The Effects of Maternity Video Education on Learning Motivation , Learning Achievement, Learning Immersion and Major Satisfaction

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Abstract

Background/Objectives: The purpose of this study is to analyze the effect of mathematics nursing theory video training on learning motivation, learning achievement, learning immersion and major satisfaction.

Methods/Statistical analysis: The subjects of this study were 74 out of 80 students who participated in the G Urban Nursing Department in the J area, and excluded 6 dropouts. Structured questions were used as learning tools, including general characteristics, motivation to learn, learning achievement, learning immersion, and major satisfaction. Data collection was collected from March 2020 to May 2020 and descriptive statistics, t-tests and correlation analysis were performed using spss26.

Findings: Before and after video training of learning motivation (t = -2.38, p = .020), before video training of learning achievement. After (t = -4.11, p = .000), and before and after video education of learning immersion (t = -2.75, p = .008) were all significant, and video education was effective. Non-essential motivation (t = -2.00, p = .049), intrinsic motivation (t = -1.75, p = .084), class motivation (t = -2.53, p = .013), continued. The motives (t = -2.55, p = .013) were all significant. The cognitive immersion (t = -2.31, p = .024) and the positive immersion (t = -2.76, p = .007) of the sub-factors of learning immersion were significant. Learning motivation (t = -3.16, p = .006), learning immersion (t = .330, p = .004) positively correlated with learning satisfaction, and learning achievement (t = .099, p =405). Therefore, through indirect experiences of contents that can be observed during practice through video education, it strengthens clinical nursing skills and linkage of theoretical knowledge of nursing students.

 Improvements/Applications: The results suggested implications on the further utilization of video contents by studying various factors in using video contents in the class setting.

Keywords: video, learning motivation, learning achievement, learning immersion, majors satisfaction.

1. Introduction

Nursing education is putting a great deal of effort to raise nursing students to become nurses that can adjust to the changing health care environment. The nursing education, however, faces limitations in the quality of clinical training due to the increase in the number of students and the distinctive characteristics of maternity nursing. Constraint on clinical training activity makes attaining experiences that can confirm what students have learned in classroom difficult, which lead to decreased intelligibility in theoretical knowledge in nursing. While recent increase in male students is making clinical training in maternity nursing more constrained, there should be an effective measure to enhance the students' intelligibility in theoretical education.

Because of the Covid-19 situation, clinical training as well as theoretical education are replaced by non-face-to-face classes using videos. Among various non-contact teaching methods, video-assisted education draws attention. Video-assisted education is an effective media that can demonstrate music, sound effects, photos, objects and specimens on the screen and therefore received attentions[1]. Video-assisted education is realized in many forms, and a recent review of research[2],[3], The results of a study on self-evaluation learning method assisted by video in self-regulated training education[4] reports that this method is an effective medium for both children and learners with no doubt [5]. Currently, an explosively increased number of video contents that can be used in educational contexts are out there thanks to the emergence of production groups from various web communities. As various web-based educational video contents can be utilized in a timely manner in school setting, attentions are paid to how to utilize the contents through instructional design strategies, and to its educational effectiveness stemming from the characteristics of the medium[6]. Although video education does not allow direct observations and experiences either, visual and auditory cognitive processing is possibly making the medium an effective alternative to fill the gap between theory and hands-on experience. It is also an important material to be added to non-face-to-face classes. Meanwhile, there have been efforts to expand the possibility of educational usage of those contents, which encouraged studies on how they are being used in the field. Some examples are: Analysis on web-based videos for public education[6], study on the effects of e-learning videos on class[7], and effect of self-directed

feedback practice using smartphone videos"[8], on reading with utilizing augmented reality[9]. However, in-depth studies are still relatively insufficient. In order to perform more effective education in maternity nursing, the present study examined nursing students' learning motivation, learning achievement, and learning immersion when videos on pregnancy and delivery were shown to them. The results suggested implications on the further utilization of video contents by studying various factors in using video contents in the class setting.

2. Materials and Methods

2.1. The design of This Study

The purpose of this study is to investigate the effectiveness of video education in nursing college students. This study is a test study before and after video training. This class is a case-based video about pregnancy and delivery, and was studied as an additional educational content during non-face-to-face classes.

2.2. The Subject of This Study

In this study, 80 nursing college students from G-group of J province participated in 74 people, excluding 6 dropouts. This study was used as a learning tool that included general characteristics, learning motivation [10], learning achievement [11], learning immersion [12], and major satisfaction [13]. Data collection was collected from March 2020 to May 2020, and the researchers fully explained that before participating in this study, students with negative emotions, such as impulse control and difficulty with depression, could stop participating. In addition, some researchers have paid attention to the need for treatment based on the findings.

