

# ACHIEVEMENT OF TEACHING BY USING CASE STUDY METHOD COMBINED WITH CONCEPT MAPPING ON ABILITY DEVELOPMENT OF NURSING PROCESS AMONG NURSING STUDENTS

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**Abstract**— An experimental research study aimed to evaluate the achievement of teaching by using case study method combined with concept mapping on ability development of nursing process among baccalaureate nursing students in clinical implementation and to evaluate baccalaureate nursing students' satisfaction. A convenience sampling (n=64) was randomly assigned to experimental group (n=32) and control group (n=32). The experimental group was taught to use case study method combined with concept mapping to implement nursing care plan. The control group was taught to use traditional to implement nursing care plans.

Results: Significant difference ( $p < .001$ ) were found not only on the case study between control group and experimental group but also on the clients in clinical setting between control group and experimental group. The experimental group was satisfied to teach by using case method combined with concept mapping at superior. The highest satisfactions were the critical thinking, active learning and help clinical problem solving

Conclusion: The findings suggest that case study method combined with concept mapping is effectiveness in helping students develop the implementing of nursing process skills, which are extremely important for nursing students or nurses and other health care professionals.

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**Keywords**— Case study, Concept mapping, Achievement of teaching, Nursing process, Nursing students.

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## I. INTRODUCTION

The current health care environment is increasing complex and demands standard nursing care. The nursing process is a widely accepted method has been suggested as a scientific method to guide procedures and qualify nursing care. Effective implementation of nursing process lead to quality of nursing care. It provides the basis for critical thinking in nursing (1,2). Not only nursing students but also the new nurses graduate have to think critically. The standards of care in both The American Nurses Association (ANA) and Thai Nursing Council: Scope and Standards of practice describe a competent level of nursing care throughout the nursing process (1,3). However, some of professional nurses lack of application nursing process. Abkbari and Shamsi (4) and Kusoom (3) found that the barriers of nurses were lack of sufficient information about concept of the nursing process and inadequate learning about the nursing process in intensive care units. Either the nurses or nursing students have barriers on using nursing process. Major barrier to nursing process implementation is less cognitive. They do not have skill of assessment, analyzes the assessment data to identify nursing diagnosis or issue to develop a plan (5). The nursing care plan has long been the tool of choice for developing students' abilities to used nursing process as a framework for learning problem-solving. However, the nursing students have limited effectiveness in developing critical thinking skill (6). The ways to facilitate effective learning, using case

studies, problem based learning and concept mapping, ect. The concept mapping was developed by Novak in 1972 to promote the assimilation of new content by creating hierarchy of concepts and subconcepts and relationship between them (7). The application of case studies help nursing students to understanding complex process (8,9,10). The concept mapping to increase student involvement in the learning process. It is used to develop a critical thinking by focusing on the client's needs and collaborating to solve problems (7,11). Wheeler and Collins (7) introduce concept mapping is effective in helping students develop critical thinking. The both case study and concept mapping are the methods of active learning and promote critical thinking. Based on this literature review, this study examined achievement of teaching by using case study method combined with concept mapping on ability development of nursing process among nursing students.

## II. MATERIAL AND PROCEDURES

The study used an experimental research study aimed to evaluate the achievement of teaching by using case study methods combined with concept mapping on ability development of nursing process among baccalaureate nursing students in clinical implementation and to evaluate nursing students' satisfaction.

A convenience sampling (n=64) was randomly assigned to experimental group (n=32) and control group (n=32) of junior

baccalaureate students enrolled in an adult nursing practicum II course at College of Nursing and Health, Suan Sunandha Rajabhat University, Thailand. The experimental group was taught to use case study method combined with concept mapping of patient information to use nursing care plan. The control group was taught to use traditional nursing care plans. The research tools consisted of case studies, clinical teaching plan, nursing process evaluation tool and satisfaction questionnaire for teaching by using case studies method combined with concept mapping. Each test was examined for reliability and validity by three experts who have experiences of clinical teaching at less for 10 years. The nursing process evaluation tool plan by using inter-rater method, reliability = 0.95 (13). The test of satisfaction by using  $\alpha$  Cronbach reliability = 0.92

### III. RESULTS AND DISCUSSION:

Thirty two students used case study method combined with concept mapping teaching the nursing process on nursing care plan, that served as the experimental group. Thirty two students used traditional teaching the nursing process on nursing care plan. Each of group practices in clinical setting for 4 weeks. The finding:- 1) The pretest and posttest scores of both groups were significantly different ( $p < .01$ ). 2) A significant difference ( $p < .001$ ) was found on case study between control group and experimental group (Table 1). 3) A significant difference ( $p < .001$ ) was found on the clients in clinical setting between control group and experimental group (Table 2). The experimental group was satisfied to teach by using case method combined with concept mapping at superior. The highest satisfactions were 1) the critical thinking, 2) active learning, 3) help clinical problem solving.

**TABLE 1** Compared of ability development of nursing process on case study between control group and experimental group

Ability development of nursing process	n	Mean	SD	t
Control group	32	3.76	.22	1.95**
Experimental group	32	4.40	.21	

\*\*p < .001...

**TABLE 2** Compared of ability development of nursing process on clients in clinical setting between control group and experimental group

Ability development of nursing process	n	Mean	SD	t
Control group	32	4.34	.20	9.63**
Experimental group	32	4.78	.16	

\*\*p < .001...

The application of case studies help students to understanding complex process. That is a collaborative, active learning strategy that nurse educator can use in not only the classroom but also clinical setting (7). The students apply the nursing process to thoroughly develop a complete case study written as a concept mapping (14). The concept mapping to increase student involvement in the learning process. Because of it uses the cognitive skill of analysis, evaluation, and critical reasoning (12,15). Case study method and concept mapping are useful in helping students to remember details and facts (7,8,11,12) Those methods promote critical thinking and connecting theory to practice in nursing care. Several studies were also review that showed case studies to be helpful, as indicated by students, in nursing education. The case method has been showed to facilitate and enhance student learning (8). Traditional method like nursing care plans tend to encapsulate fact rather than link concepts. Concept mapping stimulate discover learning, which leads to meaningful learning, thus enhancing the reasoning process (12).

### CONCLUSIONS

The suggestion:- case study methods combined with concept mapping are effectiveness, which are extremely important for nursing students, nurses and other health care professionals.

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