Nursing Students' Readiness and Attitude towards Online Learning during Covid-19 Pandemic

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ABSTRACT

Background: Online learning has emerged as a vital learning modality since COVID-19 pandemic while closing in-person university classes. As nursing education increasingly adopts these online frameworks, students' readiness and their attitude towards this mode of learning play a crucial role for the successful outcomes. The study aimed to assess the nursing students' readiness and attitude toward online learning.

Methods: A descriptive cross-sectional study was carried out among 218 undergraduate nursing students of a nursing campus of Tribhuvan University. Data was collected using survey questionnaire on google form which was distributed through link in students' viber, messenger and email. Data analysis was done using descriptive statistics.

Results: Out of, 218 students, 79.5% had basic level computer skill, 66.1% had unlimited internet access and 98.2% had their own gadgets for online class. Though, 91.8% of them had favorable attitude towards online education, student's study habit and motivation on online learning were the lowest scored (mean/SD 3.52±0.54) compared to the ability score (mean/SD 3.80/ ±.6) and time management score (mean/SD 3.6/ ±.56).

Conclusions: It can be concluded that all the nursing students are ready for on-line learning and have basic computer skills for the hardware and software application for their online classes. Furthermore, they have favorable attitude for taking the online classes.

Keywords: Nursing Students, Online learning, Virtual learning

INTRODUCTION

Educational systems based on the web are being used by an increasing number of universities to complement their traditional face-to-face courses.[1] During COVID-19 pandemic, education system especially schools and universities faces the major impact and approximately 1.725 billion learners are affected due to school closures in response to the pandemic.[2] To overcome this, universities and educational institutions introduced online sessions using various platforms such as Zoom, MS team and Google classroom with such technologically enhanced approaches already being proven to have high levels of engagement with medical students.[3] During COVID-19 lockdown, various academic institutions in Nepal had switched their conventional method of teaching into online mode as an alternate means of teaching.[4] E-learning readiness is the mental or physical preparedness of an individual for some experience or action and expressed as time management, self-guidance skill, which is in the nature of online learning, adopting the internal resources of motivation, recognition of personal learning style, and experiences.[5, 6] How a learner believes justifies, envisions, toward e-learning programs plays a huge role in the emergence and expansion of the online education program of an intuition.[7]

Evidence has shown that it is essential to conduct a readiness assessment in three dimensions before the implementation of e-Learning which are the learners' computer or technical skill, learning habits, motivation, abilities as well as their time management behaviors.[8]

Unquestionably, COVID-19 offers an incredible opportunity to reevaluate how online learning methodologies and virtual technology may advance learning and driven individuals to reconsider a number of concerns associated with online education.[9]

The key factors of successful e-learning program depend on learner's attitude, willingness and feeling comfortable

with the process and technology of the e-learning as well as it was evident that there is a relationship between online learning readiness and learning outcome. Hence, this study aimed to identify the students' readiness and attitude towards online learning during COVID-19 pandemic.

METHODS

A descriptive cross-sectional study was conducted among 218 undergraduate nursing students in a Nursing Campus located in Kathmandu, Nepal. Consecutive sampling was used for the study. Data was collected by researchers from January to March 2022 by using survey questionnaire on google form which was distributed through link in students' viber, messenger and email. The response rate was 78.4% (171). Questionnaire consisted of three parts: parts one consisted of demographic information, part two consisted of E-Learning Readiness Assessment questions developed by Mercado (2008) contains 24 statements related to the technology access and basic technology skills required for e-learning.[10] Answers required for this part was a nominal answer that is either 'Yes' or 'No'. The third part was on the students' attitude towards e-Learning which consisted 5-point Likert- type scale response ranging from "strongly disagree" =1 to "strongly agree" = 5 with the statement. The attitude towards e-Learning was measured in 25 statements related to study habits (9 items) abilities (5 items), motivation (5 items) and time management (6 items) behavior of the students. To interpret the data, weighted means was computed and verbal interpretation was considered as "Never" for 1.0-1.79, Seldom" for 1.80-2.59, "About half of the time" for 2.60-3.39 , "Usually" for 3.40-4.19 and "Always" for 4.20-5.00.[11,12] The tool was modified in Nepalese context by the team of researcher.

