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RESEARCH ARTICLE

Attitude and Satisfaction towards Video-Based Psychomotor Skill Training in the Skill Laboratory among Undergraduate Nursing Students

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Abstract

Nursing students need to be well-trained in the skill laboratory before they can be placed in a clinical setting to ensure patient safety. To effectively teach these necessary skills, nursing educators use various strategies in the school of nursing. The aim of this study was to determine nursing students' perceptions regarding video-based psychomotor skill training in the skill laboratory. The study was designed as a cross-sectional descriptive research method. Year one Diploma in nursing students were recruited to participate, and 108 participants responded, resulting in a 100% response rate. The study used a questionnaire that was adopted and modified from a previous study. The questionnaire was divided into three sections: demographic data, attitudes towards video-based psychomotor skill training, and satisfaction levels with the same. The data were analysed using IBM SPSS Statistics Version 26.0 software for Windows. Descriptive statistics were used to determine the attitude and satisfaction of nursing students towards the training, as well as to analyse demographic characteristics. The Pearson correlation coefficient was performed to identify the association between different constructs in the study. The results showed that the students had a positive attitude towards the video-based training because they could review and replay the video anytime for future reference. The satisfaction levels for the training were divided into high (29%), moderate (38%), and low (32%). A significant correlation was found between attitude and satisfaction level (r= 0.799, p=0.000). Most nursing students had positive attitudes and satisfaction with psychomotor skill training through video-based teaching. However, there is still a need for improvement in delivering the content to ensure a better understanding level and higher performance skills from the nursing students.

Keywords: Nursing Students, Skill Training, Psychomotor Skill Training, Nursing Education, Clinical Skill Laboratory.

1. Introduction

The science of nursing is education combined with theoretical and practical learning experiences. Thus, nursing students must acquire knowledge, skills and attitudes for becoming a professional nurse (Jamshidi, Molazem, Sharif, Torabizadeh, & Kalyani, 2016).

Prior to practising skills in the clinical setting under the supervision of an instructor, nursing students are expected to study, practice, and be evaluated on clinical skills in a School of Nursing skill laboratory (Hansen, 2011). Skill laboratory practising is a principal factor impacting nursing students' clinical

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performance and learning process (Ewertsson, Allvin, Holmström, & Blomberg, 2015). Due to the COVID-19 pandemic, face-to-face tutorials and clinical skills laboratory training of nursing students to be postponed indefinitely. The education system moved from traditional teaching towards online teaching and learning methods throughout the pandemic, where about 70% of the lectures use videos in the teaching session (Selvanathan et al., 2020). In response to this situation, self-directed learning using videos as a strategy for psychomotor skill learning was recommended (Jang and Kim ,2014)

For psychomotor teaching, the institution adopted video-based teaching self-generated videos. In this study, the researchers determined the attitude and satisfaction of nursing students towards self-generated video-based learning for the acquisition of psychomotor skills. Clinical practice training using technology, like video-based psychomotor skill training, is valuable for educators to continue delivering effective skills to nursing students.

2. Methodology

The study used a cross-sectional descriptive research method study design. The inclusion criteria for the sample were the nursing students currently studying for a diploma in the nursing course in year one who are volunteering to participate in the study and using self-generated videos from the researchers for psychomotor skill training. A total sampling of year 1 Diploma in Nursing students was recruited to participate in this study. The sample comprised 108 participants with a 100% of the response rate.

This quantitative study used the available questionnaire instrument adopted and modified (Kelly, Lyng, McGrath, & Cannon, 2009; Mohamed & Mohame, 2020). This questionnaire was prepared after the researchers' in-depth review of related literature. The questionnaire was divided into three sections, including demographic data, attitude concerning video-based psychomotor skill training and satisfaction level towards the video-based training. The attitude scale was a 16-item 4-point Likert-type scale ranging from 1 (strongly disagree) to 4 (strongly agree). Higher scores indicated more positive attitudes. The satisfaction section included six items. The items were also rated on a 4-Likert scale from 1 strongly dissatisfied to 4 strongly satisfied. A score of one will be marked as an answer for "strongly disagree", a score of two for "disagree", a score of three for "agree", and lastly, a score of 4 for "strongly agree". The scoring system follows mean score values asthree categories with high levels ranging from 3.40-4.00 (68%-100%), moderate levels ranging from 2.60-3.39 (52%-67.9%), and low levels ranging from 1.00 to 2.59 (20%-51.9%) in determining the satisfaction levels of nursing students (Pimentel, 2010).

