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Website: www.jehp.net
DOI: 10.4103/jehp.jehp_488_22

# Mobile technology acceptance among undergraduate nursing students instructed by blended learning at selected educational institutions in South India

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Received: 06-04-2022  
Accepted: 19-09-2022  
Published: 28-02-2023

## Abstract:

**BACKGROUND:** Mobile phones have become a widely accepted learning mode due to the impact of COVID-19. This study explores the mobile technology acceptance, among nursing students at selected educational institutions in South India.

**MATERIALS AND METHODS:** Quantitative cross-sectional descriptive design. First-year 176 B.Sc. nursing students who underwent blended learning were selected by the purposive sampling method. The tool "Technology Acceptance Model" was used to collect responses. Bivariate analysis was used to determine the relationship between the demographic and study-related variables with the mobile technology acceptance using SPSS version 25.0.

**RESULTS:** The majority 73.9% of the students belonged to the age group of 18–19 years, females 76.7% and, 98.9% were unmarried. Among the constructs of TAM, a mean (SD) value of 22.08 (2.26) was found for material (mobile device audio/video) characteristics the mean (SD) value was 22.08 (2.26), attitude about use 17.58 (1.95), behavioral intention 17.46 (1.78) and system characteristics 17.21 (2.27). The mobile technology acceptance revealed that 126 (71.6%) strongly agreed, 49 (27.8%) agreed, and 1 (0.6%) was neutral with a mean (SD) of 105.19 (8.68), respectively. A positive correlation was found between the system characteristics, material characteristics, perceived ease to use, perceived usefulness, attitude about the use, behavioral intention with a *P* value <0.001. There was a statistically significant association between Mobile technology acceptance and time spent by the students for independent studies shown the Chi-square value of 12.7, with *P* value <0.05.

**CONCLUSION:** Nursing students had a positive acceptance and behavior toward smartphone use.

## Keywords:

Mobile phone, mobile technology, nursing students, technology acceptance

## Introduction

Mobile technology potentiates pivotal blended learning (BL) and its academic application in a constructive manner due to the ability to overcome the restrictions in time and space<sup>[1]</sup> and ameliorate progressive, self-directed learning, making high-quality content available to learn.<sup>[2]</sup>

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Skill learning is the heart of the nursing profession.<sup>[3]</sup> Smartphone learnings potentiated BL due to their ease of access to instructional content and videos.<sup>[4]</sup> M-learning or mobile learning is a learning via electronic gadgets such as smart phones. M-learning implemented via free web-based instructional platform such as Google classroom Application (GCA), facilitated

**How to cite this article:** Shanmugapriya K, Seethalakshmi A, Zayabalaradjane Z, Rani NR. Mobile technology acceptance among undergraduate nursing students instructed by blended learning at selected educational institutions in South India. *J Edu Health Promot* 2023;12:45.

peer discussion, clarified doubts, encouraged reflective learning, provided guidance, and stressed the importance of ethical concerns in using such devices effectively in BL.<sup>[5]</sup>

Among advanced economies such as South Korea, Israel, and Dutch, the median of smart phone usage was 60%, whereas in emerging economies like India, it was 24% only.<sup>[6]</sup>

In Poland, graduate nursing students are highly knowledgeable on medical informatics and efficient use of technology. The students of health care professionals in Iran were willing to adopt M-learning which showed the mean (SD) value of 165.55 (13.4), because it directly improved educational achievement. The perceived ease of use, its efficacy, self-management in learning improved the student's educational achievement.<sup>[7]</sup> There was high technology acceptance among BL nursing students who used the instructional platform GCA in Taiwan and was evident. Higher academic achievement and satisfaction was higher in end-semester than in mid-semester period which clearly depicted the long-term retention of memory due to M-learning.<sup>[8]</sup>

