Perception of Nepalese nursing students toward E-learning in Nepal

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Abstract:

BACKGROUND: E-learning is the delivery of learning and training through digital resources. Although e-learning is based on formalized learning, it is provided through computers, tablets, and even cellular phones those are connected to the Internet. This makes it easy for users to learn anytime, anywhere, with few, if any restrictions.

MATERIAL AND METHODS: A cross-sectional study was done, and data was obtained through an online survey method from September 14, 2020 to October 08, 2020. Questions were created in "Google Forms." The targeted population was all nursing students from all over Nepal. There were a total of 365 respondents. A pilot study was done on 10 students. After the pilot study, the same question was distributed to all the respondents.

RESULTS: Almost half (40.8%) got disturbed in their online class because of electricity; around half of the respondents (41.9%) are disturbed in their online class because of Internet problems. Moreover, around half of the respondents (44.4%) use the data pack daily, and 38.6% use the data sometimes.

CONCLUSION: The study concludes that most students suffered from Internet disturbance and electricity problems during online classes. Because of electricity and Internet problems, most students feel anxious during class, and most of the students are not able to attend classes. Most students are compelled to use data packs for online classes. However, the course may not be completed if the problems arising during online classes are not solved.

Keywords:

E-learning, internet, nursing students, online classes, perception

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Introduction

E-Learning is education that takes place over the Internet and is referred to as "e-learning" among other terms. However, online learning is just one type of "distance learning"—the umbrella term for any learning that takes place across distance and not in a traditional classroom.

Nursing is not simply the ability to successfully carry out a series of routine tasks. Instead, nursing is a holistic practice, including the physical, psychological, social, environmental, and political features of an illness and its impact on patients and their families.

Nowadays, the attainment of education and knowledge goes beyond the boundaries of educational institutions. The concept of "online classes" refers to all forms of teaching and learning through Information and Communication Technologies. This includes any course content that is delivered through the use of the Internet, audio and video tape, CD-ROM, satellite broadcast, MP3 players, podcasts, interactive television, PDAs, email, and blogs. Indeed, online classes are a relatively new phenomenon that is growing in a significant number of universities around the world, enhancing the learning and teaching processes.[1] Online learning aims to seek changes in the pattern of the whole academic process. Online learning

is known by many names and terms like learning through the web, online learning, and instruction through computer assistance.[2] Some specialists were of the notion that online learning is a way of teaching in which multiple integrations of technology are sought while some were of the notion that it is a substitute for distance education, which is facilitated by the application of the Internet and considered as an effective way of rapid communications.[2] Online learning is a set of integration of various types of technologies solely for the purpose of promoting education. Online learning is a broad term, which provides a complete description of various types of online learning adopting modern Information and Communication Technologies (ICTs).[2] Online learning is catalyzing a pedagogical shift in how we teach and learn. There is a shift away from top-down lecturing and passive students to a more interactive, collaborative approach in which students and instructors co-create the learning process. The instructor's role is changed from the "sage on the stage" to "the guide on the side."

A deep and thorough study of the literature indicated a significant and positive association between students' interest in online learning, and the usability and easiness of the application of computers. The majority of past research works identify the barriers to the use of online learning and the factors, which have an impact on the interest of students in online learning. The negative attitudes of students toward online learning were also found in some past research studies. The negative attitudes of students toward online learning were identified with a low level of computer skills, technological anxiety, and computer hardware problems, as well as poor study skills, low motivation, and an inability to work independently.[2] Another negative factor regarding online learning was that online classes lack personal contact with the teacher and peers. Several research studies reported that some students had feelings of isolation and loneliness when they were required to face a computer screen.[2]

According to Nepal Telecommunication Authority (NTA), a total of 821,249 subscribers are using the Internet in Nepal in 2019. The country has a population of 29,086,128 as of 2020, based on World meter which depicts that not all students have access to high-speed Internet.[3,4]

In the context of Nepal, the practice of online classes is new to many colleges (teachers and students), and also there is no good access to electricity and Internet service in most parts of the country. So, this study was carried out to access the problems faced by students of Nepal during online classes.[5]

Materials and Methods

Study design and setting
A cross-sectional web-based survey was conducted in Nepal using a self-administered questionnaire, focused on all nursing students of Nepal. A survey was conducted by the Department of Medical-Surgical Nursing, Unique College of Medical Science and Hospital Pvt Ltd, affiliated with Purbanchal University, Nepal. To obtain data from all over the country, the snowball sampling method was used, and the web-based survey questionnaire was distributed through different social media (Facebook, email, and WhatsApp).