Content and face validity for the modified questionnaire were established by a panel of four academicians from nursing. A pilot study was conducted among 10% of the sample (15 samples) for reliability testing. The Cronbach's alpha for the attitude scale was 0.922. Therefore, no item was deleted. The satisfaction scale had a Cronbach's alpha of .927. All the items remained, and no further modification to the scale was done after pilot testing. After the pilot study, the data collection started as the questionnaire achieved validity and reliability.

The researchers obtained Ethical clearance from the Research Management Committee. The questionnaire was distributed using Google Forms. The participants were contacted via WhatsApp, and the study's aim was explained. Then, the participants were invited to participate in the study via an electronic Google form link for the questionnaire. A respondent information sheet of the study included information on the research title, aim, no payment, participants' confidentiality, freedom to withdraw the research, storage of the data and share results of the study stated in the form so that the participants have all the information and understood the instruction of the study. Each questionnaire contains no respondents' identification details to keep them anonymous. The participants also were informed that there would be no penalty or payment for nonparticipation in the study. Before answering the questionnaires, the researchers also obtained participants' consent to participate in the study by clicking "agree" on the survey consent form.

The data was analysed using the IBM SPSS Statistics Version 26.0 software for Windows. Firstly, the descriptive statistics of the demographic characteristics and each item included in the attitude and satisfaction questionnaires were calculated (mean, standard deviation and percentage). The main variables were normally distributed according to the Kolmogorov-Smirnov test. The "Reliability" of the questionnaires was calculated using Cronbach's ∞. Lastly, the Person correlation coefficient was performed to identify the association between the different constructs in the study.

3. Results

3.1 Demographic Profile of the Respondents

A total of one hundred and eight (N-108) students completed the questionnaire. Table 1 represents the frequency and percentage distribution of nursing students' demographic. The majority of the participants (83.3%) were below 20 years old, 14.8% were between the ages of 20-25 years old, and the minority of them were above 25 years old (1.85%). Most respondents were females (93.5%).

Table 2 shows respondents' frequencies and equivalent percentages to the close-ended questionnaires of student attitudes and satisfaction towards video-based psychomotor skill training during the Covid-19 pandemic. Overall, the students were positive(77.14%) toward video learning for Psychomotor skill training. The overall mean was 2.48 on a 4-point Likert scale. The item which had the highest positive attitude rating (95.3%) was "I feel I will use the videos to revise clinical skills in the future" (Q16, 3.48). Following that, about 88.9% (Q8, 3.41) of the respondents were interested in "I would like to have more live demonstration of the skills by the lecturers in skills classes." However, 87.9% (Q2, 3.2) of the respondents agreed, "I enjoy learning skills through a lecture in the lecture theatre".

Table 1. *Demographic Characteristics.*

Variables	Characteristics	Frequency (N) /Percent (%)
Age	<20 years	90(83.3)
	20-25 years	16(14.8)
	>25 years	2(1.9)
Gender	Female	7(6.5)
	Male	101(93.5)

