Original Article

Attitude of Nursing Students of Nepal towards Online Learning

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ABSTRACT

Introduction: Technology has influenced almost every aspect of life, and education is no exception. Digitization in education has made it more convenient and flexible. Likewise in present situation caused by COVID-19 pandemic, online education is an option to continue teaching-learning activities. Many nursing colleges of Nepal have started online classes. This study aims to assess the attitude of nursing students of Nepal towards online learning; as learner's attitude is one of the critical factors for meeting the learning objectives.

Methodology: A quantitative web-based cross-sectional study was conducted among 423 Nepalese nursing students. Data collection was done online through a structured, self-administered, pre-tested questionnaire consisting of socio- demographic and academic questions and 5-point Likert scale to assess the attitude of the students. Data were analyzed in SPSS 16 using descriptive and inferential statistics.

Result: Total 423 students were enrolled in the study. The mean age of the students was 22.22 years. One-third of the students were from Kathmandu University-affiliated colleges and half of them were studying B. Sc. Nursing. Sixty nine percent of them owned both mobile and laptop whereas $1/3^{rd}$ of them had weak Wi-Fi connections. Fifty two percent had positive attitude towards online learning, which was significantly associated with age (χ^2=8.37, p-value 0.039), university affiliation (χ^2=5.23, p-value 0.022), course of study (χ^2=14.03, p-value 0.001), and strength of internet connection (χ^2=25.97, p-value<0.001).

Conclusion: Only half of the students were having a positive attitude towards online learning, which is not sufficient for effective results. It is recommended that training should be provided to teachers to run online classes effectively and the university/institute should conduct online seminars and workshops to boost students' skills regarding online learning. Lastly, government should emphasize and work for making the internet accessible for everyone, everywhere.

Keywords: nursing, attitude, online learning, students and Nepal

INTRODUCTION

Nursing, as an integral part of the health care system, includes promotion of health; prevention of illness; and care of physically ill, mentally ill, and disabled people of all ages, in all health care and other community settings.[1] Nursing education incorporates both theory and practical training to make the students responsible and skillful. Technology is instrumental in the nursing education. Computers have become basic tool for education these days.[2,3] In the present era, information technology has been swiftly merged into healthcare. As a result, nursing programs are facing challenges to educate students so as to deal with advancing technology which includes clinical information systems and computerized medical equipment.[4]

Online learning is education that takes place over the internet, as a form of distance learning.[5,6] The recent development in teaching and learning has allowed college students with the access to online learning..[7] Despite many positive aspects of online learning, such as the lack of need to be confined to a particular geography, time flexibility for attending online classes, no need for physical infrastructure and availability of information in bulk; it has challenging issues like lack of competent faculty, administrative support, attitude of students and access to gadgets.[8] Currently the pandemic state, where the whole globe is fighting against COVID-19, has already infected more than 180 million people worldwide taking life of nearly 4 million people.[9] Nepal has also taken its steps to prevent a widespread outbreak of the disease, and one among them is imposing lockdown which resulted in closing schools and universities, and postponed all academic examinations.[10] In such condition many universities are running online classes.[11]

Online learner's attitude was operationally defined as "*learner impression of participating in e-learning activities through computer usage.*"[12] Pituch and Lee from their empirical studies indicated that learner had greater intention to use the system if the system was user friendly.[13] Nepal is in the early phase of online learning where most of the students are using free software like Skype, Zoom, Google classroom and Microsoft Teams etc.

Studies have shown that learner's attitudes play a role in predicting effectiveness of online learning.[8] To ascertain the successful online learning program, many researches provide evidence that learner's attitude are critical factors to ensure its effectiveness.[8,11,13] Students' satisfaction of online learning depends on learners' characteristics, technological factor, instructors' characteristics and course management and coordination.[11,14,15] A study conducted among the nursing students in Pakistan showed that the mean scores for perceived usefulness, intention to adopt, ease of learning and pressure to use e-learning (3.68, 3.74, 3.64 and 3.69 respectively) were significantly more than the mean scores for technical support and e-learning stressor (3.25, 3.05 respectively).[13] In contrast, another study showed no significant relationship between students' interest in computer, usefulness of computer to students and easiness in using online learning at undergraduate level. Poor internet quality, with least understanding of students about online learning, often develop negative approach among students regarding online learning.[15,16,17]

As many studies have shown that learner's positive attitude is one of the predicting factors for the effectiveness of online learning. This study is conducted with the aim to find out the attitude of nursing students of Nepal towards online learning. Researcher was interested to conduct this study because online learning has newly gained popularity in Nepal during this COVID-19 pandemic.