Study participants and sampling
The target population of this study involved MSc. nursing students, BSc. nursing students, and "Proficiency Certificate Level" (PCL) nursing students of Nepal. Yamane's (1967) formula (i.e., $n = N/1 + N (e)^2$) was used for the determination of sample size considering a margin of error of 5% and confidence level of 95%, and a simple random sampling technique was used for the calculation of sample size. The minimum sample size of our study was found to be 150.[6] Nursing students studying PCL nursing, bachelor's in nursing, and master's in nursing were included in the study, whereas students studying Ph.D. in nursing and students who were included in the pilot study were excluded.

Data collection tool and technique
The primary quantitative data was obtained by self-administered questionnaire through an online survey method which was developed in Google Forms. All the nursing students who filled out the questionnaire at the time of collecting data were included in the study. All the participants completed the questionnaire, and none of them were denied. Data collection was done from September 14, 2020 to October 8, 2020. A required correction was made by conducting a pilot study on 10 people. Data collection was processed and analyzed using IBM SPSS Statistics for Windows version 16. Descriptive statistics including frequency, percent mean, and standard deviation were performed to account for the general characteristics of the participants. A simple percentage distribution was used to assess Nepalese nursing students' perceptions of e-learning. A descriptive analysis with a significance level of 0.05 was chosen for calculating proportions and frequencies.[7]

Ethical consideration
The Ethical Review Board (ERB) of Purbanchal University Nepal approved the ethical permission for the study. Privacy of all the personal information was kept throughout the study by securing the data and making participants' information anonymous. A consent section was added to the questionnaire form and sent to

all the participants to get a response as agree or disagree to participants. After obtaining ethical clearance from Institutional Ethical Committee and administrative approval from Unique Medical College to conduct the pilot study, data were collected from all the nursing students from all over Nepal. The students were selected by purposive sampling technique based on inclusion and exclusion criteria, and informed consent was obtained from the students. The sample size of the study was 10. After choosing 10 students for the pilot study, they were given instructions about the study. There were four sections of questions, students were asked for their consent first, and then question-wise answers were noted. Face-to-face questionnaire was distributed. Students excluded who participated in the pilot study. Appropriate statistical tools and techniques were used by researchers for the purpose of validating and analyzing data collected from sample participants. Cronbach's alpha method was used to measure the reliability of the internal consistency or latent constituents among the manifest variables used in this study. A confirmatory factor analysis (CFA) technique using the software AMOS (version 24) was used in the study to examine whether all measured variables explicitly explained each potential structure.

Results

General characteristics of respondents

Among 365 respondents, More than half (53.7%) are currently studying diploma; respondents studying bachelor and masters are 40.8% and 5.5%, respectively [Figure 1]. Likewise, more than half (52.6%) of respondents is from urban areas, [Figure 2] and the majority of respondents (46.8%) are from colleges affiliated with the "council for technical education and vocational training" (CTEVT) [Figure 3].

The attitude of respondents toward the benefits of E-learning

Table 1 highlights the attitude of respondents toward e-learning where more than half (57.5%) enjoy taking classes from home more than from school. Likewise, the majority of the respondent (63.8%) did not feel difficulty facing many people in school. Most of the respondents (85.5%) are glad to be updated with digital

technology used for taking class, also the majority of the respondents (82.7%), (79.2%), (86.8%), and (86.6%) thought online class saves time, and they could involve in an online class as well as take care of their family, save travel cost and decrease the risk of accident, respectively.

