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Effects Of Research-Based Instruction In Maritime Medicine Nursing Practicum Of Nursing Students, The Royal Thai Navy College Of Nursing

Chanutra Kerdmanee^{a*}, Vacharaporn Choeisuwan^a, Arnuntana Chuenwisit^a,
Amornthip Na-Bangchang^a, Suporanee Potisa^a

^aRoyal Thai Navy College of Nursing, Bangkok 10600, Thailand

Abstract

This study was a quasi-experiment with One Group Pretest-Posttest design in which there were 61 subjects who were the third year naval nursing students attending the maritime medicine nursing practicum at the Royal Thai Navy College of Nursing. The experimental variable was the lesson plan of the maritime medicine nursing practicum using the research-based instruction while the dependent variables used in the study were as following: 1) the nursing students' ability to conduct researches and 2) the knowledge relating to researching. The research tools were 1) the lesson plan of the maritime medicine nursing practicum using research-based instruction, 2) an assessment form of the nursing students' ability to conduct researches, 3) a form of research knowledge assessment, and 4) a questionnaire on opinions relating to the practicum. The data were analyzed using the descriptive statistics, paired-t test and content analysis. The results revealed that 1) The research performance of 61 subjects, in maritime medicine nursing practicum using research-based instruction was in "good" level. 2) The average pre- and post-test scores on the research knowledge of the nursing students undertaking the maritime medicine nursing practicum using research-based instruction were not significantly different. 3) In general, the third year naval nursing students had positive opinion towards the maritime medicine nursing practicum using research-based instruction by rating it in "good" level.

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1. Introduction

Research-based instruction is the teaching and learning process that incorporates research elements into the

* Kerdmanee, C. Tel.: +6689-823-9812

E-mail address: chanut.kerd@gmail.com

program. The core principle of the instruction focuses on students' acquisition; in other words, the research-based instruction equips the students with the skills and ability to be able to acquire knowledge by themselves rather than spoon-feeds them the subject-matter. This is related to the fact that the body of knowledge is enormous and new knowledge and innovations emerge all the time; therefore, students need to be active and continuously search for knowledge (Pitiyanuwat & Boonteam, 2002). There are two types of teaching methodology applied in the instruction. The first type integrates the results from researches as part of instruction process or as the subject matter themselves while the other takes only the research process as a guideline for acquiring knowledge. The latter one encourages the students to conduct a research in order to stimulate the self-learning acquisition which is in accordance with the National Education Act B.E.2542 (1999) aiming at promoting student-centered instruction process (Teacher Council, 1998, as cited in (Poonpun, 2005). The Royal Thai Navy College of Nursing has included the maritime medicine nursing practicum into the revised curriculum (2008) of the Bachelor of Nursing Science Program, and the practicum which is worth 2 credits is for the third year nursing students. The content of the practicum will be related to health care of people working at sea, emergency and critical nursing, and water rescue. The Department of Community Health Nursing has then developed the maritime medicine nursing practicum in which incorporates both research methodology and nursing process for promoting health care of people working at sea. That means it includes 1) health assessment 2) nursing diagnosis 3) nursing planning 4) nursing implementation and 5) nursing evaluation. After the completion of the process, the department then evaluates the instruction using the set objectives as criteria for future and better application of the research-based and student-centered instruction

2. Research Objectives

1. To investigate the participants' ability involving in the maritime medicine nursing practicum using research-based instruction
2. To compare the nursing students' knowledge of research conduct before and after the practicum
3. To study the participants' opinions related to the maritime medicine nursing practicum using research-based instruction

3. Method

3.1 Sample

There were 61 subjects who were the third year naval nursing students attending the maritime medicine nursing practicum at the Royal Thai Navy College of Nursing in the academic year of 2010.

3.2 Research Instruments

Research tool was the lesson plan of the maritime medicine nursing practicum. Data collection instruments were 1) a 20-item on 4 point-scaled assessment form of the nursing students' ability in the maritime medicine nursing practicum using research-based instruction, 2) a 10-item multiple choices test with 4 alternatives on research knowledge with the validity value at .541 3) an 18-item on 5 point-scaled questionnaire on opinions relating to the practicum and an open-ended questionnaire related to the suitability of the inputs and the process which were instructors, students and training process.

