

Effects of Nursing Skills Educational Programs Using Multimedia

Keum-Bong Choi

Associate Professor, Chosun Nursing College, Korea
kbchoi@cnc.ac.kr

Abstract

Nursing students who play a role as future nursing professions are provided with education through various teaching and learning methods in order to develop necessary competencies. The purpose of this study is to confirm the effect of nursing practice education using multimedia. A quasi experimental study with a non-equivalent control group pretest-posttest design was used, and the participants of the study were students from two nursing colleges, who received an educational intervention using multimedia as the experimental group and those without education were selected as the control group. Data collection was conducted immediately before and after educational intervention, and data analysis was performed using the SPSS 21.0 program by χ^2 -test, Fisher's exact probability, and t-test. As a result of the study, the experimental group was statistically significant in self-efficacy ($t=3.402$, $p=0.015$), resilience ($t=2.047$, $p=0.045$) and performance confidence ($t=2.128$, $p=0.018$) compared to the control group. Through these results, we could confirm that multi-media practical education is effective educational method for enhancing nursing students' self-efficacy, resilience, and performance confidence. Therefore, in order to establish a systematization of the nursing profession, it is essential and should be continued for nursing students to use structured multimedia and core fundamental nursing skills.

Keywords: Multimedia , Education, Self-efficacy, Resilience, Performance confidence

1. Introduction

The educational method using multiple media is very useful in the practical curriculum for nursing professions, and in order to achieve the learning goals of the practical subjects, the instructor needs a strategy to use effective educational media for students [1]. Recently, in order to effectively operate practical education for nursing students in nursing colleges, the provision of education using video media among various educational methods is increasing. Compared to traditional lectures, education using video media is a very useful educational method as a medium that not only motivates learners but also provides a learning experience close to the real thing [2].

In the existing practical education method, instructors let students learn skills through traditional lectures or demonstrations, whereas educational media using video has several advantages. Accordingly, in practice education, in order to motivate students to learn or to improve their learning achievement, video materials related to skills or smartphone video materials that can provide immediate feedback through peer evaluation are utilized. Skill-related video training materials have the advantage that patients and nurses can learn skills in detail while role-playing in an environment similar to an actual hospital environment based on the nursing

Manuscript Received: May. 13, 2022 / Revised: May. 17, 2022 / Accepted: June. 3, 2022

Corresponding Author: kbchoi@cnc.ac.kr

Tel: +82-62-231-7076, Fax: +82-62-231-7019

Associate Professor, Chosun Nursing College, Korea

skills item protocol, whereas video materials using smartphones are performed between fellow students. It has the advantage of being able to immediately take a picture of a skill and give feedback, and to correct and supplement one's shortcomings [3-4].

Learning coaching using video media increases learning motivation, relieves stress on learning, and increases self-efficacy, so that it has the effect of regulating motivation, cognition, and behavior [3]. Nursing students experience various stresses because they combine theory and practice during the curriculum and directly interact with patients in clinical practice [5]. In previous studies, when nursing students' stress increased, their self-efficacy was affected [6]. When self-efficacy increases through effective intervention, it shows a significant correlation with college life adaptation, and it also enhances coping ability to positively cope with difficult situations, so that you have the ability to control self-management [1, 7]. Therefore, the students who experienced practical education using multiple media in this study had a positive effect on improving their self-efficacy by improving their technical skills.

Compared to students from other majors, nursing students combine theory and practice during the curriculum, and experience various stresses in the process of directly caring for patients in the clinical practice field, as well as the general stresses they feel in life. In order to relieve the stress of nursing students and increase their sense of self-efficacy, the teaching and learning method using video media in the curriculum not only increases learning motivation, but also has a behavioral control effect of objectively viewing and managing oneself through feedback. When nursing students' self-efficacy increases, it helps them adapt to college life, improves their adaptability to positively cope with difficult situations, and has confidence in their ability to control themselves [1, 8].

As self-confidence increases, the resilience according to the situation is gradually formed through the development process of the dynamic interaction between the individual and the environment. Resilience is an ability that is gradually formed in the development process through the dynamic interaction between the individual and the environment [9]. In particular, it appears that peer evaluation feedback using smartphones in nursing education fields has a positive effect on self-efficacy and practical performance confidence by correcting and supplementing deficiencies [7, 10]. Therefore, it is necessary to actively expand these various educational media.