Table 2. *Attitude with learning skills using video (N=108).*

Attitude level						
Statement	Strongly disagree/ disagree		Strongly agree/ agree		Mean	SD
	f	%	f	%		
1. I enjoy learning nursing skills through video.	39	36.1	69	63.9	2.67	.78
2. I enjoy learning skills through a lecture in the lecture theatre.	13	12.1	95	87.9	3.22	.73
3. I enjoy learning skills through live demonstration videos by a lecturer in the skills lab.	24	22.2	84	77.8	3.10	.83
4. I find the skills classes using videos useful.	28	26	80	74.1	2.94	.73
5. I felt prepared for the skills class after I watched the live- demonstration videos.	31	28.7	77	71.3	2.95	.82
6. The videos and skills classes have prepared me for performing skills in clinical practice.	40	37	68	63	2.77	.87
7. I would like videos to be used more in nursing skills teaching.	31	28.7	77	71.3	2.91	.89
8. I would like more live demonstrations of the skills by the lecturers in skills classes.	12	11.1	96	88.9	3.42	.69
9. I found it easy to assess the live- demonstration videos anytime.	26	24.1	82	75.9	3.08	.82
10. The instructions on accessing the live- demonstration videos were easy to understand.	24	22.2	84	77.	3.01	.78
11. I could download the live- demonstration videos to my home computer.	18	16.7.	90	83.3	3.14	.75
12. I prefer to watch the live- demonstration videos in my own time.	19	17.6	89	82.4	3.17	.80
13. I prefer watching the skills class's live demonstration videos.	24	22.3	84	77.8	3.05	.75
14. I feel motivated to learn the skills through video.	37	34.3	71	65.7	2.85	.86
15. I set aside sufficient time to watch the videos before the skills classes.	24	22.3	84	77.8	2.96	.69
16. I will use the videos to revise my clinical skills in the future.	5	4.6	103	95.3	3.48	.62
Total	**395/ 1728**	**22.86**	**1333/ 1728**	**77.14**	**2.48**	**0.78**

Moreover, Table 3 also illustrates the frequency and percentage distribution of nursing students' satisfaction level towards self-generated video learning. Overall, the students were satisfied with video-based learning (81.02%) with a mean of 3.06 on a 4-point Likert scale. It was observed that the total mean score for satisfaction level is 3.06. Concerning satisfaction with video learning, the results revealed that 82.4%, 81.5%, 80.5% and 76.9% of students were moderately satisfied with enjoying the teaching approach that the nurse instructors taught the skills through video (M=3.2), preferred to learn by visual video learning (M=3.06) and provide the students with a variety of learning materials via video-based psychomotor skill training respectively (M=3.03).

Table 3. *Satisfaction with learning skills using video(N=108)*

Satisfaction level						
Statement	**Very dissatisfied/ Dissatisfied**		**Very satisfied/ Satisfied**		**Mean**	**SD**
	f	**%**	**f**	**%**		
1. The teaching methods using videos in the skills classes were helpful and effective.	20	18.51	95	87.9	3.03	.81
2. The video-based psychomotor skill training provided me with various learning materials.	21	19.4	87	80.5	3.03	.65
3. The video activities promote my learning in all aspects of the nursing curriculum.	21	19.4	83	76.8	3.01	.74
4. I enjoyed how the nurse instructor(s) taught the procedure skills through video.	19	17.6	89	82.4	3.20	.79
5. The teaching materials used in these videos were motivating and helped me to learn.	22	20.37	83	76.9	3.04	.81
6. How the nurse instructor(s) taught using video was suitable for my learning.	20	18.5	88	81.5	3.07	.76
Total score	**123/ 648**	**18.98**	**525/ 648**	**81.02**	**3.06 ± .76**	

Table 4 shows the satisfaction level regarding video use for psychomotor skill training. High, moderate, and low satisfaction levels were 29%, 38% and 32% respectively.

Table 4. *Satisfaction Level with Video-based Psychomotor Skill Training*

	Frequency	**Per cent**
Low satisfaction	35	32.4
Mod satisfaction	41	38.0
High satisfaction	32	29.6
Total	108	100.0

Table 5 represents the correlation between nursing students' attitudes and satisfaction levels towards video-based psychomotor skill training. A Pearson product-moment correlation coefficient revealed a significant correlation between attitude and satisfaction level (r= 0.799, 0.000) where p at < 0.001. A positive correlation exists between students' attitudes and satisfaction levels towards video-based psychomotor skill training.

Table 5. *Relationship between Students' Attitude and Satisfaction Level Towards Video-based Psychomotor Skill Training*

		Attitude	**Satisfaction**
Attitude	Pearson Correlation	1	.799**
	Sig. (2-tailed)		.000
	N	108	108
Satisfaction	Pearson Correlation	.799**	1
	Sig. (2-tailed)	.000	
	N	108	108
**. Correlation is significant at the p < 0.01 level (2-tailed).			