Ethical approval was obtained from Institutional Review Committee (IRC), Institute of Medicine, Tribhuvan University. Pretest was done and written consent was taken for voluntary participation in the study, and data was analyzed by using IBM Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics-frequency, percentage, mean, standard deviation was used to describe data.

RESULTS

Sociodemographic information: The total of the participants was 171. All participants were undergraduate students from two stream, 56.7% were from BNS stream and 43.3 were from BSc Nursing, between 19 – 28 years old and 98.2% were female.

Information related to Computer Skills and Access:

Regarding computer skills 79.5% had basic level computer skill, 66.1% had unlimited internet access and 98.2% had their own gadgets for online class.

Findings related to Readiness for online Learning: Students' readiness on technology access and technology skills for online class are presented in the table 1 and 2.

Table 1: Students' readiness on technology access on online learning   **n=171**

	Statements Related to Technology Access	Number	Percent
Computer skill	I have (own) computer/laptop/ Smart phone	168	98.2
	I have excess to the computer with necessary software instilled for online class	168	98.2
	I have alternative solution if my computer has problems while attending online class	123	71.9
	I have facility to print if I needed	63	36.8
Internet connectivity	I have access to internet connection at home	159	93.0
	I have access to a computer in campus with stable Internet connection	53	31.0
Tools	I have installed MS Team/ Zoom in my computer	132	77.2
	I have installed Antivirus in my computer.	130	76.0

Table 1 depicts the students' technology access for online class, almost all have their own device with necessary software instilled for their online classes but 36.8% have printing facility when needed. Almost all (93.0%) have internet connection at home. However, only 31.0% mentioned that they have stable internet connection at campus. Regarding access to tools, 76.0% have instilled antivirus in their devices.

Table 2: Students' readiness on technology skills on online learning **n=171**

	Statements related to technology skills	Number	Percent
Basic computer skills	I know the basic functions of computer hardware components (CPU and monitor) including its peripherals like the printer, speaker, mouse etc.	166	97.1
	I know how to save/open documents to/ from a hard disk or other removable storage device.	171	100
	I know how to turn on and shutdown the computer properly.	171	100
	I know how to resolve common hardware or software problems or I can access a technical support in case I encounter a problem.	101	59.1
Basic internet skills	I have an email address.	171	100
	I can open / send an email with file attachments.	169	98.9
	I know how to log in to the internet service provider (ISP).	133	77.8
	I know how to navigate the web pages (go to next, or previous page).	169	98.8
	I know how to download files using any browsers (Internet explorer-google chrome).	167	97.7
	I know how to resolve common errors while surfing the Internet such as "page not found" or "connection timed out".	94	55.0
	I know how to access an online library and other resource database.	118	69.0
	I have attended online classes before.	155	90.6
	I can download and instilled Zoom/ MS Team	168	98.2
Literacy on software application	I can use features of Zoom/MS team use it comfortably e.g. Hand raise, screen share, chat, mute unmute.	168	98.2
	I know how to use file compression (WinZip, rap).	42	24.6
	I have attended seminars / workshops related to online learning activities.	63	36.8

Table 2 shows the students' skills on basic computer skills, basic internet skills, literacy on software application. Almost all of the respondents have basic skills on computer hardware, can open and save the documents and turn on/ shutdown skills. Whereas, more than half of them (59.1%) can resolve the hardware and software related problems. To assess the basic internet skill, almost all of the respondents have their email address, they can send the email with file attachment, they know how to navigate the webpages and download the file using any browser. Half of them (55.0%) know how to resolve common errors while surfing internet. Regarding literacy on software application, all most all respondents can download and use the features of software like Zoom, MS Team, However only 24.6% of them know how to use WinZip, rap.