METHODOLOGY

A quantitative, web based cross sectional study design was opted for conducting this study. The study population were the nursing students of Nepal. A non-probability convenient sampling was done. Students were contacted through personal email, nursing professional groups and nursing college groups available in social media.

Because of the unavailability of research in the current topic researcher assumed the prevalence of positive attitude of students towards online learning to be 50% and considering 5 % of probable error at 95 % CI, the sample size was estimated as

384. By adding the 10% non-response rates to the total the sample size of this study was 423.

Ethical approval was taken from Nepal Health Research Council. Pretesting was done among 40 students from selected Nursing Colleges which were excluded during final research. The calculated value of α coefficient was: 0.87. Data were collected through web-based survey and online Google form was developed which consisted of questions related to demography, academic details, characteristic of online learning and five-point Likert scale consisting of 5 subscales to measure attitude towards online learning. Tool covered negative and positive statements towards online learning. Reverse scoring of the negative statement was done. Attitude were categorized into positive and negative on the basis of mean score. Those who scored equal to or more than mean score were considered as having positive and less than mean score were considered as having negative attitude.[18,19] Informed consent was taken from each respondent by describing the objective of the study in the tool and creating an automated setting in the google forms; if they click on agree, only then they can proceed further . The data were collected from respondents through social media by sending the link to the participant and asking them to do the same. The average time required to complete the survey was about 10-15 minutes. Confidentiality and anonymity of the data were maintained.

Your description is self-contradictory. When you are taking mean as cutoff, why do you mention the 50% score? If you take 50%, then it is not necessarily mean value. Also, 50% score is itself not clear. You have taken 5-point Likert scale, where score ranges from 1 to 5, middle value is 3. Say, you have 10 questions, which makes total maximum score 50, minimum 10 and median neutral value is 30. Total score of each subject <30 is negative attitude, >30 positive and =30 neutral. This would be better explanation of your design. When you do this, it is the median you are taking as cutoff. Mean is not a correct value to take cutoff here. They may be similar in value, that is a different matter.

In this data, since mean score is 61%, it is showing that more score is concentrated towards positive bracket (>30 in above example). The finding will come different from the current value of 52%. This is the main finding of your study. Please revise accordingly. The responses from students were downloaded from Google form as an Excel sheet. Data cleaning and coding was done and then exported into the IBM SPSS version 16.0 for analysis. Descriptive statistics (frequency, percentage, mean, standard deviation and range) and inferential statistics (Chi square test) were used and findings were interpreted.

RESULT

The result from the responses of 423 students shows that the mean age of the students who participated in the study was 22.22 years, where nearly half of them were 20-24 years old and only 5.2% were aged 30 years or more than that. Regarding the distribution of students according to their ethnicity slightly more than half belonged to ungrouped caste/ethnicity as classified by HMIS, Nepal. Three quarter of the students reside in urban area. Majority of the students (83.7%) were unmarried.

Majority of students (60.3%) had achieved first division in last attained degree. The 1/3rd of the students were from Kathmandu University affiliated college followed by Students from Tribhuwan University (33.6%). More than half of the students were enrolled in B.Sc. Nursing Program (Table 1). About 2/3rd of the students had access to internet with both mobile and laptop. 153(36.2%) of them were having week Wi-Fi strength whereas 43(10.2%) had to access internet through their mobile data. Nearly 2/3rd of them used to spend less than 5 hours per day in mobile/laptop for study purpose (Table 2). Student scored maximum in intention to use online learning (65.31±10.4) and least scored in perceived stressor where students secured only 53.04% mean percentage (Figure1).

