

THE TEACHING–LEARNING APPROACH AND CRITICAL THINKING DEVELOPMENT: A QUALITATIVE EXPLORATION OF TAIWANESE NURSING STUDENTS



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Health care professionals are challenged by the complexities of the health care environment. This study uses a qualitative approach to explore how teaching strategy affects the development of critical thinking (CT) among Taiwanese baccalaureate-level nursing students. Data collected from 109 students' reflection reports were analyzed using content analysis. Three categories generated by the analysis were the teaching–learning strategy, enhancing CT, and transiting into a different learning style. The teaching–learning strategy consisted of concept mapping, question and answer, and real-life case studies. CT was enhanced alternately by self-directed learning, the realization of the gap between known and unknown, and connecting the gap between theoretical nursing knowledge and clinical practice. The study results emphasize participants' perceptions of becoming a critical thinker, turning into an active learner, and eventually achieving self-confidence. These learning effects invest the wisdom of teaching–learning with a far-reaching significance. (Index words: Teaching–learning strategy; Critical thinking; Concept mapping; Question and answer; Active learner) J Prof Nurs 31:149–157, 2015. © 2015 Elsevier Inc. All rights reserved.

HEALTH CARE PROFESSIONALS are challenged by the complexities of the health care environment. One of the challenges nurses face is the expectation to be skillful and knowledgeable critical thinkers. To prepare future nurses adequately to meet this challenge, the Taiwan Nursing Accreditation Council (Chen, 2010) set a primary goal for all nursing programs in Taiwan to cultivate and facilitate the ability of nursing graduates to

think critically to provide safe, competent, and skillful care to clients. The nursing curriculum therefore has a dual focus: professional nursing knowledge and the development of critical thinking (CT). The teaching–learning strategy, which is seen as a latent curriculum, is a means of achieving these objectives (Wilgis & McConnell, 2008). However, the traditional teaching–learning strategy, which is teacher centered, limits the development of CT (Chiang, Chapman, & Elder, 2010). This study focuses on measuring the development of CT in nursing students through a teaching–learning strategy based on learning concept mapping (CM) through questioning and answering (Q&A) methods and a situational case study (CS).

Literature Review

CT is vital to nursing practice. Nurses today have greater autonomy, and there is a growing demand to expand CT ability. However, the development of CT is a formative rather than a summative process, and it is difficult to describe or measure. Ignatavicius (2001) defined the

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development of CT as a long-term process that must practice, nurture, and reinforce CT over time. To be a critical thinker, according to Ignatavicius, requires six essential cognitive skills: interpretation, analysis, evaluation, inference, explanation, and self-regulation. Taylor (2006) further described CT as the rational examination of ideas, inferences, principles, arguments, conclusions, issues, statements, beliefs, and actions. Wilgis and McConnell (2008) transformed CT in the nursing field by defining CT as “effective problem-solving ability and outcome-directed thinking based on the patient's needs and interventions derived from a scientifically driven nursing process used to organize and analyze patient data to establish priorities” (p. 120). Both the definitions and the performance of CT reflect and highlight the central role of CT in the nursing discipline.

CT in nursing is the ability to think in a systematic and logical manner to question and to reflect on a reasoning process. It is a complex and formative process involving nonlinear thinking and requiring intellectual skills and the ability to reason. An ability to solve patients' problems with CT is required for all nurses in practical settings (May, Edell, Butell, Doughty, & Landford, 1999). In making the transition from classroom theory to clinical practice, the ability to think critically is therefore recommended. However, traditional programs concentrate on content, rather than on the application of knowledge (Del Bueno, 2006). The crucial role of CT for decision making in nursing practice ensures an improved provision of safe and quality care. CT in nursing has rightly been described as effective problem-solving ability (Oermann, Truesdell, & Ziolkowski, 2000).

CM is an effective tool to assist the development of CT skills and facilitate one's understanding of difficult concepts (Harpaz, Balik, & Ehrenfeld, 2004; Nirmala & Shakuntala, 2011; Wheeler & Collins, 2003). CM encourages nurses to think independently and to find connections between different concepts, giving them more confidence in implementing their knowledge in clinical work. CM connects the relationships of health problems to problems both vertically and horizontally, and it stimulates critical analysis. Using CM can provide a process to guide nurses in effectively achieving their nursing aims. Furthermore, applying CM results in a significant improvement in CT skills and creates an opportunity for teaching and learning (Taylor & Wros, 2007).

CM also has some drawbacks. Some state that it is an irrelevant tool in the development of CT because it cannot be quantitatively measured when utilized in short-term learning and because of different expectations regarding CT development. Nirmala and Shakuntala (2011) argue that CM does not reflect the learners' real outcomes at the CT level. CM is also not superior in newly trained nurses for short-term learning (Wickramasinghe, Widanapathirana, Kuruppu, Liyanage, & Karunathilake, 2007) because it requires time to become familiar with learning as a process of internalization. A study by Wheeler and Collins (2003) measured the effect of the teaching and learning strategy of CM on CT skills among baccalaureate students. The results

showed no significant differences between groups. Because of these studies' recommendations, other teaching–learning strategies are recommended to increase CT ability, such as Q&A and the CS (Hoffman, 2008), as well as script analysis (Kuiper, 2002).

CS encourages one to work through problem situations. It offers an opportunity to discuss a real-life situation in a safe environment, and it stimulates one's ability to think critically because no concrete answers are offered by patients. CS promotes reflection, teacher–student dialogue, and group discussion. The CS approach is a type of problem-based learning that is effective for promoting CT. The teacher uses questions to guide the student's interpretative thinking, explicit and implicit assumptions, and inferences (Hoffman, 2008). This type of teaching–learning strategy is particularly valuable in group discussion aimed at developing CT.

The use of a conceptual approach with a problem-focused concept map enhances learning and promotes the use of various aspects of CT, including analysis, interpretation, inference, explanation, and self-regulation. CM as a reflective learning tool assists one to analyze textbooks and didactic knowledge critically and to plan and evaluate individualized nursing care.

Aim of the Study

This study aims to evaluate the effects of teaching–learning strategies, including CM, CS, and Q&A, on the development of CT, as well as the outcomes of developing CT. With a better understanding of how CT develops from one's learning experience, the study results can be a reference for teachers in developing their teaching–learning strategies to meet students' requirements. The study's questions covered three broad topics: the effects of CM on CT development in baccalaureate nursing students; how CS and Q&A affect CM in the process of developing CT; and how the teaching–learning strategy enhances CT ability.

Methods

This study explores the effects of CM on CT development and how teaching–learning strategies influence CT development. Participants contributed reflection reports of learning to achieve the study's aims. A qualitative content analysis approach was utilized to analyze these reflection reports as data.

Setting and Participants

The study's location was a university in the south of Taiwan. Among the 8,000 students at the university, there were 3,500 nursing students completing. Approximately 800 nursing students graduate from this school each year. Participants were in their first year of study in the 2-year course at baccalaureate level—in a similar position to the third year of study in a bachelor's degree (Williams et al., 2008). Most participants were aged from 20 to 21 years. All participants studying the subject of Adult Nursing were guaranteed that their final Adult Nursing marks would not be linked to their reflection reports on CT, or to their participation. Students who were interested in volunteering were fully informed of their role

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