students 7% of students were very satisfied with zoom, 5% of students were very satisfied with Google meets, 15% of students were very satisfied with Teams, and 8% students were satisfied with other apps. In overall satisfaction majority of students, 74% were satisfied with online teaching.12% of them were dis satisfied and 8% were very dissatisfied and 8% were very satisfied with online teaching.

Table 4: The Chi-Square, P-value, and Phi value table of Students' Satisfaction and Software used in Online Class.

	Value	Degree of Freedom	Asymptotic Significance	Approximate Significance
Pearson Chi-Square	21.646	9	0.010	
Likelihood Ratio	20.844	9	0.013	
Linear-by-Linear Association	0.865	1	0.352	
Phi	0.277			0.010
Cramer's V	0.160			0.010
No. of valid Cases	282			

Above table shows chi-square =21.646, degree of freedom= 9 and p-value =0.010. Since p= 0.010, using 0.05 cut-off point, our difference is statistically significant since p is less than 0.05. That means the significant difference is found in the association of students' satisfaction in software used in an online class. We know that the chi-square test does not answer how strong the relationship is. To measure the effect size of the chi-square test, we have to analyze the phi value. Here we have phi-value = 0.277. According to Muijs (2004), we describe the phi-value as less than 0.1 ($\phi < 0.1$) is weak, phi-value is greater than 0.1 and less than 0.3 ($0.1< \phi < 0.3$) is modest, phi-value is greater than 0.3 and less than 0.5 ($0.3< \phi <0.5$) is moderate, phi-value is greater than 0.5 and less than 0.8 ($0.5< \phi < 0.8$) is strong and phi-value is greater than 0.8 ($\phi > 0.8$) is very strong effect size. From Table 3, the phi-value is 0.277 and this is the moderate effect size. Therefore, the relationship between the software used in online classes and students' satisfaction is modest.

Findings and Conclusions

To continue teaching-learning during the lockdown, many countries in the world have used radio, television, mobile technology, or home delivery of printed materials to help students in their self-learning activities at home during COVID-19 (Robert, 2020). The government of Nepal has implemented an alternative learning system for students grouping them into five categories: students outside the access to any technology, students with access to radio, students with access to TV, students with access to computers, and students with access to computers and internet. The government has been instructed to provide learning opportunities to all students at their homes with the appropriate mode of delivery using print, audiovisual and online resources (Ministry of Education Science and Technology, 2020). The guidelines recognized online teaching as one of the teaching-learning modes.

Online education has become an alternative mode instead of a traditional face-to-face mode to prevent the spread of coronavirus. Online classes are flexible for both teachers and students but such classes have their challenges (Gillett-Swan, 2017). The attention of students and safety issues can be important challenges during online classes (Phuyal, 2020). Also, children from the low-income working class cannot join the online class as they often do know have access to a computer or reliable Internet service (Ghimire, 2020; Ojha, 2020). Online education can be one important knowledge-sharing platform. This study found that the majority of 87% of students had first-time experience of online teaching. It is also found that the majority 61% of students used mobile phones for online learning. The study revealed that students used different apps for their online learning 23% of students use the Zoom app, 13% of students used Google Meet, 27% of students used Teams, and 37% of students used other devices for online learning. Majority of students 74% were satisfied with online teaching. It is statistically significant since p is less than 0.05. That means the significant difference is found in the association of students' satisfaction in software used in online classes. In the same way, the relationship between the software used in the online class and students' satisfaction is modest. Online classes can be a complement to the physical classroom and an alternative during the COVID-19 pandemic. Stakeholders of schools should work in many areas to enhance the effectiveness of online learning and make it more similar to classroom education. The government also needs to provide free internet facilities to the students and teachers during the time of pandemic so that all schools can operate online classes.

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