In previous studies, media utilization education in teaching and learning methods was a descriptive research study on correlations or descriptive studies on variables such as nursing students' learning satisfaction, self-efficacy, performance confidence, clinical performance ability, resilience, and learning ability [2, 7, 11-13]. As an educational intervention study, this study reported its effect using video recording, simulators, or standardized patients [1, 10, 14]. However, there is no study on the effect of using multimedia by correcting and supplementing existing errors according to a more sophisticated and structured multimedia, that is, a standardized protocol for nursing skills.

Therefore, in this study, it was hypothesized that the experimental group that participated in nursing practice education using structured multimedia would have a higher educational effect than the control group that did not participate in the education. In other words, a study was attempted with the hypothesis that 'the experimental group who participated in the education would have higher self-efficacy, resilience, and performance confidence scores than the control group who did not participate in the education'. Therefore, this study was attempted with the purpose of examining the effects of education on self-efficacy, resilience, and performance confidence of nursing students after conducting practical education using multiple media to nursing students who are future nursing professionals.

2. Experiments

This study was a quasi-experimental study with a non-equivalent control group pretest-posttest design was used. The participants of this study were students enrolled in the senior year of nursing at University C and University K. The experimental group was selected as a target of educational intervention using multimedia, and the control group was selected as the target of students who received only traditional education. As for the

number of participants, the number of participants was selected by applying the G* power 3.1.2 program, the average difference between the two groups was .60, the significance level (α) = .05, and the power .70. When selecting a group of participants in this study, time and distance were considered to prevent the spread of experiments between study subjects, and subjects with relatively similar general characteristics were selected.

For this study, the researcher explained the research purpose, procedure and method, and additional necessary information to the students who agreed to participate in the study and conducted the study. As research tools, self-efficacy, resilience, and performance confidence were used [15-17]. As for the reliability in this study, self-efficacy was Cronbach's α = .87, resilience was α = .85, and performance confidence was α = .94.

For the educational intervention using multimedia in this study, educational materials suitable for educational goals were first investigated. As for the multimedia used for educational intervention, brochures such as nursing skills video materials, iPads, smartphones, and educational guidebooks produced by standardizing nursing skills were used. The educational guidelines were divided into core fundamental nursing skill items and composed of contents. The core fundamental nursing skills used in the research intervention were divided into 10 items into upper, middle, and lower levels. Core fundamental nursing skills items are vital sign measurement, nasogastric tube feeding, subcutaneous injection, intradermal injection, intramuscular injection, intravenous infusion, transfusion, straight catheterization, indwelling catheterization, and tracheostomy tube management. In order to review the content validity of the treatment program to be applied to the educational intervention of this study, five experts with experience in core fundamental nursing skills first reviewed the educational content.

Educational intervention was allocated 2 hours for each core fundamental nursing skill item for a total of 6 weeks, and a nursing skill education plan was made so that education according to the level of difficulty and execution time was performed appropriately. In order to help the understanding of video-using media education, training guidelines were distributed in advance before training, and it was recommended to check and learn the relevant knowledge, procedures, and practical equipment necessary for the items, consumables, checklists, etc. The execution time for each item is 15 minutes, and the training time for 2 hours consisted of theoretical lectures, video viewing, practice, peer evaluation and feedback through smart phones, observation by an educational instructor and, if necessary, demonstrations.

During the skill practice, training assistants and working students were placed in the practice room to ensure smooth progress. In addition, we provided an opportunity to use the self-study room to improve the skills of students by securing additional time or space for practice so that they can watch the video material again and again at any time upon request. After the basic nursing practice was completed, an evaluation was conducted at the end. In the evaluation, standardized patients were used for the necessary items so that the role play could be performed according to the situation. Evaluation was evaluated by a checklist, and feedback was provided immediately after evaluation.

The data collection period was from September 6, 2021, right before the intervention application period in the experimental group, to October 15, the end of the training. For research participants' autonomy and ethical considerations, research permission was first obtained from the head of the relevant institution, and the research purpose, method, contents, and participant confidentiality were explained to the participants prior to data collection, and the possibility of withdrawal at any time during the study was also announced. After confirming sufficient understanding, the research participants were asked to obtain written consent and participate in data collection. Data analyses utilized χ^2 -test, fisher's exact probability & t-test with the SPSS 25.0 program.