4. Discussion

Psychomotor skill is a requisite learning part of being a future state registered nurse, and it is undeniably easier to teach and learn face-to-face by organising training schedules in tertiary centres. However, due to the global coronavirus pandemic, all routine face-to-face skill education has been suspended, and traditional courses have switched to distance learning. As for psychomotor skill teaching, our educators have tried to self-generate educational psychomotor skill videos for students' learning. Besides that, having video teaching will engage and immerse the learners in narrating various aspects of video skill performance, which will make the learners able to think more critically by generating new meanings themselves, learning to develop step-by-step, continue to reflect and reorganise the lessons (Budzynski-Seymour et al., 2020).

4.1 Demographic Characteristics of Sample Nursing Student Respondents

Nursing is in high demand in developed and developing countries such as Malaysia. Females dominate this profession; however, the number of males joining nursing is increasing. Of students who enrolled in the undergraduate nursing programme in Peninsula Malaysia, about 81% of females, with a mean age of 20, joined the programme(Wan Chik et al., 2012). In this study, most participants were females aged 20 years. The percentage of male students is lesser in this field, which may be due to the male gender characteristics such as empathy, caring and compassion with images that do not suit men (Shudifat, Algunmeeyn, Shoqirat, & Alja'afreh, 2023). Thus, a nursing career is not the first choice of career by men.

4.2 Student Attitudes on Learning Skills Through Video (N=108)

During the pandemic, educators created video-based learning for students to learn, review and revise the psychomotor skill videos. In this study, the students had positive responses for being able to review and replay the video, keep it, and revise it in the future when needed. It is accessible and easy to understand as all the steps are performed by referring to each semester's skill lab procedure booklet for study purposes. If they have any doubts, they can communicate with the educators, too. Similar findings were reported in which most students preferred technology-based learning (Zaw & Khair, 2019). However, the researchers found that most students prefer to have more live- demonstrations of skills during the skill classes. Introducing social media through internet networks, the participants can easily interact with the educators(Sharifi, Adib-Hajbaghery, & Najafi, 2019). This may be because the participants preferred direct communication to clear the doubts and educators to repeat the steps by live demonstration, which they felt easier to understand. If educators use the recorded video, pausing and replaying it while explaining to the students takes time. At this moment, the students may become inattentive if they cannot follow the instructions or explanations.

Moreover, this study also found that most participants preferred training in the lecture hall to learning the skills. The demonstration provides more interaction and discussion for both educators and participants. Thus, researchers realised that the participants chose face-to-face or direct conversations with educators because this method conveyed a clear message to avoid misunderstanding.

4.3 Student Satisfaction with Learning Skills Through Video (N=108)

The self-generated video learning is used for the participants during the psychomotor skill class. It is valuable feedback as the participants have significant satisfaction with the new teaching and innovative methods of psychomotor skill training. This showed the importance of the effective role and changes in this pandemic and dynamism. A self-generated video shared with participants via personal or virtual social networks also improved students' learning skills. Besides that, interactive teaching among the educators and participants is important to attract their attention and interest in learning. When participants gain knowledge and understand the content from video-based psychomotor skill training, this indirectly increases their satisfaction as the learning goal is accomplished. Thus, to have a self-generated video for learning is time-consuming and costly. However, the achievement of the goal and high significance satisfaction enable educators and participants to be motivated in learning and guidance.

5. Conclusion

Most nursing students have positive attitudes and satisfaction with psychomotor skill training via video-based. However, there is still space for improvement in delivering the content by ensuring a better understanding level and high-performance skills from the participants. The advantages and disadvantages of video-based learning for psychomotor skills exist,

and the skills can be accessed via clinical assessment for improvement. Further studies are needed to assess how video-based psychomotor skill learning improves nursing students' knowledge, skills, attitude and teaching effectiveness, producing professional future nurses who deliver quality care to the public.

Conflict of interest: None

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