3.3 Data Analysis

The data were analyzed using the descriptive statistics, the comparative mean scores of pre- and post-test on research knowledge using paired-t test and content analysis.

4. Conceptual Framework

The maritime medicine nursing practicum is the nursing practices which incorporates research process in the

training and consists of 5 stages as following. 1) health assessment 2) nursing diagnosis 3) nursing planning 4) nursing implementation and 5) nursing evaluation. After completing the process, the results of the practicum were investigated to identify the relevance of the course objectives and students' ability which were knowledge and skills before and after the practicum as shown in diagram 1.

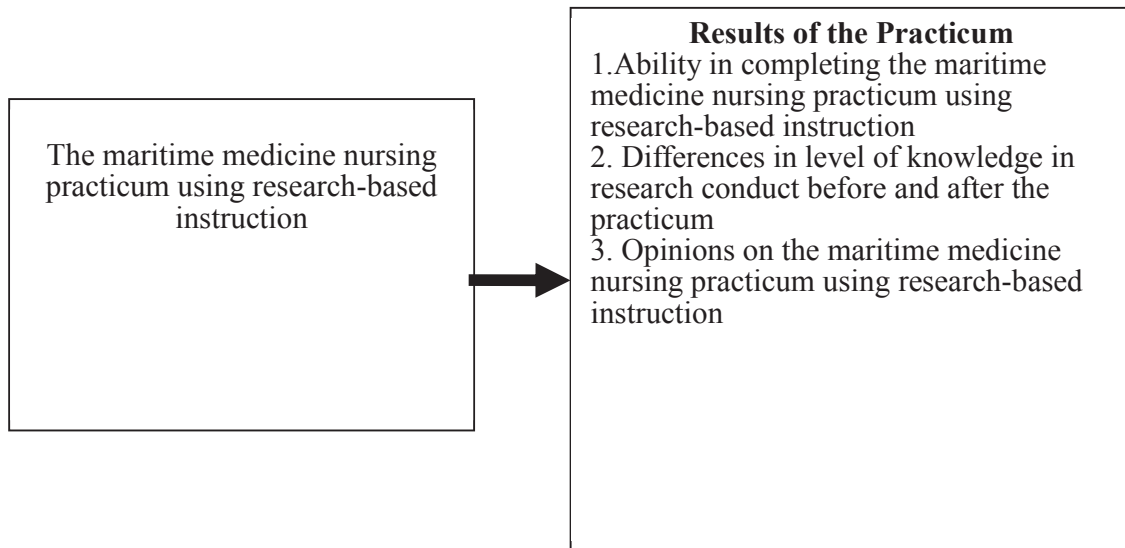


Diagram 1 Conceptual Framework

5. Research Results

5.1 Ability in completing the maritime medicine nursing practicum using research-based instruction

The results of the third year naval nursing students attending the maritime medicine nursing practicum using research-based instruction were in good level ($\bar{X} = 3.81$ SD=.84). Investigating closely in each aspect and item, it was found that most of them were in good level except item no. 1.1 Students asked about the subject matter that the instructor taught which was in moderate level ($\bar{X} = 3.43$ SD=.64). Focusing on each item, the item that had the highest mean score was item no. 2.2 Students did the research using various sources for example books and internet ($\bar{X} = 4.08$ SD=.90). The second highest were item no. 3.1 Students helped each other conclude the results of the study ($\bar{X} = 4.02$ SD=.97), item no. 3.2 Students discussed the research process and results among themselves ($\bar{X} = 4.02$ SD=.92) and item no. 3.3 Students discussed the research process and results with the instructors ($\bar{X} = 4.02$ SD=.83).

5.2 Comparison of the mean scores related to research knowledge taken before and after the nursing students' the maritime medicine nursing practicum

The difference between the mean scores of the pre- and post-test of the third year naval nursing students attending the maritime medicine nursing practicum using research-based instruction was not statistically significant as shown in Table 1.