Table 1: Academic Characteristics of Students

Variables	Frequency	Percentage
Academic division obtained in last attained degree		
Distinction	156	36.9
First division	255	60.3
Second Division	12	2.8
University Affiliation		
CTEVT	72	17.0
Deemed Universities	23	5.4
Kathmandu University	147	34.8
Pokhara University	1	0.2
Purbanchal University	38	9.0
Tribhuwan University	142	33.6
Academic Course		
PCL Nursing	76	18
B.Sc Nursing	227	53.7
Bachelor in Nursing/ Midwifery	92	21.7
Master in Nursing/MSc Nursing	28	6.6

Table 2: Respondents Characteristics related to online classes

Variables	Frequency	Percentage
Access to Internet		
Mobile Only	117	27.7
Laptop Only	14	3.3
Both mobile and laptop	292	69.0
Strength of internet connection		
Limited access, I have to use my mobile data	43	10.2
Weak Wi-Fi Connection	153	36.2
Good Internet Connection	227	53.6
Previously Taken Online course		
No	401	94.8
Yes	22	5.2
Average Time spend in Mobile and laptop for study purpose		
≤ 5 Hours	252	59.6
>5 Hours	171	40.4
Mean ± SD 5.22 Hours ± 2.11 Min.:1 Max: 16		
Online Classes besides University		
Yes	64	15.1
No	359	84.9
Variables	**Frequency**	**Percentage**
Access to Internet		
Mobile Only	117	27.7
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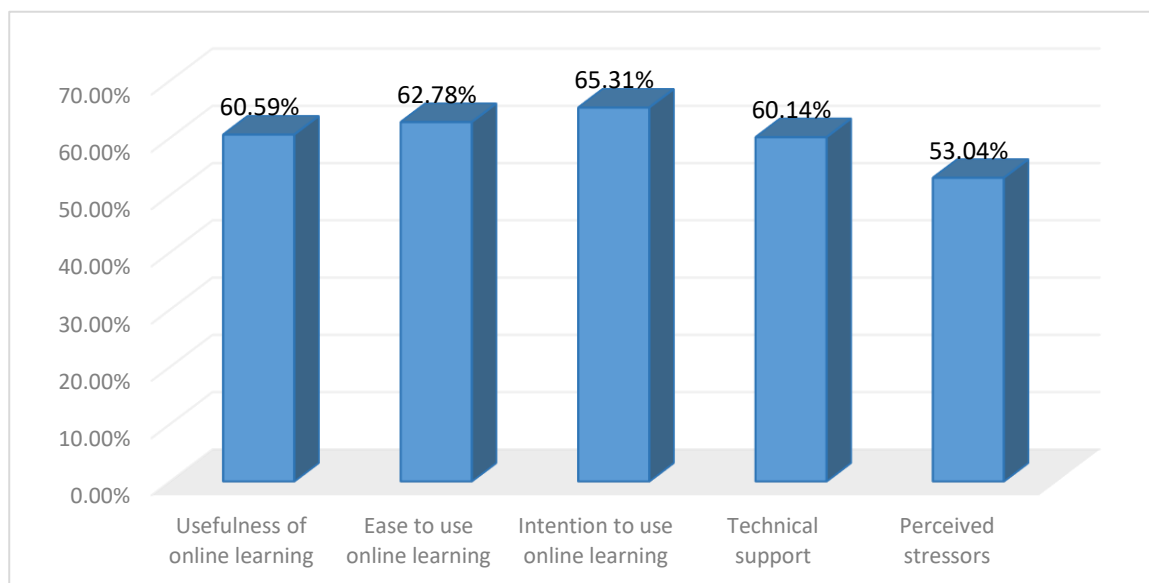| >5 Hours		171	40.4
Mean±SD 5.22 Hours ±2.11 Min.:1 Max. : 16			
Online Classes besides University			
Yes		64	15.1
No		359	84.9

Figure1: Mean percentage score of the Subscale of Attitude towards online classes

Table 3: Students' Response towards Intention to use online learning and Perceived Stressor