3. Results

3.1 Homogeneity test

3.1.1 Homogeneity test for general characteristics of experimental group and control group

As shown in Table 1 in general, a total of 63 participants were studied, and the average age was 23.89

years, and males were 7.95%. There was no difference between the two groups in the age, gender, academic performance, interpersonal relationship, personality trait, major satisfaction, and necessity of core fundamental nursing skill education during clinical practice. As a result of verifying the homogeneity of each characteristic of the experimental group and control group collected in advance before educational intervention, there was no statistically significant difference between the two groups. Therefore, the two groups participating in the study could be regarded as a relatively homogeneous group.

Table 1. Homogeneity test on the characteristics between groups (N=63)

General characteristics	Categories	Exp.(n=31)	Cont.(n=32)	χ^2 or t	p
		M±SD or n(%)	M±SD or n(%)		
Age		23.76±7.72	24.02±6.67	1.317	0.238
Gender	Male	3(9.7)	2(6.2)	0.999*	0.685
	Female	28(90.3)	30(93.8)		
Academic Performance	< 3.0	4(12.9)	1(3.1)	6.106*	0.176
	3.0≤~<3.5	10(32.3)	14(43.8)		
	3.5≤~<4.0	15(48.4)	15(46.9)		
	4.0≤~<4.5	2(6.4)	2(6.2)		
Interpersonal Relationship	Above average	20(64.5)	19(59.4)	0.768	0.376
	Under average	11(35.5)	13(40.6)		
Personality Trait	Introverted	4(12.9)	3(9.4)	0.714*	0.694
	Neutral	23(74.2)	24(75.0)		
	Extroverted	4(12.9)	5(15.8)		
Major Satisfaction	Under Average	14(45.2)	14(43.8)	0.816	0.398
	Above Average	17(54.8)	18(56.3)		
Necessity of core fundamental nursing skill education	Yes	29(93.5)	27(84.4)	4.837	0.187
	No	2(6.5)	5(15.6)		

* Fisher's exact probability test

3.1.2 Homogeneity test for dependent variables of experimental group and control group

As shown in Table 2 as a result of homogeneity verification of dependent variables of the experimental group and control group collected before educational intervention, there was no statistically significant difference at the significance level of 0.05 in the two groups. As a result of homogeneity verification of self-efficacy of the experimental group and control group collected before educational intervention, there was no statistically significant difference. As a result of homogeneity verification of resilience of the experimental group and control group collected before educational intervention, there was no statistically significant difference. As a result of homogeneity verification of performance confidence of the experimental group and control group collected before educational intervention, there was no statistically significant difference. Therefore, the two groups participating in the study could be regarded as a relatively homogeneous group.

Table 2. Homogeneity test on the dependent variables between groups (N=63)

Variables	Exp.(n=31)	Cont.(n=32)	t	p
	M±SD	M±SD		
Self-efficacy	52.23±11.31	50.31±13.25	1.521	0.281
Resilience	103.72±8.96	101.57±10.19	1.356	0.371
Performance Confidence	73.37±10.91	69.79±8.59	-0.295	0.651

Exp.=experimental group; Cont.=control group.

3.2 Hypothesis test

3.2.1 Hypothesis 1

As shown in Table 3, as a result of analyzing the difference in the change in the self-efficacy score before and after the experiment between the experimental group and the control group, the experimental group increased by 17.26 points to 52.23 points before and 69.49 points after the test, and in the control group, it increased slightly by 0.78 points to 50.31 points before and 51.09 points after the test, but both groups increased slightly. The score change between the two groups showed a statistically significant difference ($t=3.402$, $p=0.015$), and the first hypothesis was supported.

3.2.2 Hypothesis 2

As shown in Table 3, as a result of analyzing the difference in the change in resilience score before and after the experiment between the experimental group and the control group, the experimental group increased by 9.31 points to 103.72 points before and 113.03 points after the test, and in the control group, it decreased slightly by 0.74 points to 101.57 points before and 100.83 points after the two groups. The score change between the two groups showed a statistically significant difference ($t=2.047$, $p=0.045$), and the second hypothesis was supported.

3.2.3 Hypothesis 3

As shown in Table 3, as a result of analyzing the difference in the change in performance confidence score before and after the experiment between the experimental group and the control group, the experimental group increased by 12.52 points to 73.37 points before and 85.89 points after the test. The score change between the two groups showed a statistically significant difference ($t=2.128$, $p=0.018$), and the third hypothesis was supported.