India manufactured nearly 30 crores smartphones in 2020–21 and its demand will reach to 40 crores with 5G launch to 80% of devices in the year 2026.<sup>[9]</sup> M-learning in developing countries were in an experimental stage. Smart phone is primarily used for BL to 79% of Indian students but only 17% accessed the classes by laptops and 4% by tablets.<sup>[10]</sup> In India, 56.3% nursing students found low acceptance of M-health.<sup>[11]</sup> Even though Indian rural population widely use mobiles in current years, there was a lack of knowledge on M-literacy and poor technological infrastructure prevented from health-related activities.<sup>[12]</sup> Majority 65.6% of nursing students from Bangalore, South India recognized the meaning for tele-nursing, and 92.4% were intended to add tele-nursing to nursing curriculum.<sup>[13]</sup> The nursing students from Puducherry, showed highly positive opinion on smart phone usage.<sup>[14]</sup>

There is a paradigm shift to hybrid learning from routine chalk-board learning during the Covid-19 outbreak among nursing students due to home isolation.<sup>[15]</sup> In implementing BL by smartphones among nursing students, we need to find their acceptance, the factors improve or deteriorates M-learning is essential. This information will enable the educators to identify the lacunae in M-learning and to improve those factors in implementing effective M-teaching. This study aims to explore the relationship between mobile technology acceptance at selected nursing colleges in Puducherry, India.

## Materials and Methods

### Study design and setting

Quantitative cross-sectional descriptive design adopted. The study conducted among three private nursing colleges in Puducherry, India.

### Study participants and sampling

Male and female students of the first-year BSc Nursing program from three private Nursing Colleges in Puducherry, India.

The sample size was 176, determined based on a previous study with 20% attrition, 80% power, and 5% alpha error.<sup>[16]</sup> The three private nursing colleges from Puducherry were selected by simple random sampling and samples were selected by purposive sampling technique. The inclusion criteria were students of both genders studying in the first-year BSc Nursing program and instructed by BL methods on nursing foundation procedures. The exclusion criteria were students not willing to participate in the study and irregular to blended teaching/long absentees.

### Data collection tool and technique

The tool consists of two parts. The data were collected by self-administered questionnaire in person and doubts were clarified.

#### Part A:

- Demographic variables such as age, gender, residence, family income, and occupation.
- Learning variables consisted of time spent per day on independent studies, devices used to access online content, internet/Wi-Fi connection availability in college/hostel, and mobile devices allowed in the classroom, or not.

The validated instrument used for the study was the "Technology Acceptance Model" (TAM)<sup>[16]</sup>

Part B: TAM evaluates students' technological acceptance and behavior toward the use of mobile devices within the flipped/BL experience. The standardized tool consists of 25 questions that are divided into six constructs such as system characteristics (four questions), material characteristics (five), perceived ease of use (four), perceived usefulness (four), attitude about use (four), and behavioral intention (five). The tool consists of a 5-point Likert scale rated as strongly disagree, disagree, neutral, agree, and strongly agree. The response  $\geq 3$  was considered positive acceptance and  $< 2$  was considered as negative acceptance.

### Validity and Reliability

The reliability of correlation coefficient ( $r$ ) of the standardized TAM tool was 0.95 by test-retest method

and five experts from different fields such as, nursing, medical education, and psychology validated the tool. The pilot study was conducted among 20 students and feasibility checked.

### Data collection procedure

The study was conducted after due permission from the heads of the respective colleges and ethical clearance obtained. The students received instructions by BL using GCA and prerecorded videos along with face-to-face classes from February 2021 to October 2021 on procedures such as oral medication administration, intramuscular injections, nasogastric tube feeding, and peripheral intravenous cannulation in the Nursing foundations course. The researcher introduced herself to the participants and the purpose of the study was explained. Participants were clearly instructed on the study purpose and written informed consent was obtained.

The related PowerPoint slides, procedure videos, online quizzes, and assignments were posted via the GCA 1 week before the routine face-to-face class. The contents were accessible for 1 week only from the date of loading in the App. The students received guidance and were educated on methods to access the online content through smartphones. The actual offline teaching was on briefing the contents, clearing doubts, and discussing journal abstracts related to the four procedures in the classroom. At the end of blended teaching, the responses from the students were collected in person.

### Data Analysis

Bivariate analysis was done using Statistical Package for Social Sciences (SPSS) version 25.0.