2.3. The Tool of This Study

The study used structured questionnaires, including general characteristics, learning motivation [10], learning achievement [11], learning immersion [12], and major satisfaction [13].

2.3.1. Learning motivation

The motivation for learning was to use 19 items that corrected and supplemented the vocabulary of the learning motivation scale developed by Yongrae Kim. It consists of four sub-areas with internal motivation (8questions), external motivation (5questions), continuous motivation (3 questions), and class motivation (3questions). Each item was measured on a'very rare' scale from 1 to'very rare' on a 5 to 5 Recut scale, with a score range of 19-95 points, the higher the score, the higher the motivation for learning.

2.3.2. Learning achievement

Learning achievement refers to a measure of the degree to which a learner acquires information or skills as a result of a specific class[14]. It was measured as the learning achievement in this study. Self-reported cognitive learning scale (Cognitive, Affective, and Psychomotor Perceived Learning Scale, CAP) developed by Rovai et al. (2010)[15] to measure learning achievement in cognitive, affective and psychological areas for college students. by Park Jin-hee (2010)[16]. There were a total of 9 questions, and each question consisted of 1 point of "Not at all" and 5 points of "Always yes". Negative questions converted the scores inversely, and the higher the score, the higher the learning achievement perceived by the learner.

2.3.3. Learning immersion

In this study, learning immersion was defined as 'a very enjoyable state in which a learner's attention is freely used toward only a goal in a learning situation to solve a task in a complete manner of action and consciousness'. Cognitive immersion and positive immersion were used as observation variables. The learning immersion scale used in this study is that Seok Im-bok (2007)[12] related literature immersion and existing domestic and international immersion scale questions. The learning immersion scale developed by Seok Im-bok (2007)[12] was made for 6th graders and was modified and used to suit high school students. The learning immersion scale is a 5-point Likert scale, with a total of 35 questions.

2.3.4. Major satisfaction.

The measurement tool was modified and supplemented by the tool developed by Hyeseung Jeong, and the content validity was verified. Content validity was tested for content validity by a total of three experts, two basic nursing professors and one adult nursing professor. Each item is a "not at all" score of 1 to a "very good" score of 5, and the higher the score, the higher the level of learning satisfaction.

2.4. Data Analysis

SPSS WIN 26.0 Version program is used for data analysis. General characteristic of the subject is used for frequency analysis and descriptive statistic, paired t-test and Pearson's correlation was used for analysis.

3. Results and Discussion

3.1. General Characteristic

A total of 74 people participated in this study. The 25-year-old is 156. The motivation for choice was in order of aptitude (39.2%)

and employment rate (29.7%), and general hospital (44.6%) in the hope of employment. [Table 1].

Table 1. General characteristics   (N=74)

Characteristics		n(%) or M(±SD)
Sex	M	21(28.4%)
	F	53(71.6%)
age	25 or less	56(76.7%)
	26-29	9(12.2%)
	over 30	9(12.2%)
Academic achievement	3.0 or less	22(29.7%)
	3.0 – 3.4	22(29.7%)
	3.5 – 4.0	19(25.7%)
	over 4.1	11(14.9%)
Selective motivation	*Employment rate*	22(29.7%)
	aptitude	29(39.2%)
	High school grades	1(1.4%)
	Parent education	18(24.3%)
	Other	4(5.4%)
Hope for employment	*Senior General Hospital*	27(36.5%)
	general Hospital	33(44.6%)
	Other	14(18.9%)

3.2. Maternal nursing science video education learning motivation, learning achievement, learning immersion difference

The difference between maternal nursing video education learning motivation, learning achievement and learning immersion is learning motivation (t = -2.38, p = .020). Before and after video training in learning immersion (t = -4.11, p = .000) and before and after video training (t = -2.75, p = .008) were both significant and video training was effective.

Table2. Maternal nursing science video education learning motivation, learning achieve ment, learning immersion difference (N=74)

Variables	Pre G	Post G	Paired Differences	t	p
	M±SD				
learning motivation	67.07 ±10.23	70.97 ±11.11	-3.90±14.03	-2.38	.020**
learning achievement	28.93 ±3.83	32.16 ±5.30	-3.23±6.71	-4.11	.000***
learning immersion	113.47 ±15.38	120.60 ±22.04	-4.52±22.18	-2.75	.008**

unit: cm, ***: p<0.005, **: p<0.05

3.3 Difference of learning Motivational difference after video training program

The results of the sub-factors of learning motivation are internal motivation (t = -2.00, p = .049), external motivation (t = -1.75, p = .084), and class motivation (t = -2.53, p =. 013) and continued motivation (t = -2.55, p = .013) were all significant.