Problems/challenges of respondents during E-learning

Table 2 depicts the problems of respondents regarding e-learning, where (12.3%) of respondents did not have full Internet access for their online class. Almost half (40.8%) got disturbed for their online class because of electricity; likewise, around half of respondents (41.9%) are getting disturbed for their online class because of Internet problem. Moreover, around half of respondent (44.4%) uses data pack daily and 38.6% uses data sometimes. Only 79.2% of the respondents had full knowledge regarding media used for online education (like joining, recording, mute–unmute, leave, etc.). 23.3% of respondent did not understand the full course (content) provided by teacher during online class without any queries. Also, few respondents (17.8%) are not happy with the time allocated (routine) for online class. Likewise, around half (46.3%) of the respondents felt like they are not getting full attention from teacher in online class every time. 74.2% of the respondents have gadgets available at their home for their daily online class, and only 57.5% of the respondents use laptop/computer for their online class every time. It is clearly evident that more than half (64.9%) of the respondents
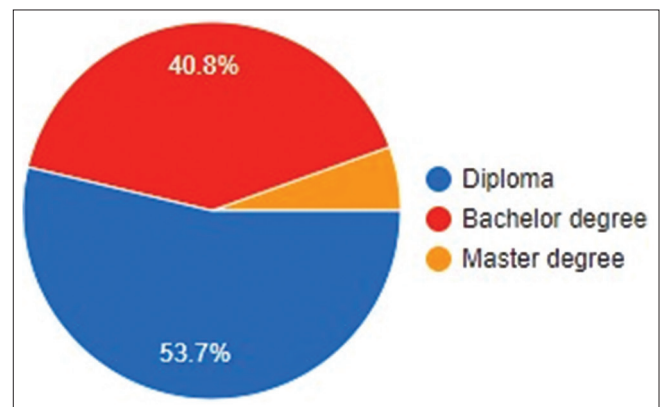

Figure 1: Pie chart indicating the percentage of participants studying different level of education (*n* = 365)

Table 1: Attitude of respondents, toward benefits of e-learning

Statements	Yes (%)	No (%)	Don't know (%)
I enjoy taking class from home than from school	57.5	38.1	4.4
It was difficult to face many people in school, which now is easy for me because of online class	31	63.8	5.2
I am glad to be updated with the digital technology used for taking a class	85.5	11.5	3
Online class saves time so I can do lots of my other works	82.7	13.7	3.6
I am happy that I can involve in an online class as well as take care of my family at the same time	79.2	17.8	3
Online class saves my travel cost, as I do not travel from home to school	86.8	10.7	2.5
Online classes decrease my risk of accidents, as I do not travel from home to school	86.6	11.5	1.9

Table 2: Problem/challenges of respondents during e-learning

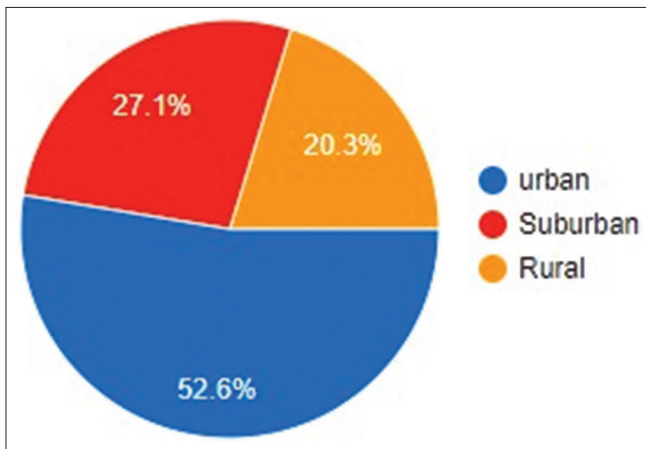| Statements	Yes (%)	No (%)	Sometimes (%)
I have internet access for my online class at my home	80.8	12.3	6.8
I get disturbed for my online class because of electricity problem	40.8	44.7	14.5
I get disturbed for my online class because of internet problem	41.9	49.9	8.2
I use internet data pack for my online class	44.4	17	38.6
I have full knowledge regarding media used for online education (like joining, recording, mute-un mute, leave etc.)	79.2	9.9	11
I understand the full course (content) provided by teacher during online class without any queries	48.2	23.3	28.5
I am happy with the time allocated (routine) for online class.	70.7	17.8	11.5
I feel like I am not getting full attention from teacher in online class	46.3	20.8	32.9
I have gadgets available at my home for my online class	74.2	15.3	10.4
I use laptop/computer for my online class	57.5	26.6	15.9
I use mobile (cell phone) for my online class	64.9	9.6	25.5
I can have good communication with my teacher during my online class	53.7	15.1	31.2
I am not interested to join my online class even if I do not have any problem for joining	29.3	35.3	35.3
I get notes/lecture materials from teachers even when I am not able to join my online class	65.5	11.5	23
I can clarify my queries through question/answer session in online class	66.6	8.2	25.2
I get regular assignments/homework from the teacher after online class	67.1	11.2	21.6
I do not have any problem doing homework/assignments after online class	50.1	17.3	32.6
I am happy that my teacher is providing feedback for my homework/assignment	67.7	6.6	25.8
I feel like I am suffering from eye problems/headaches because of my online class	45.2	22.2	32.6
I am anxious because of an internet/electricity problem during my online class	47.7	20	32.3