Table 1 Comparison of the mean scores related to research knowledge taken before and after the practicum

Research-related knowledge	\bar{X}	SD	t	df	P-value
Before the practicum	4.98	1.37	.670	60	.506
After the practicum	4.84	1.39			

5.3 Opinions on the maritime medicine nursing practicum using research-based instruction

In general, the opinion of the third year naval nursing students towards the maritime medicine nursing practicum using research-based instruction was in good level ($\bar{X} = 4.20$ SD=.72). Studying closely in each aspect, it was found that the opinion toward the instructor aspect received the highest mean score ($\bar{X} = 4.41$ SD=.63) and the second rank was teaching and learning activities ($\bar{X} = 4.23$ SD=.72).

The nursing students opined and gave more advices as following.

5.3.1. Aspect of learning/knowledge from the practicum

The students stated that they gained more knowledge related to nursing care for patients suffering from underwater condition. Community services allowed them to understand the nature of the problem and the ways to help those working in fishery industry. They also learned more on water rescue techniques and first aid for injuries from poisonous sea animals. They got chances to be trained on evacuating and rescuing the victims in disasters and mass casualties. Moreover, they learned how to evaluate the situation and make decision right at the scene; they also mentioned that they had experienced it first-hand so they got the clear picture and realized the differences between theories and reality. This made the subject more interesting and fun to learn.

5.3.2. Aspect of teaching and learning activities

The students opined that the activities held in the program were relevant to the course objectives; they gained more knowledge and encountered variety of experiences. It was a valuable learning process as they got chance to conduct every step by them. As they got to learn both inside and outside the classroom, they had better understanding of situations and were able to use analytical thinking, gain more knowledge on research and project management.

5.3.3. Aspect of nursing instructor's supervision

The students agreed that the supervisors gave them easy-to-understand and direct-to-the-point advices. Besides, the advices were interesting and gave them new experiences. The supervisors also provided those clear advices on project's preparation and management and whenever they had experiences some difficulties.

4. Aspect of support from staff at the training location the students stated that the staff were qualified with lots of experiences and could effectively convey the knowledge and information. According to the students, the staffs were friendly, supportive and resourceful giving good advices.

6. Discussion

According to the results, the ability of the third year naval nursing students in completing the maritime medicine nursing practicum using research-based instruction was in good level both in general and in each aspect. The difference between the mean scores of the pre- and post-test of the students attending the maritime medicine nursing practicum using research-based instruction was not statistically significant. The first point of the results can be interpreted that the maritime medicine nursing practicum using research-based instruction is the integration

of research process in studying the health status of the fishermen into the curriculum. The fundamental notion of researching enhances the systematical study to find solutions to problems, and it follows the scientific study process which consists of identifying the problem, setting up hypothesis, collecting data, analyzing data and concluding the results (Traimongkolkul, 2000; Sinlarat, 2003). Therefore, the third year nursing students could gain more knowledge and had the ability in completing the maritime medicine nursing practicum using research-based instruction in good level both in general and in each aspect. As the difference between the pre- and post-test was not statistical significant, it might be originated from the time factor because the instructors needed to brief the students both the research knowledge together with the subject matter and with the focus on the latter might result in the statistically insignificant difference of pre- and post-test scores. These are correlated with the results found by Karndechruk (1996) that after using research-based instruction, the nursing students gained more knowledge in nursing science and research methodology; they also had positive attitude toward teamwork in conducting researches. Moreover, they were equipped with skills for researching and were eager to learn new things.

7. Recommendations

7.1 Application of the results

1. From the results, it was found that research-based instruction encouraged teamwork and cooperation. There were opportunities for participants to practice thinking analytically and synthetically. They learned how to work systematically, think thoroughly, and share their ideas and experiences among themselves. Therefore, the research-based instruction should be applied to other subjects both theoretically and practically but with the consideration of time factor and nature of the subject-matter.

2. Since the research-based instruction is quite complex with several stages that need to be learned, the instructors should explain the details of research process to establish the students' understanding in advance. The instructors should be facilitators for the students in research conducting, and set the time to give the students feedback and suggestions on teamwork and time management including stimulating the students to ask questions.

7.2 Recommendations for Future Research

1. The research aims at investigating the efficiency in terms of research knowledge gained from the maritime medicine nursing practicum using research-based instruction. However, during the process, the nursing students needed to work in team. Therefore, the future research should focus on the nursing students' working as a team or ability to solve problems.

2. The future research should use different group of students or instructors in order to countercheck the reliability of the results.

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