### Ethical consideration

Institutional Ethics Committee approval was obtained from (reference number is IEC-NI/20/FEB/74/19) Sri Ramachandra Institute of Higher Education and Research (DU), Porur, Chennai, India. The authors certify that they have obtained all appropriate consent.

## Results

Out of 176 nursing students, 76.70% were female, 23.30% were male, and 73.86% belonged to the age group of 18–19 years. In the place of residence, 55.11% were from the rural areas, the monthly family income of 30.11% was <10,001. The parent's occupation was elementary to 25.56%, 67.61% of the students spent 1–2 h per day on independent studies in home/hostel. All 100% of the students have used a mobile device to access flipped teaching in home/hostel. 83% of the students expressed that in the college campus, they had availability of Wi-Fi/internet connection and none of the colleges/students

were allowed to bring or use mobile devices into the college campus.

Figure 1 clearly depicts the level of mobile technology acceptance (six constructs) among nursing students exposed to the BL experience. Among the six constructs, the students were highly satisfied with material characteristics such as audio and video materials posted by the teacher in the GCA with the mean (SD) value of 22.08 (2.20). They rated that the nursing procedure demonstration videos and modules improved learning in a different atmosphere, improved comprehension, and helped to learn the most important aspects of procedures in BL. The attitude toward mobile use included the student's likeliness, willingness, and positive attitude to use mobiles in learning procedure skills. The students looked forward to using mobiles as a useful tool to foster learning nursing skills in a blended classroom with the mean (SD) value of 17.58 (1.95). The mean (SD) value of behavioral intention was 7.46 (1.78). The students accessed mobile devices to explore more videos and improve their learning competencies. The students also expressed that they were happy to use the contents through the mobile device. The mean (SD) scores found for the system characteristics was 17.21 (2.27) and the participants agreed that the mobile devices allowed them to learn nursing procedures in a realistic and stimulating environment. They understood the difficult theoretical concepts by visual pre-lecture contents via smartphones.

For perceived usefulness, the mean (SD) value was 15.49 (2.87) and for perceived ease of use, it was 15.36 (2.12). The students rated less on these two constructs compared to other constructs, because many of them were new to handling smartphones. They did not have Wi-Fi/internet access in their college campus and they were not allowed to bring/use mobile phones in their class/clinical areas. Even though the first-year nursing students were new to mobile technology, they discerned well on the videos and mobile content without much stress due to the teacher's timely guidance. There

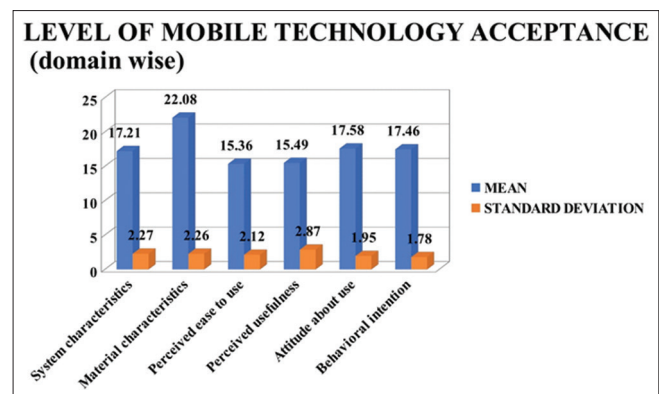


Figure 1: Level of mobile technology acceptance (six constructs) among nursing students exposed to the blended learning experience

was no doubt that to supplement clinical knowledge and skills, mobile devices were an epitome. The students also expressed that teacher-made videos were easy to follow and dispensed beneficial outcomes in blended teaching.

