Effectiveness of UsingConcept Mapping on Critical Thinking and Self- Efficacy among Nursing Students

Thesis

Submitted For Fulfillment of the Requirements for Doctorate Degree in nursing Administration

By

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2021

Summary

The CMs assist students to understand how to interpret, and generate new information rather than memorize it. CMs are very useful for students who are equipped for clinical practices. In nursing education, CMs includes clinical practices, simulation, competency labs, classrooms, research skills and curriculum development. It helps students to assess and evaluate care of patients with different health problems. It enhances skills of gathering information, therefore enables concept generation from the collected data .

The present study aimed to evaluate the effect of using concept mapping on students' critical thinking and self-efficacy in nursing administration course.

The study was conducted at the department of Nursing Administration, Faculty of Nursing, Mansoura University, and it consists of eight academic departments of Nursing namely,: Community health nursing department, Critical care nursing department ,Psychiatric nursing department ,Medical- surgical nursing department ,Maternity gynecological nursing department ,Pediatric nursing department, Gerontological nursing department, and Department of Nursing Administration that teaches graduate and postgraduate students to be professional nurses and specialists with knowledge and knowledge of management and leadership skills in the context of the continuous change of the health care organization system.

The study subjects included all (376) students who studied the Nursing Administration course in the 2018-2019 academic year. The sample was divided into twogroups experimental groups (n = 189) and a control group (n = 187)

Tools for data collection:

For data collection three tools were used:

Tool (1): Concept Mapping questionnaire Format: **consists of three parts**

Part I: It is used to collect data on students' personal characteristics such as: age, gender and years of education.

Part II:: This part was developed by researchers after reviewing the relevant literature **(Farag, 2017, Youssef and Mansour 2012, Romanko, 2016)**. It used to assess knowledge of nursing student about concept mapping. It was consisted of 31 questions27 true and false questions and 5multiple choice questions It included questions related to concept mapping definition, goals, benefits, types, uses, components and steps for developing and drawing maps. System of scoring related to students' knowledge was: - Correct answer scored (1)- Incorrect answer scored (0) -The total scoring of nursing students' knowledge was calculated as follows based on cut of value 50% as follows; Less than 50% considered poor. - 50 - less than 75% considered fair, 75-100% considered good.

Part III: Concept Map Assessment Rubric The concept map evaluation model developed by the researcher after the relevant literature reviewing **(Youssef and Mansour 2012, Romanko, 2016),** in which the researchers created a qualitative assessment model to be used in conjunction with the quantitative analysis of the concept map structure. This criterion is divided into four sections for evaluation: structure, proposition, relationship and interpretation.

Scoring system (response): It consists of three category points (3-1) for each statement, which exceeds the standard, meets the sufficient standard, and is below the standard.

Tool (2): California Critical Thinking Disposition Inventory (CCTDI), to evaluate nursing students critical thinking disposition in, and including 75 items grouped into seven dimensions include truth seeking (12 items), open-mindedness (12 items), analyticity (11 items), systematic (11 items), self-confidence (9 items), inquisitiveness (10 items),and maturity (10 items). This tool developed by **Facione (1992)** and modified by **Meselhy (2015)**. Answered on five- point likert scale and Likert-style items scoring system was as the following :- strongly disagree scored (1), disagree scored (2), neither agree nor disagree scored (3), agree scored (4), strongly agree scored (5). Score <50 % (Less than187.5) was considered negatively disposed. Between 50% to 66. 6% (187.5 -249.75) was considered ambivalently disposed. Score > 66.6% (More than 249.75) was considered positively disposed.

Tool (3): Self-Efficacy scale (from the Motivated Strategies for Learning Questionnaire (MSLQ) (**Credé and Phillips, 2011**); it aims to assess students' perceptions about self-efficacy in learning. It contains 8 components. Responses will be judged by a seven Likert scale Points ranging from (1 = completely disagree to 7 = completely agree)

Data collection instruments were reviewed by a committee of five nursing administration professors from various faculties' specializations to validate thecontent and adjustments were made to the tools based on their observations. Test reliability was measured by means of a test-retest (Cronbach alpha) which produced internal consistency estimates 0.78, 0.79 ,0.80.