Table 3. Changes in the dependent variables between groups (N=63)

Variables	Group	Pretest	Posttest	Difference	t	p
		M±SD	M±SD	M±SD		
Self-efficacy	Exp.(n=31)	52.23±10.27	69.49±11.31	17.26±10.04	3.402	0.015
	Cont. (n=31)	50.31±10.24	51.09±13.25	0.78±11.01		
Resilience	Exp.(n=31)	103.72±8.91	113.03±8.65	9.31±7.26	2.047	0.045
	Cont.(n=31)	101.57±10.25	100.83±11.02	-0.74±9.77		
Performance Confidence	Exp.(n=31)	73.37±10.91	85.89±9.76	12.52±9.15	2.128	0.018
	Cont.(n=31)	67.79±8.45	69.12±7.98	1.33±8.47		

Exp.=experimental group; Cont.=control group.

4. Discussion

The purpose of this study was to examine the effects of education on core fundamental nursing skills using multimedia for nursing students. The effect of structured, multimedia-based core fundamental nursing skills education on the self-efficacy, coping ability and performance confidence of nursing students, who are future nursing professionals, was investigated. An attempt was made to provide basic data to help improve nursing

practice education. Core fundamental nursing skills is the most essential and basic practical ability among the various competencies that a nursing profession must have. As a result of the study, core fundamental nursing skills education using structured multimedia showed improvement in all variables of self-efficacy, resilience, and performance confidence of nursing students who are future nursing professionals. It was confirmed that it was an effective educational method. Based on the results of this study, we would like to discuss as follows.

First, the level of self-efficacy in the experimental group who participated in core fundamental nursing skills education using structured media increased significantly from 52.23 points before the intervention to 69.49 points after the intervention to 17.26 points, which was statistically significant to the degree of self-efficacy compared to the control group. There was one difference. This is a result similar to the study that nursing students were affected by the increase in self-efficacy as their knowledge improved after applying medication-related skills education to nursing students using multiple media [1]. Due to the recent changes in the health care environment, nursing students are experiencing a lot of stress due to the limited access to subjects in clinical practice sites, the learning burden to prepare for the national nurse examination, and job preparation. In order to increase the self-efficacy of the practical performance ability, it is necessary to change the educational environment in consideration of the student's position in the practical education. Therefore, it is necessary not only to develop alternative practical educational materials that depart from the traditional lectures or simple demonstrations that teachers have done, but also to establish an effective teaching and learning method system. In order to reduce the stress felt by nursing students and to enhance the sense of self-efficacy, it is necessary to provide an opportunity for nursing students, who are future nursing professionals, to develop the necessary nursing competency by operating more efficient practical training by those involved in the field of education.

The self-efficacy score before education was above average in both the experimental group and the control group, but the self-efficacy score of the experimental group receiving education was significantly improved, whereas the self-efficacy score in the control group was 50.31 points before the intervention and 51.09 points after the intervention, with little difference. Unlike the experimental group, the control group is seen as a result that can occur in situations where there is less opportunity to practice, such as preparing for the national exam, or not departing from the existing educational method [14]. Therefore, if various educational media are used to educate nursing students, who are future nursing professionals, who are about to graduate, it will be possible to improve the skill performance and self-efficacy, which will increase the satisfaction of the students as well as the quality of the nursing they provide is fed.

Second, the degree of resilience of the experimental group who participated in core fundamental nursing skills education using structured multimedia was 103.72 points before the intervention and 113.03 points after the intervention, with a score difference of 9.31 points and the control group having almost no score difference. There was a statistically significant difference in degree. It was said that self-efficacy and resilience had a significant correlation because when academic self-efficacy was improved, resilience or coping ability needed for college life was increased [7]. Resilience is an important factor for nursing students to adapt to their major, and since it is essential to find resilience by alleviating the stress they feel during their curriculum, interventions to promote this are required. Through this study, the experimental group who participated in the educational intervention showed improvement in self-efficacy or resilience after education, so it will be necessary to continue to apply this kind of education that is directly helpful to the students. In this study, the score difference in resilience was not greater than that of self-efficacy, but it is considered that overcoming power is not obtained through short-term education. In addition, it is considered that systematic education is necessary to develop and utilize various educational media for students to develop objective viewpoints by strengthening their ability to overcome through core fundamental nursing skills training and evaluation.