Table 1 shows the Correlation among the Constructs of Mobile Technology Acceptance. The Pearson correlation  $r$ -value for system characteristics and material characteristics, was 0.531 ( $P$ -value 0.000), material characteristics and perceived ease to use was 0.348 ( $P$ -value 0.000), perceived ease to use and perceived usefulness was 0.530 ( $P$ -value 0.000), attitude about the use and behavioral intention was 0.569 ( $P$ -value 0.000), and behavioral intention and system characteristics was 0.397 ( $P$ -value 0.000), and it was statistically highly correlated. The components of perceived usefulness and attitude about using were 0.062 with a  $P$  value of 0.412 which was not significantly correlated. With regard to acceptance of the use of mobile technology, 71.6% of nursing students strongly agreed, 27.8%- agreed, and 0.6% were found to be neutral with a mean (SD) of 105.19 (8.68).

Table 2 depicts the bivariate analysis of association between the demographic variables, time spent per day on independent studies, which was a statistical Chi-square value at  $P < 0.05$  level. Among 176 students, 67.61% had spent 1–2 h, 21.59% had spent 2–3 h, and 3.40% had spent >4 h per day on independent studies in hostel/home and 7.39% did not have regular study habits. The other demographic variables did not have any statistically significant association with the level of mobile technology acceptance among nursing students exposed to the BL experience.

## Discussion

As per the report “Statistica” -2022, the smartphone density (internet usage via mobile broadband) in

**Table 1: Correlation among the Constructs of Mobile Technology Acceptance (n=176)**

Correlation	Mean	Standard deviation (SD)	Pearson $r$	$P$
System characteristics	17.21	2.27	0.531	0.000**
Material characteristics	22.08	2.26		
Material characteristics	22.08	2.26	0.348	0.000**
Perceived ease to use	15.36	2.12		
Perceived ease to use	15.36	2.12	0.530	0.000**
Perceived usefulness	15.49	2.87		
Perceived usefulness	15.49	2.87	0.062	0.412
Attitude about use	17.58	1.95		
Attitude about use	17.58	1.95	0.569	0.000**
Behavioral intentions	17.46	1.78		
Behavioral intentions	17.46	1.78	0.397	0.000**
System characteristics	17.21	2.27		

\*\* $P < 0.001$  significant

the United States is 72.7%. In India, it was 53% in the year 2021, which is expected to rise to 60% in 2022 and 96% by 2040.<sup>[17]</sup> Due to the COVID-19 outbreak, the developing countries have improved their digital platform in educational institutions such as schools and colleges. The advances in Information and Education Technology (IET) and the internet have given way to various modes of digital education.<sup>[18]</sup> In this crisis situation, mobile teaching sensitized temporary move from conventional face-to-face teaching to alternative teaching modes such as videos, online modules, voice-over PowerPoint presentations which are best alternatives for students who cannot get internet or Wi-Fi access in remote areas.<sup>[19]</sup> COVID-19 lockdown has given way to implement E-learning and BL by using mobile devices in the colleges where the present study was conducted has just been initiated and it was in the planning stage.

The mobile device-based education vastly improved students' learning motivation, self-confidence, communication competency, and perceived usefulness. The students' immediate access of clinical and pharmacological references in clinical areas with the help of mobile devices, led to better self-efficacy.<sup>[20]</sup> Mobile learning is inexpensive, improves interest and attention, is innovative, and serves as the common platform to interact among students and teachers in an effective teaching-learning process. Among 76.4% of students, 90.4% attended classes with the help of a Wi-Fi connection. The major advantage of mobile learning was accessibility at home (72.1%), reduced transport and accommodation cost (51.3%).<sup>[9]</sup> In the present study, out of 176 students, 100% used a mobile device to access BL among three nursing colleges because they are cheaper and affordable by middle class students as compared to other gadgets such as laptop, desktop or tablets.

The students are highly engaged and curious about technological applications in E-learning. Apart from the high utility of smartphones for recreational purposes, they can also be used to reinforce the learning in the nursing curriculum to promote students' progress in education.<sup>[21]</sup> Even though mobile use causes some ill-effects, it can be efficiently used to access online educational content, instructional videos before actual face-to-face learning can strengthen the teaching-learning process. Technological devices function as a bridge between the students and instructors in the exchange of ideas and information in educational institutions to meet the desired educational objectives.<sup>[22]</sup> In this study, the students were highly satisfied with the educational content on nursing foundation procedures such as PowerPoint slides, videos, quizzes, assignments accessed during BL sessions showed the mean value of (SD) 22.08 (2.26).