Figure 2: Respondents from different regions

Figure 3: Pie chart representing the participants from different universities and board (*n* = 365)

use mobile (cell phone) for their online class. Around half of the respondents (53.7%) could not have good communication with their teacher during their online class. Likewise, only 35.3% of respondents are fully interested to join their online class even if they did not have any problem for joining. Only 65.5% of the respondents got notes/lecture materials every time from teachers even when they were not able to join their online class. Also, only 66.6% of the respondents could clarify their queries through question/answer session of online class. Only (11.2%) of the respondents did not get regular assignment/homework from teacher after online class. Only 50.1% of the respondents did not have any problem in doing homework/assignment after online class. Likewise, only 67.7% of the respondents are fully happy that their teacher was providing feedback
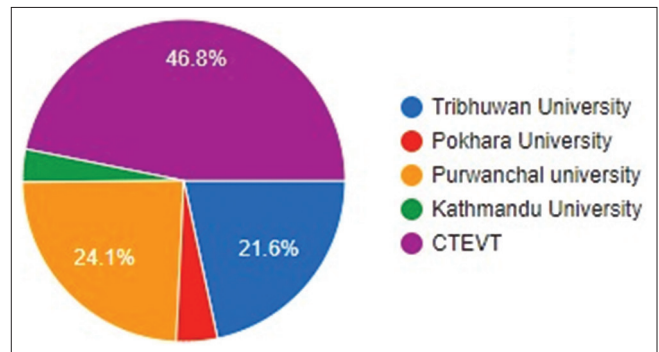
for their homework/assignment. Around half of the respondents (45.2.5%) felt like they are suffering from eye problem/headache because of their online class every time. Moreover, around half of the respondents (47.7%) were anxious because of Internet/electricity problem during their online class every time and also (37%) are anxious because they could not understand full course (content) provided by teacher in their online class.

Discussion

In this study, 265 respondents participated, of whom 96.4% responded yes to participation in our online survey. The respondent ages ranged from 15 to 50 with the majority 72.5% being aged between 20 and 30. Most of the respondent were doing diploma (53.7%) where bachelor degree was 40.8% and master degree was 5.5%, respectively. More than half of the respondents

are living in urban area 52.6%. About 46.8% respondents were from CTEVT diploma student. Similar studies done in Nepal (2020) show that majority (40.5%) of the respondents were of age-group 20–24 years. Majority of respondent was from BSc. Nursing (44.6%). Likewise, around half of the respondents (49.8%) were from municipality at the time of COVID-19 lockdown.[3]

In this study, more than half of students (57.5%) enjoy taking class from home than from school; because of this they can help their parents in home, and they can save their travel cost (86.8%) and less chance of accident (86.6%). Similarly, study done on "The impact of covid-19 on learning-The perspective of the Ghanaian student" highlights that only 18.7% of the respondents agreed of being able to learn effectively in the house.[8]

More than half of the students (85.5%) in this study were glad to be updated with digital technology used for taking class. It saves their time to do other works (82.7%) and can take care of their family at the same time (79.2%). More than half of the students (63.8%) show they do not have any difficulty in school to face. Similarly, the same study in Nigeria shows that 75.6% of the students are glad to be updated with digital technology. Students were happy taking class in school more than through e-learning.[9]