Statements	Students' Response					**Mean**
	SD (%)	D (%)	Neutral (%)	A (%)	SA (%)	**score ± SD**
Intention to use online learning						
Online learning makes me uncomfortable because I don't understand it.	13 (31.1)	178 (42.1)	84 (19.9)	122 (28.8)	26 (6.1)	3.42± 1.06
Online learning is a de-humanizing process of learning.	12 (2.8)	197 (46.6)	101 (23.9)	92 (21.7)	21 (5)	3.37± 0.99
I dislike the idea of using Online.	21 (5)	206 (48.7)	124 (29.3)	58 (13.7)	14 (3.3)	3.42± 0.92
I am not in favor of Online learning as it leads to social isolation.	31 (7.3)	168 (39.7)	100 (23.6)	103 (24.3)	21 (5)	3.22± 1.06
Online learning doesn't interest me.	13 (3.1)	95 (22.5)	98 (23.2)	195 (46.1)	22 (5.2)	3.37± 0.98
I plan to participate in future e-learning courses.	18 (4.3)	132 (31.2)	94 (22.2)	156 (36.9)	23 (5.4)	3.16± 1.045
I plan to buy/ maintain my computer to be able to follow lectures notes online.	17 (4)	98 (23.2)	99 (23.4)	160 (37.8)	49 (11.6)	3.28± 1.06
Using Online learning makes learning fun.	21 (5)	176 (41.6)	137 (32.4)	77 (18.2)	12 (2.8)	3.08± 0.93
I don't know what I would do without Online learning.	12 (2.8)	77 (18.2)	117 (27.7)	185 (43.7)	32 (7.6)	3.04± 0.95
Teachers give timely and useful feedback of my online assignment	2 (0.5)	44 (10.4)	101 (23.9)	238 (56.5)	37 (8.7)	3.24± 0.88
Perceived Stressor of online learning						

	SA	A	D	SDA		Mean±SD
I feel anxious about my ability to use online learning effectively.	21 (5)	163 (38.5)	116 (27.4)	116 (27.4)	7 (1.7)	3.21± 0.95
My computer/ laptop stresses me.	17 (4)	118 (27.9)	89(21)	149 (35.2)	50 (11.8)	2.77± 1.12
Slow internet connections stress me.	8 (1.9)	34 (8)	54 (12.8)	182 (43)	145 (34.3)	2± 0.98
I feel pressured by my teachers to use online learning for my research/learning activities	23 (5.4)	158 (37.4)	117 (27.7)	81 (19.1)	44 (10.4)	3.06± 1.11
I feel online learning do not facilitate for group work with other classmate	8 (1.9)	56 (13.2)	73 (17.7)	180 (42.6)	106 (25.1)	2.23± 1.03

SA: Strongly agree   A: Agree   D: Disagree   SDA: Strongly Disagre

The response of students to the statements for intention to use online learning and perceived stressor of online learning. For the statement "Online learning makes me uncomfortable because I don't understand it", maximum responses were disagreed 178(42.1%). Nearly half of the students disagreed to the statements "Online learning is a de-humanizing process of learning" (46.6%) and "I dislike the idea of using Online." (48.7%). Whereas one quarter of students agreed that "I am not in favor of Online learning as it leads to social isolation". Likewise, 156(36.9%) agreed that they would like to participate in online courses in future. More than half of them agreed that teachers give them timely and useful feedback for their online assignments. One quarter (27.4%) of the students agreed that they feel anxious about online classes. Similarly, one third of them agreed that their laptop/mobile stresses them while taking online class. Consistently majority of them agreed that slow internet connection stress them (Table 3). There was slightly more than half of the students have positive attitude whereas 203 (48%) had negative attitude towards online learning (Table 4).

The above table shows that age (χ^2=8.37, p-value-0.039) of the students is significantly associated with attitude of the students towards online learning whereas place of residence (χ^2=2.63, p-value-0.105) and average time spend in laptop/mobile for study (χ^2=0.147, p-value-0.701) and mode of access to internet (χ^2=4.23, p- value-0.12,) had no significant association with attitude of the nursing students regarding online learning. The table reveals that attitude towards online learning is significantly associated with university affiliation (χ^2=5.23, p-value-0.022), course of study (χ^2=14.03, p-value-0.001), and strength of internet connection (χ^2=25.97, p-value-<0.001) (Table 5).