**Table 2: Association between selected demographic variables with levels of mobile technology acceptance among nursing students exposed to the blended learning experience (n=176)**

Demographic Variables	Level of Mobile Technology Acceptance						Chi-square $\chi^2$	df	P
	Neutral		Agree		Strongly agree				
	n	%	n	%	n	%			
Age (in years)									
<17 years	0	0	13	26.5	30	23.8	0.553	4	0.968
18-19 years	1	100	35	71.4	94	74.6			
≥20 years	0	0	1	2	2	1.6			
Gender									
Male	1	100	11	22.4	29	23	3.318	2	0.190
Female	0	0	38	77.6	97	77			
Residence									
Rural	1	100	25	51	71	56.3	1.690	4	0.792
Urban	0	0	24	49	55	43.7			
(Indian Rupees/ month)									
>199862	0	0	1	2	4	3.2	5.277	14	0.982
99,931-199,861	0	0	2	4.1	6	4.8			
74,555-99,930	0	0	4	8.2	5	4			
49,962-74,755	0	0	7	14.3	21	16.7			
29973-49961	0	0	7	14.3	15	11.9			
10,002-29,972	0	0	12	24.5	39	31			
<10,001	1	100	16	32.7	36	28.6			
Occupation of the head of the family									
Legislators, Senior Officials & Managers	0	0	2	4.1	4	3.2	13.5	18	0.756
Professionals	1	100	6	12.2	11	8.7			
Technicians and Associate Professionals	0	0	2	4.1	6	4.8			
Clerks	0	0	3	6.1	8	6.3			
Skilled Workers and Shop & Market Sales Workers	0	0	2	4.1	13	10.3			
Skilled Agricultural & Fishery Workers	0	0	11	22.4	27	21.4			
Craft & Related Trade Workers	0	0	4	8.2	7	5.6			
Plant & Machine Operators and Assemblers	0	0	2	4.1	11	8.7			
Elementary Occupation	0	0	15	30.6	30	23.8			
Unemployed	0	0	2	4.1	9	7.1			
Time spent per day on independent studies									
I don't study every day	1	100	3	6.1	9	7.1	12.7	6	0.047*
1-2 h	0	0	33	67.3	86	68.3			
2-3 h	0	0	11	22.4	27	21.4			
>4 h	0	0	2	4.1	4	3.2			
Devices used to access the online content of teaching							-	-	-
Mobile	1	0	49	100	126	100			
Internet connection in the college/hostel									
Yes	1	100	42	85.7	103	81.7	0.741	2	0.468
No	0	0	7	14.3	23	18.3			
Mobiles usage in the classroom									
No	1	100	49	100	126	100			

\*P&lt;0.05 significant

Research studies clearly depicted that health care professionals and students welcome mobile-based learning as it permits continuous education without breaks caused due by the COVID 19 norms. This is accomplished by perceived ease, self-learning, positive attitude, educational purpose, and efficacy of mobile devices. There was a statistically significant relationship found with M-learning in educational achievement ( $r = 0.77, P < 0.01$ ) among students with a mean (SD) score of 165.55 (13.4).<sup>[7]</sup>

Mobile -learning shows significant improvement in learning achievement, perception, and satisfaction among nursing students when mobile phones were integrated into nursing education and were found to be statistically significant with a P value at  $< 0.001$ .<sup>[23]</sup> We found that among behavioral intention context, the confidence was enhanced among students with the mean (SD) 17.46 (1.48) and the correlation was  $r = 0.397$ , among behavioral intentions and material

characteristics (comfort to use a mobile device in a learning environment) with a  $P$  value 0.000.

A quantitative correlational research study conducted in Malaysia showed that there was a statistically significant correlation between Cumulative Grade Point Average (CGPA) and the student's mobile usage in accessing course-related material, pictures, PowerPoint slides, and videos at a  $P$  value  $<0.001$ . To access notes, assignments, and class presentations via mobile device were also statistically correlated with CGPA ( $P$ -value  $<0.05$ ). This study also concluded that time spent for studies by smartphone is inversely proportional to students' learning outcomes.<sup>[24]</sup> But in our present study, the time spent per day by the students on mobile learning has a statistically significant relationship with mobile learning acceptance at a  $P$  value  $<0.05$ .