Third, the level of performance confidence in the experimental group who participated in core basic nursing skills education using structured multimedia was 73.37 points before the intervention and 85.89 points after the intervention, with a score difference of 12.52 points. There was a statistically significant difference in confidence level. There is a limit to the number of core fundamental nursing skills education in universities, so the ability to perform skills proficiently as a nursing professional is inevitably lacking [18]. Therefore, in

order to increase the effectiveness of practical training, it is essential to provide core fundamental nursing skills education using structured multimedia rather than existing lectures or simple demonstrations, and it is thought that it will be possible to increase the self-confidence.

As the results of this study show that there is a clear difference in the effect between the experimental group that received core fundamental nursing skill training using video training videos or smartphones, reinforcement of core fundamental nursing skill training is essential. In addition, the use of various video media or leadership education should be actively conducted to motivate students to learn or improve their performance confidence in skills. After tracheostomy tube management in the experimental group after educational intervention, the smallest difference in performance confidence score was indwelling catheterization, straight catheterization, and intravenous infusion. This is considered to be because indwelling catheterization and straight catheterization are items that must be performed thoroughly aseptically to prevent urinary tract infections and require detailed technical skills, and intravenous infusion can reduce mistakes by finding the correct blood vessels. In order to increase the performance confidence of nursing students, it is necessary to learn prior knowledge related to core fundamental nursing skills, repeat learning and sufficient practice using multiple media such as video materials, simulators, computers, and booklets, supply sufficient practical equipment and practice consumables, active guidance is required.

As a result of this study, the experimental group participating in core fundamental nursing skills education using structured multimedia showed statistically significant differences in self-efficacy, resilience, and performance confidence. Students with high self-efficacy, resilience and performance confidence have the belief that they can perform the task entrusted to them well. In order to improve nursing students' performance confidence, method is more important than practice time, and if feedback and repeated education are continuously provided, the quality of nursing performance will naturally improve. If various intervention studies that can emphasize the reinforcement of core fundamental nursing skills education are attempted in the future, the quality of nursing education can be improved, and the quality of nursing can be improved by positively affecting the flow of the recently changing health care environment.

5. Conclusion

This study was an attempt to verify the effect of multimedia practical education on students' self-efficacy, resilience, and performance confidence for seniors in nursing colleges. This study is an intervention study for core fundamental nursing skills education using structured multimedia, and we were confirmed that core fundamental nursing skills training and evaluation are essential and should be continued through a variety of learning methods approaches. In order to develop the knowledge, skills, and attitudes required for nursing professionals, education in line with the current health care environment should be provided in the field of nursing education. In addition, if we are well aware of the importance of core fundamental nursing skills in the clinical field and form a cooperative relationship, we will be able to produce competent nurses who can provide integrated nursing as well as technical proficiency, helping them to play a pivotal role in human health management.

References

- [1] S. Valizadeh, H. Feizalahzadeh, M. Avari, and F. Virani, "Effect of education of drug prescription and calculation through lecture and designed multimedia software on nursing students' learning outcomes," *Electronic Physician*, Vol 8, No.7, pp. 2691-2699, 2016. DOI: <https://doi.org/10.19082/2691>
- [2] Y. J. Cha and Y. M. Ha, "Effectiveness of education program for core fundamental nursing skills using recording video with smartphone and formative feedback," *Journal of Digital Convergence*, Vol. 14, No. 6, pp. 285-294, 2016. DOI: <https://doi.org/10.14400/JDC.2016.14.6.285>