Table3. Difference of learning Motivational difference after video training program   (N=74)

Variables	Pre G	Post G	Paired Differences	t	p
	M±SD				
Non-ssential motivation	25.56±4.41	26.89±4.91	-1.33±5.68	-2.00	.049**
Intrinsic motivation	16.92±2.93	17.74±3.79	-.82±4.01	-1.75	.084*
Class motivation	11.12±1.97	11.84±2.19	-.73±2.44	-2.53	.013**
Continuous motivation	13.47±2.12	14.49±3.02	-1.03±3.45	-2.55	.013**

unit: cm, ***: p<0.005, **: p<0.05

3.4 Difference of learning immersion difference after video training program

The results of the sub-factors of learning immersion were significant in both cognitive immersion (t = -2.31, p = .024) and positive immersion (t = -2.76, p = .007).

Table4. Difference of learning immersion difference after video training program   (N=74)

Variables	Pre G	Post G	Paired Differences	t	p
	M±SD				
Cognitive immersion	52.05±7.74	54.93±10.30	-2.88±10.63	-2.31	.024**
Affective immersion	61.41±8.90	65.67±12.80	4.26±13.18	-2.76	.007**

unit: cm, ***: p<0.005, **: p<0.05

3.5 Correlation between learning motivation, learning achievement, and learning immersion

Learning motivation, learning achievement, and learning immersion are positively correlated with learning satisfyaction (t = -3.16, p = .006) and learning obligation (t = .330, p = .004). Learning achievement (t = .099, p = 405) was not significant.

Table5. Correlation between learning motivation, learning achievement, and learning immersion(N=74)

Variables	Major satisfaction	learning motivation	learning achievement	learning immersion
Major satisfaction	1			
learning motivation	.316(.006**)	1		
learning achievement	.099(.405)	.224(.056)	1	
learning immersion	.330(.004***)	.722 (.000***)	.338(.003***	1

4. Conclusion

This study was conducted by examining learning motivation, learning achievement, and learning immersion of students after watching videos on pregnancy and delivery for maternity nursing class, in order to build up a foundational material for educational methods of maternity nursing. Also, the study aimed to overcoming the limitations of traditional lecture-based class in university by diversifying educational methods. For the study, theoretical education was done through non-face-to-face method and additional education was given by pregnancy and delivery videos. After that, students' learning motivation, learning achievement, learning immersion and satisfaction with their major were measured.

The experimental result on learning motivation was statistically significant (t = -2.38, p = .020) and so it was in its sub-areas. Internal motivation (t = -2.00, p = .049), external motivation (t = -1.75, p = .084), continuous motivation (t = -2.55, p=.013), and class motivation (t = -2.53, p =. 013) all exhibited statistical significance. The internal motivation (1.33 points) and continuous motivation (1.03) were enhanced, which means that the learning videos on pregnancy and delivery helped students to choose learning activity on their own, putting voluntary efforts according to their adaptivity, attentiveness, interest, and curiosity, and to strengthen the drive to continue the learning. It is thought that watching learning videos enhanced the motivation for learning as some insufficiently covered theoretical parts become intelligible with the help of visual and auditory stimuli. There has been few studies that deal with learning motivation and video education from various perspectives, though.

For learning achievement, there was a statistical significance (t = -4.11, p = .000). Lecturing by using materials like apparatus for delivery has its limitation, and more explanation can be added through video learning and satisfy the students' curiosity, thus improving learning achievement. It is also thought that those learning video materials in pregnancy and delivery would have enhanced intelligibility as they also include clinical cases. So far, there has been few studies on learning achievement in this area.

Result for learning immersion was statistically significant (t = -2.75, p = .008), and as for the sub-factors, cognitive immersion (t = -2.31, p = .024) and affective immersion (t = -2.76, p = .007) showed statistical significance. The immersion might have been improved as the learning videos on pregnancy and delivery mainly focus on cases and contains some dramatized elements in it, too. Presently, no clinical training or even visiting the delivery scene is allowed in maternity nursing, which makes establishing theoretical knowledge difficult for the students. It is thought that the video dealing with pregnancy and delivery resolved this diffculty to some degree and helped students to immerse in learning and improve the feeling of achievement, and ultimately enhance their motivation to study.

However, there is lack of studies on various learning contents including video learning. The pregnancy and delivery video was shown to make significant differences in learning motivation, learning achievement and learning immersion. This study suggests the development of video education methods that can be used for various circumstances for students of nursing and the necessity for future studies to compare a variety of educational methods with one another. More various factors and more

participants will be also needed as well for future studies.

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