Our study shows that more than half of the students (63.2%) got disturbed for their online class because of electricity problem, and (63.6%) because of Internet problem. A study done on "Exploring the critical challenges and factors influencing the e-learning system usage during COVID-19 pandemic" shows that technological factors were also one of the critical factors that affect the usage of e-learning system according to respondents.[10] Likewise, almost half of the teachers (42.3%) got disturbed for their online because of the electricity problem, and (48.1%) because of the Internet problem.[11]

In this study, more than half of the students (80.8%) have Internet access at their home, where because of electricity, 40.8% students get disturbed for online class. Almost half of the students (49.9%) get disturbed because of Internet problem. A study done among Jordanian and Saudi Arabia students and teachers showed that technological factor is one of the instrumental factors in affecting the effectiveness of online education.[12] Similar technological problems with connectivity were faced by students of Ghana during online education in a study done by Henaku.[13] These technological factors were relatively more in survey done by Subedi *et al*.[3] in nursing students of Nepal. They reported more than half of the students (63.2%) had disturbances in online classes due to electricity problem and 63.6% due to Internet problem. About 44.4% of students use data

pack for Internet. 79.2% of the students agreed about the full knowledge regarding media used for online education. 48.2% of students agreed of understanding the full course through online education. More than half of students (70.7%) were happy about the schedule of class. 46.3% students agreed as they were not getting full attention from teacher. Nowadays, it is common to have gadgets for Internet at home. 74.2% of students agreed they have gadgets at their home. More than half of the students use their laptop (57.5%) and cell phone (64.9%) for their class. 35.3% of students agreed sometimes they were not interested to join online class even they do not have any problem, where 29.3% agreed and 35.3% not agreed. More than half of the students (65.5%) agreed that they get notes without attending classes, where 66.6% of students agreed they can clarify their queries through question answer session, where 67.1% agreed of getting daily assignment, 50.1% students agreed not having problem in doing them, and 67.7% are happy they get feedback from their teacher, respectively.

More than half of students (45.2%) agreed they are suffering from eye problem/headache because of online class, and 47.7% were anxious because of Internet/electricity problem; in majority 38.6% student sometimes feel anxious about not understanding the course, respectively. Also many studies have shown that many students are not comfortable with online classes and lead to rising in the stress level of students.[14] Corroborating the benefits of e-learning, online collaborative learning in HE, (2003) affirmed that the Internet provides a rich source of information with different perspective in research, high speed, and countless resources to student work.[15]

Conclusion

This chapter basically reiterates the study's aim and objectives and outlines the extent to which these have been achieved. It also summarizes the main findings and conclusions and provides recommendations for enhancing e-learning methods and improving the quality of technological skills of nursing students. The study's aim has been to examine the perception of nursing students toward e-learning. Our study shows that students are ready to adopt e-learning and recognize its uses in nursing education. However, they consider the difficulties with technical support and stress of using technology as a hindrance. This study recommends that e-learning is highly valued by nurses in their education. However, technical support needs to be updated as strong technology set up makes the backbone of e-learning. In order to understand the underlying reasons for students' perception, a qualitative study of the factor will help in implementing strategies to produce more positive perception towards e-learning. The study concludes that most of the students suffered

from disturbance of Internet and electricity problem during online classes. Because of electricity and Internet problem, most of the students feel anxious during class and most of the students are not able to attain the classes. Most of the students compelled to use data packs for online classes. Although the course may not be completed if the problems arising during online classes are not solved.

Students perceive easy-to-use e-learning methods may also depend on the instructors' attitude toward e-learning. An instructor demonstrating commitment and a positive attitude toward e-learning is more likely to erase the perception that students normally hold about e-learning being difficult to use.

The current research has provided insight into students' perception toward e learning and how e-learning and students' knowledge and skills can be enhanced to ensure successful learning programs and methods within educational institutions. It is thus the researchers believe that incorporation of the above cues will improve student's perception toward e-learning and facilitate or inform e-learning within the college of nursing all over Nepal.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published, and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Conflicts of interest
There are no conflicts of interest.

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