Table 4: Respondents' attitude towards online learning

Level of Attitude towards online learning	Frequency	Percentage
Positive attitude (≥61.23%)	220	52
Negative attitude (<61.23%)	203	48
Mean ± SD 61.23 ±9.02 Min.:38.7 Max.: 90.87	423	100

Table 5: Association between Respondents' attitude towards online learning and selected variables

Variables	Attitude towards online learning		χ^2	p-value
	Negative	**Positive**		
	n (%)	**n (%)**		
Age of respondent (Years)			8.37*	**0.039**
<20	79(49.1)	82(50.9)		
20-24	115(56.7)	81(41.3)		
25-29	18(40.9)	26(59.1)		
≥30	8(36.4)	14(63.6)		
Place of Residence			2.63*	0.105

Rural	58(59.9)	40(49.8)		
Urban	162(49.8)	163(50.2)		
University Affiliation			5.23*	**0.022**
CTEVT	30(41.7)	42(58.3)		
Kathmandu University	71(48.3)	76(51.7)		
Tribhuwan University	85(59.9)	57(40.1)		
Others	34(54.8)	28(45.2)		
Academic Course			14.03*	**0.001**
PCL Nursing	32(42.1)	44(57.9)		
Bachelor level Nursing/ Midwifery	181(56.7)	138(43.3)		
Master in Nursing/MSc Nursing	7(25)	21(75)		
Access to Internet			4.23*	0.12
Mobile Only	69(59.0)	48(41.0)		
Laptop Only	5(35.7)	9(64.3)		
Both mobile and laptop	146(50.0)	146(50.0)		
Strength of internet connection				
Limited access, I have to use my mobile data	29(67.4)	14(20.6)	25.97*	**0.000**
Weak Wi-fi Connection	99(59.0)	54(35.3)		
Good Internet Connection	92(40.5)	135(59.5)		
Previously Taken Online course			0.807*	0.60
No	208(51.9)	193(48.1)		
Yes	12(54.5)	10(45.5)		
Average Time spend in Mobile and laptop for study purpose			0.147*	0.701
≤ 5 Hours	133(52.8)	119(47.2)		
>5 Hours	87(50.9)	84(49.1)		

Significance level at 0.05   ** Pearson's chi square*

DISCUSSION

This study was conducted to assess the attitude of Nepalese Nursing students towards online learning. In this study the 52% of the students had positive attitude towards online learning which is remarkably less as compared to findings of the study conducted among nursing students of Mangalore where 99% had favorable attitude[20]. This may be because online learning is pretty new for Nepalese Nursing students. As before this COVID-19 lockdown they were using laptop and internet for their class assignment, presentation and research work but virtual classroom is totally new for them which is introduced as an alternative of COVID-19 lockdown. Other studies had revealed positive attitude and impact of online learning on overall learning of students.[20,21]

The mean age of the students was 22.22 years, where nearly half of them were 20-24 years old and only 5.2% were aged 30 years or more. The study revealed that the age of the students (χ^2=**8**.37, p=0.039) is significantly

associated with attitude of the students which is consistent with study from Bulgaria where attitude was significantly associated with age of the students.[22] Contrarily study from India did not show any association between age and attitude.[20] In current study other demographic variable were not significantly associated with online learning whereas previous studies had shown association of students attitude with gender and place of residence.[23,24]

The study finding shows that attitude of students is significantly associated with their academic course (χ^2=**14.03,** p=0.001) and their affiliated university (χ^2=**5.23,** p=0.022) which is in accordance with the finding of Chatterjee where attitude was higher among the graduate students as compared to undergraduate students.[25] This study depicted that there was no significant association between academic year and attitude similar to the study findings of Zayim et al.[26] Contradictorily study conducted in University of Western Cape showed that academic year of study was

significantly associated with students' attitude.[2]

The present study revealed that the strength of internet connection is significantly associated with attitude towards online learning (χ^2=25.97, p=<0.001). Because Wi-Fi is not accessible in all the parts of Nepal, so the students have to use mobile data for their online classes, for smooth class we need strong internet connection. Those students who are having poor network might have developed unfavorable attitude towards online learning. In the study conducted in Mangalore, there was significant association between attitude and means of internet access which was contrary to the finding of this study, where there was no significant association between means of internet connection and attitude of students.[20]

CONCLUSION

Half of the nursing students have positive attitude towards online learning. Students' attitude is significantly associated with strength of Wi-Fi connection and academic course of the students. The educational institution who are running online classes must know the various factors influencing student's attitude towards online learning as it will ultimately affect the effectiveness of the online learning. In the light of the result, it is concluded that though many universities and colleges are running online classes as a mean to continue teaching learning activities students' attitude is significantly affected by strength of internet connection. So, it is recommended that government should emphasize and work for making internet accessible for everyone, everywhere.

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