Findings Related to Attitude of Students': Students' attitudes on selected dimensions such as study habits, abilities, motivation, and time management is presented in Table 3

Table 3: Students' attitude towards online learning   **n=171**

Statements	1	2	3	4	5
Statements related to Attitude: Study Habits	**Mean and SD** 3.52 ± 0.50				
When I have an important assignment , I get it done ahead of time	1(0.6)	13(7.6)	40(23.4)	90(52.6)	27(15.8)
I prefer to study or work alone	-	13(7.6)	41(24.0)	89(52.0)	28(15.8)
I look forward to learning new skills and master them quickly	-	2(1.2)	32(18.7)	101(59.0)	36(21.1)
As a learner, I am highly independent		13(7.6)	71(41.5)	63(36.8)	24(14.0)
I am able to refrain from distractions and stay on task while working or studying	8(4.7)	31(18.1)	67(39.2)	46(26.8)	19(11.1)
When asked to learn new technologies, I do not put it off or avoid it	27(15.8)	35(20.5)	40(23.4)	43(25.1)	26(15.2)
I can analyze class materials and formulate opinions on what I've learned.	-	6(3.5)	68(39.8)	80(46.8)	17(9.9)
I am determined to stick to studies despite challenging situations	1(0.6)	12(7.6)	54(31.6)	77(45.0)	27(15.8)
I do not need direct lecture to understand materials	7(4.1)	44(25.7)	66(38.6)	46(26.9)	8(4.7)
Statements related to Attitude: Abilities	**Mean and SD** 3.80 ± 0.60				
I am able to express my thoughts and ideas in writing	4(2.3)	16(9.4)	56(32.7)	68(39.8)	27(15.8)
I am as self-starter	3(1.8)	13(7.6)	65(38.0)	74(43.3)	16(9.4)
I am able to communicate effectively with others using online technologies	1(0.6)	16(9.4)	40(23.4)	48(28.1)	66(38.6)
I take responsibility for my own learning	-	4(2.3)	24(14.0)	68(39.8)	75(43.9)
Taking responsibility for staying in contact with my instructor would be easy for me	1(0.6)	12(7.0)	46(26.9)	78(45.6)	34(19.9)
Statements related to Attitude: Motivation	**Mean and SD** 3.52 ± 0.54				
I consider flexibility in time as an important motivating factor in taking an online class	-	12(7.0)	39(22.8)	98(57.3)	22(12.9)
I am highly motivated and enthusiastic to take an online course	3(1.8)	13(7.6)	63(36.8)	74(43.2)	18(10.5)
I enjoy learning that is both interesting and challenging.	-	1(0.6)	40(23.4)	89(52.0)	41(24.0)
I would be able to remain motivated even though the instructor is not online at all times	19(11.1)	25(14.6)	66(38.6)	52(30.4)	9(5.3)
I set a goal before starting a task	-	20(11.)	51(29.8)	89(52.0)	11(6.4)
Statements related to Attitude: Time Management	**Mean and SD** 3.60 / ± 0.56				
I am able to spend significant time and energy to engage in online learning class	11(6.4)	34(9.9)	44(15.7)	50(29.2)	32(18.7)
I do not have trouble getting things done on time	2(1.2)	21(12.3)	36(21.1)	88(51.5)	24(14.0)
I am able to organize my time well	2(1.2)	10(5.8)	76(44.4)	62(36.3)	21(12.3)
I can sacrifice personal time to complete assignments	7(4.1)	27(15.8)	44(25.7)	82(48.0)	11(6.4)
I get things done without having to be directed by others	1(0.6)	18(10.5)	61(35.7)	90(52.6)	1(0.6)
I finish things that I start	2(1.2)	14(8.2)	22(12.9)	82(48.0)	51(29.8)
Overall Mean	**Mean and SD** 3.61 ±0.38				

1-Never, 2- Seldom, 3-About half of the time, 4- Usually, 5 – Always

Table 4. Students' attitude status towards online education   n=171

Attitude Status	Number	Percent
Favorable	157	91.8
Unfavorable	14	8.2
Total	171	100