This study finding is aligned with an integrative review that the nursing students showed a positive attitude and acceptance toward mobile learning due to its ease of use, usefulness, and convenience. It also improved clinical skills, independent thinking, and scientific confidence.<sup>[25]</sup> Even though mobile learning improved critical thinking and communication skills among students who underwent BL,<sup>[26]</sup> there was some hindrance to its effective use like poor internet access, lack of financial access, poor acceptance, inadequate technical support, improper use, not having own gadgets, and mobile theft,<sup>[27]</sup> poor self-confidence, lack of training among faculty and students, rejection,<sup>[28]</sup> repudiation by instructors, high dependency for memory, distraction by looking for non-educational contents,<sup>[29]</sup> the small size of the screen, poor English language fluency, understanding, the culture of rejection to use or access Wi-Fi and unavailability of high-speed internet password from the college campus.<sup>[30]</sup>

M-learning is encouraged and widely used in the field of medical education among students and teachers by creation of Medical Apps in collaboration with the information and Technology (IT) Department. In the medical field, M-learning has given maximum benefits due to enhancement in the institution's infrastructure, policy, technical support, and device functionality.<sup>[31]</sup> In nursing education, the technological and educational implications of mobile users are still in their infancy,<sup>[32]</sup> and faces drawbacks in M-technology such as poor cross-platform Apps, faculty training, access to software, acceptance of technology, and teacher's computer proficiency. We found that these issues were prevalent in the current study. M-health is a new path in which mobile devices are extensively used in medical practice and in public health. Integrating M-health and M-learning into the nursing curriculum in the early stages will improve not only the nursing

student's knowledge, practical skills but also improve the evidence-based practice (EBP) which is the basis for safe patient care.<sup>[33]</sup>

Research studies were transparent that mobile phones were not allowed in nursing colleges, because they take away the student's concentration in the classroom and in clinical settings. It is also thought that possession of mobiles is uncivil and compromises professionalism among nursing students. The improper use of mobiles ends up with "Nomo phobia" "Mobile addiction" – physical and mental problems such as stress, anxiety, sleeplessness, poor academic and learning performance. Mobile devices should not be abruptly banned in this technological era, but educators should take an active part in implementing policies and guidance in the responsible and sensible use of mobile phones by nursing students.<sup>[34]</sup> In our current study, 100% of the students expressed that they were not allowed to use mobile devices in the classroom or clinical areas even though 83% of them had internet/Wi-Fi access in the campus.

The nurses are considered as 'front-line' workers and occupying the major proportion in the health workforce, they are not adequately prepared for digital technologies.<sup>[35]</sup> If M-learning is incorporated as a teaching-learning strategy in educational institutions with additional support on mobile device Apps, procedure guidance, campus training on mobile learning, and its maintenance, we can achieve the interaction among educators, learners, educational materials, and fellow learners in the health profession. M-tech replaced the educational manuals and teachers and served as mediators or catalysts between knowledge and the educational contents. Involving, students in the construction of their own learning will yield fathomless benefits.<sup>[36]</sup>

To this end, mobile devices cannot replace a faculty on psychomotor skill teaching but it can strengthen the teaching-learning process by rigorous investigation by planning, designing appropriate educational contents and Apps on nursing procedures in the transformative pedagogies. Nowadays the Government has also encouraged the use of computers/smartphones to access educational content through forums/groups via different learning management systems (LMS) such as "Moodle." The mobile devices can be effectively amplified to the changing need of technological advancement and to meet the challenges of time shortage, inadequate resources, and faculty shortage in educational institutions.

### Limitation and recommendation

The limitations are that the study is cross sectional one, small sample size to generalize the findings, and conducted among three private nursing colleges only.

The strengths are multicentric, relatively quick, inexpensive, and cost-effective study. The standardized tool used in this study.