Official permission was obtained by using an appropriate communication channel from the Dean of the Faculty of Nursing, Mansoura University, and the head of the department to obtain permission and assist in conducting the study at the college. The ethical approval was obtained from Scientific Research and Ethics Committee, the

Faculty of nursing ,mansora university ,explanation of nature and purpose of the study provided to study participants. In the interview with the subjects have the right to participate or refuse to study. The data collected has been kept confidential. The specificity of the study sample was emphasized.

For assessing the study feasibility, the sample accessibility, tools clarity, as well as determination of the required time for answering the questionnaire questions. pilot test administered to 10% of the total sample size (38 students) No modifications to the data collection tools were required based on the pilot study results

The study was conducted through three stages: planning, implementation, and evaluation. All of these stages are approximately 4 months into the 2018/2019 academic year. Classes began from February 2019 to May 2019.

The topics were taught to the control group in the traditional methods, while by drawing concept maps the study group taught the same lectures,

The following are the main study findings

- The current study result shows that their mean age was(21.98±1.22) , regarding gender more than two third (71.4%) were female . There was no statistically significant differences regarding their demographic characteristics except the number of received terms in both groups.

- The students" knowledge mean score was (8. 05± 6.51) pre training. While post training this values was improved to be (22.35± 9.13).

- Findings of application of concept map scoring rubric for trained group assignments shows high significant difference (p=0.001)between the 3 assignments of concept map rubrics that due to improvements in construction of map from beginning to the end.

- Total knowledge scores and level about concept mapping among the studied students pre and post training the majority (91%) of study group had poor total knowledge level regarding concept mapping pre training, while post training it was improved to be two thirds (60%) of them had good total knowledge level regarding concept mapping. There were Statistically significant (P<0.05)between pre and post test.

- Level of total CCTDI scale scores among the studied nurses (study and control group) pre and posttest. The studied students distribution according to critical thinking disposition score pre and post testing Majority (82.0%) of the them had a ambivalence disposition regarding critical thinking scale pre test that increased to be (83.0%) positive disposition post test.

- Correlation between total knowledge scores and total critical thinking (CCTDI) scale scores .There was a high statistical significant positive correlation (p=0.0001) and(r=0.270) between total knowledge scores and California critical thinking disposition inventory scale scores among the study group post test

- Correlation between total knowledge scores and total self-efficacy sub scale (MSLQ) scores and total self –efficacy subscale scores among the study group pretest. There was a high statistical significant negative correlation (p=0.0001) and(r=-0.234).

- Correlation between total knowledge scores and total self-efficacy sub scale (MSLQ) scores among the study group post test. There was a high statistical significant positive correlation (p=0.0001)and (r=0.406) between total

knowledge scores and total self –efficacy subscale scores among the study group post intervention.

- The relationship between critical thinking disposition sub items, total perception of self-efficacy and total knowledge level regard concept map among study group .As regard to mean scale of critical thinking and self-efficacy in relation to level of knowledge it was statistical significance differences**(P<0.05)** with good knowledge followed by fair and least in poor.

Based on the findings of the study:

The results of the current study, showed an improvement in critical thinking scores of the experimental group as compared to control group, the researcher concluded that teaching with concept mapping may foster critical thinking skills and self-efficacy than using traditional method.

Recommendation:

- Concept Map as an effective teaching technique could be prepared in pre- requisite courses for helping learners to critically think preparing for academic program.

- Academic staff and management must use suitable and creative teaching methods, and maintain supportive learning environment to foster active learning, and critical thinking

- Learning Strategies as concept mapping must be used in all academic nursing courses theory and practice.