Table 3 and 4 shows the students' attitude towards online learning. To calculate the status of attitude regarding online education, total attitude score was calculated with possible score is 25-125, and categorized as favorable attitude if score is ≥ 75 and unfavorable if score is <75. Almost all (91.8%) of them had favorable attitude towards online education. For the study habits, 52.6% of the students agreed that they have habits of completion of important assignment before deadline and prefer to study alone. More than half of them (59.0%) agreed to learn and master in new skills. Regarding abilities, agreed that they are responsible for their own learning (83.7%) and stay connected with the instructor (65.5%). Regarding motivation, half of the students (53.4%) are agreed that they are highly motivated and enthusiastic learner and 76.0% of them enjoy learning as interesting and challenging. For time management, 77.0% of the students agreed that they finish the things done without having to be directed by others. However, less than half (47.9%) of them able to spend significant time for study. The mean scores for study habits and motivation were 3.52, ability was 3.81, and time management was 3.60. These scores can all be verbally marked as usual. However, Comparing the student's study habits and motivation to other categories, their mean score was the lowest (3.52).

DISCUSSION

The readiness of students to use the new technology is a critical aspect to consider for initiation and successful implementation online classes.[7] Access refers to the person's ability or inability to avail of to be capable of using widely available service.[10] For the basic requirements to success the online class, students must have access to computer/ gadgets with necessary software instilled and well-connected stable internet.[11] In the present study, for access to technology, almost all students have access to computer and necessary software instilled (98.2%), stable internet connections at home (93.0%) for online class. This finding corresponds with the study conducted by Neupanae, Sharma and Joshi (2020) which 88.8 % of the students have access to a computer.[12] Regarding the access to the stable internet connection at campus, student mentioned the internet connectivity problems matched with the findings of study conducted in Malasiya.[13]

While exploring the technology skills on basic computer and internet skills and literacy on software application, students were also competence in basic Internet skills. This is due to 100% of them had skills to turn on and shutdown the computer, open and close the documents and email address. Similarly, 98.8% respondents knew how to navigate the web pages, 97.9% respondents knew how to download files using any web browsers. Nonetheless, half of the students lacks skill to resolve common errors while surfing the internet such as "page not found" or "connection time out". This finding is alike with the study conducted in higher learning institutions in Malaysia .[14] However, Contreras, & Hilles (2015) reveled the contradict findings in which about 74% of the students have basic internet skills and half of the students have basic computer skill in nursing students. [11]

The present study found the students have favorable attitude towards on online class which is alike with the study findings conducted in another study conducted among students of bachelor level health sciences.[15] However, the findings of the study conducted in Jumla and Biratnagar found that students had negative attitude towards online education.[16,17] Attitude is assessed in four important domains: study habits, abilities, motivation and time management. The overall mean of the attitude is 3.61 which is verbally interpreted as "usually". The abilities mean of 3.80, the time management mean of 3.60, and the motivation and study habits mean of 3.52 can all be verbally interpreted as " usually". Therefore, we can say that students have abilities and they can manage time and ready to embrace online classes. However, there is a need of augmentation on the student's motivation and improvement in study habits since it has shown the lowest mean compared to other categories. In the study conducted by Contreras and Hilles (2015) found the highest mean of motivation (4.23), verbally interpreted as " always".[11] It signifies that the students are always motivated for online classes.

This study is limited to the undergraduate level of nursing students in a single institution. All information provided by the respondents was self-reported, therefore findings may have generalizability issues.

CONCLUSIONS

Based on the findings, it can be concluded that almost all the nursing students are ready for e-learning in terms of technology access on devices and internet connection. They have basic computer skills for the hardware and software application for their online classes. Nursing students have favorable attitude for taking the online classes. They also have abilities for time management to embrace online classes. Thus, there is a need of amplification on the nursing student's motivation and

enhancement in study habits for the better outcome of online Learning.

ACKNOWLEDGMENT

CONFLICT OF INTEREST

The authors declare that no competing interests exist.

FINANCIAL DISCLOSURE

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