- [3] Y. H. Park., *The Effects of Self-directed Learning Coaching Program Using Video on Learning Motivation and Academic Self-efficacy of Junior High*, Master's Thesis. Kwangwoon University, Seoul, Korea., 2016.
- [4] S. S. Lee and M. K. Kwon, "Effects of self-directed fundamental nursing practice using smartphone videos on self-efficacy, practice satisfaction, and skill competency," *The Journal of Korean Academic Society of Nursing Education*, Vol. 22, No. 3, pp. 255-263, 2016. DOI: <https://doi.org/10.5977/jkasne.2016.22.3.255>
- [5] B. Karin, B. Birgitta, K. E. Agneta, O. Ulla, S. J. Annelie, and G. Margareta, "Swedish nursing students' experience of stress during clinical practice in relation to clinical setting characteristic and the organization of the clinical education," *Journal of Clinical Nursing*, 23, pp. 2264-2271, 2014. DOI: <https://doi.org/10.1111/jocn.12506>
- [6] M.Y. Jho., "Effects of core fundamental nursing skills education on self-efficacy, clinical competence and practice satisfaction in nursing students," *Journal of Korean Academy of Fundamentals of Nursing*, Vol. 21, No.3, pp.292-301, 2014. DOI: <https://doi.org/10.7739/jkafn.2014.21.3.292>
- [7] N. J. Je and S. Y. Ban, "The effects of critical thinking disposition, clinical performance ability and self-concept of nursing profession in nursing students on self-leadership," *Journal of the Korea Academia-Industrial cooperation Society*, Vol. 19, No.12, pp. 825-835, 2018. DOI: <https://doi.org/10.5977/jkasne.2016.22.3.255>
- [8] Karin, B. Birgitta, K-E. Agneta, O. Ulla, S-J. Annelie, and G. Margareta, "Swedish nursing students' experience of stress during clinical practice in relation to clinical setting characteristic and the organization of the clinical education," *Journal of Clinical Nursing*, Vol. 23, pp. 2264-2271, 2014. DOI: <https://doi.org/10.1111/jocn.12506>
- [9] E. J. Arries-Kleyenstuber, "Moral resilience in nursing education: exploring undergraduate nursing students perceptions of resilience in relation to ethical ideology," *SAGE Open Nursing*, Vol. 7, pp.1-14, 2021. DOI: <https://doi.org/10.1177/23779608211017798>
- [10] S. G. Lee and Y. H. Shin., "Effects of self-directed feedback practice using smartphone videos on basic nursing skills, confidence in performance and learning satisfaction," *Journal of Korean Academy of Nursing*, Vol. 46, No. 2, pp. 283-292, 2016. DOI: <https://doi.org/10.4040/jkan.2016.46.2.283>
- [11] M. Y. Kim, S. H. Park, and J. S. Won, "Influence of nursing students' anxiety during simulation training on personal satisfaction of simulation, self-efficacy, clinical competence," *Journal of Korean Academy of Fundamentals of Nursing*, Vol. 23, No.4, pp.411-418, 2016. DOI: <https://doi.org/10.7739/jkafn.2016.23.4.411>
- [12] K. A. A. Ghribi, and J. Arulappa, "Repeated simulation experience on self-confidence, critical thinking, and competence of nurses and nursing students—An integrative review," *SAGE Open Nursing*, Vol. 6, pp.1-8, 2021. DOI: <https://doi.org/10.5977/jkasne.2016.22.3.255>
- [13] D. Terry, B. Blake, A. Smith, and H. Nguyen, "Occupational self-efficacy and psychological capital amongst nursing students: A cross sectional study understanding the malleable attributes for success," *European journal of investigation in health, psychology and education*, Vol. 10, No.1, pp.159-172, 2020. DOI : <https://dx.doi.org/10.3390/ejihpe10010014>
- [14] S. R. Song and Y. J. Ki, "Effect of a self-evaluation method using video recording on competency in nursing skills, self-directed learning ability, and academic self-efficacy," *Journal of Korean Academy of Fundamentals of Nursing*, Vol. 22, No.4, pp.416-423, 2015. DOI : <https://dx.doi.org/10.7739/jkafn.2015.22.4.416>
- [15] A. S. Jung., *A Study on the Relations between a Health Promoting Behaviors and Self-efficacy in General Hospital Nurse*, Master's Thesis. Hanyang University, Seoul, Korea., 2007.
- [16] G. M. Wagnild, and H. M. Young, "Development and psychometric evaluation the resilience scale. Journal of Nursing Measurement," *Journal of nursing measurement*, Vol.1, No.2, pp.165-178, 1993. DOI : <https://psycnet.apa.org/record/1996-05738-006>
- [17] A. S. Jung., "Relationship among essentials of fundamental nursing skills performance, stress from work and work capability of new clinical nurses," *The Journal of Korean Academic Society of Nursing Education*, Vol .20, No. 4, pp. 628-638, 2014. DOI : <https://doi.org/10.5977/jkasne.2014.20.4.628>
- [18] A. K. Han, D. S. Cho, and J. S. Won, "A study on learning experiences and self-confidence of core nursing skills in nursing practicum among final year nursing students," *Journal of Korean Academy of Fundamentals of Nursing*, Vol. 21, No. 2, pp. 162-173, 2014. DOI : <https://doi.org/10.5977/jkasne.2014.20.4.628>