## Conclusions

The study concluded that there was a positive acceptance and behavior toward the use of smartphones among nursing students who underwent BL in nursing foundation procedures at Puducherry, India. The study can be conducted as a comparative study among private and Government nursing colleges. It can be conducted among other nursing subjects.

## Acknowledgements

The authors acknowledge the principals of three private nursing colleges and the first-year nursing students. We would like to thank the tool author for allowing to use the TAM tool.

## Consent

Written informed consent obtained from the students.

## Financial support and sponsorship

Nil.

## Conflicts of interest

There are no conflicts of interest.

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## SECTION- I

### DEMOGRAPHIC VARIABLES

1. Age
  - a.  $\leq$  17 years
  - b. 18–19 years
  - c.  $\geq$  20 years
2. Gender
  - a. Male
  - b. Female
3. Residence
  - a. Rural
  - b. Urban
4. Monthly family income (Indian Rupees/month)
  - a) 199,862
  - b) 99,931–199,861
  - c) 74,555–99,930
  - d) 49,962–74,755
  - e) 29,973–49,961
  - f) 10,002–29,972
  - g)  $\leq$ 10,001
5. Occupation of the head of the family
  - a) Legislators, Senior Officials & Managers
  - b) Professionals
  - c) Technicians and Associate Professionals
  - d) Clerks
  - e) Skilled Workers and Shop & Market Sales Workers
  - f) Skilled Agricultural & Fishery Workers
  - g) Craft & Related Trade Workers
  - h) Plant & Machine Operators and Assemblers
  - i) Elementary Occupation
  - j) Unemployed
6. Time spent per day on independent studies
  - a) I don't study every day
  - b) 1–2 h
  - c) 2–3 h
  - d) > 4 h
7. Devices used to access online content of teaching
  - a). Mobile
  - b). Laptop
  - c). Tablet
  - d). Desktop
8. Do you have internet connection in the college/hostel
  - a) Yes
  - b). No
9. Mobiles are allowed in the classroom
  - a). Yes
  - b). No

Technology Acceptance Model (TAM) evaluates students' technological acceptance and behavior toward the use of mobile devices within the blended learning experience.

Kindly select one option only.

Technology acceptance model (TAM)	1 Strongly disagree	2 Disagree	3 Neutral	4 Strongly agree	5 Strongly disagree
<b>System characteristics</b>					
The use of mobile devices provided activities to learn nursing procedures in a realistic environment					
The use of mobile devices provided a stimulating learning environment					
I felt comfortable using a mobile device to visualize the theoretical explanations compared to the face-to-face tuition					
I could use my mobile device to improve my learning due to the teacher's explanations					
<b>Material characteristics</b>					
The audio/video materials made by the teacher led to a better comprehension of the course contents					
The audio/video materials made by the teacher helped me immerse myself in the learning atmosphere of the class					
The audio/video materials made by the teacher were useful to learn the class contents					
The audio/video materials made by the teacher helped learn the most important aspects of the different units					
I believe that the audio/video materials made by the teacher were useful for improving the learning					
<b>Perceived ease of use</b>					
I received a clear guidance about how to use mobile devices and view the videos					
Using mobile devices did not require much time					
Learning how to use a mobile device for the in-class activities was easy					
The visualization of the videos through mobile devices was adequate and not stressful					
<b>Perceived usefulness</b>					
Learning through mobile devices helped me improve my skills					
Learning through mobile devices enhanced my desire to use the contents learned					
Learning through mobile devices provided a beneficial outcome to this class					
The videos made by the teacher were useful to improve my classwork					
<b>Attitude about use</b>					
I like using mobile devices to learn nursing procedures					
I have a positive attitude toward the use of mobile devices in this class					
I believe that using mobile devices to learn nursing procedures was a good idea					
I looked forward to using mobile devices in this class					
<b>Behavioral intention</b>					
If I have access to a mobile device, I will explore more videos to improve my competence					
If I have access to a mobile device, I will continue using it to improve my competence					
I will be happy to use the contents I have learned through my mobile device					
I will have the confidence to use the contents I have learned through my mobile device					