



Review

A concept analysis of critical thinking: A guide for nurse educators

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ABSTRACT

In research literature, the concept of critical thinking has been widely utilized in nursing education. However, critical thinking has been defined and evaluated using a variety of methods. This paper presents a concept analysis to define and clarify the concept of critical thinking to provide a deeper understanding of how critical thinking can be incorporated into nursing education through the use of simulation exercises. A theoretical definition and sample cases were developed to illuminate the concept as well as a discussion of the antecedents, consequences, and empirical referents of critical thinking.

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1. Introduction

The concept of critical thinking has been utilized extensively within the realms of nursing education and throughout nursing research. Although the concept of critical thinking has been examined for years, one universally accepted definition has not been identified within the profession (Popil, 2011). Nurse educators may refer to the term critical thinking as part of developing a student's key component for success within the nursing field. Critical thinking as defined by Papp et al. (2014) is “the ability to apply higher-order cognitive skills (conceptualization, analysis, evaluation) and the disposition to be deliberate about thinking (being open-minded or intellectually honest) that lead to action that is logical and appropriate” (p. 716).

As the profession continues to evolve, the roles and responsibilities of nurses continue to expand. Critical thinking is a part of nurses' daily work and therefore must become an integral aspect of the education of future nurses. Rogal and Young (2009) believe that “increasing complex needs and expanding roles in the delivery of healthcare require nurses to be critical thinkers and self-directed learners” (p. 30). Nursing educators must foster and encourage the use of critical thinking in complex as well as simple healthcare situations. The practice of using critical thinking through varied patient scenarios will ensure competence (Rogal and Young, 2009).

This paper aims to gain a deeper understanding of the definition of critical thinking and how the concept can be better understood when applied to simulation cases in nursing education. For decades, nursing educators have been struggling to find methods for teaching the process of critical thinking to nursing students as well as identifying valid tools

to evaluate the effectiveness of critical thinking teaching strategies. This concept analysis is also aimed at furthering the theoretical development surrounding the concept of critical thinking and how this concept can be used to enhance nursing curricula for the proper training and education of competent, knowledgeable nurses.

2. Uses for the Concept of Critical Thinking

The evolution of the concept of critical thinking has roots dating back to the work of Socrates and Plato. Socrates educated his students on the principles of thinking through questioning and how answers lead to a deeper, constructed thought that could then be applied to a new situation (Fahim and Bagheri, 2012). This pattern of thought was referred to as Socratic thought which has been seen in the literature used by Plato. Critical thinking can also be seen in the work of a French philosopher, Rene Descartes in the early 17th century. Descartes believed that all thinking, no matter what subject, should be questioned. The process for questioning thought allowed an individual to think on a deeper level (Bedau and Cleland, 2010). Martin Luther King Jr. spoke of the use of critical thinking in the education of America's youth and the importance of incorporating critical thinking into educational curricula (Hobbs, 2010). More recently, the concept of critical thinking is used in the fields of social and health sciences, marketing, engineering, business, and theology as an effective educational teaching strategy in classrooms across the globe (Bedau and Cleland, 2010).

Nurses must be able to think quickly as well as anticipate outcomes within seconds as it may mean life or death to a patient. The ability to critically think through complex situations is crucial to the success of the student following graduation (Cant and Cooper, 2009). Educators are responsible for ensuring that the necessary skills for critical thinking among students are developed and maintained. According to Toth

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(1996), nursing faculty should imbed numerous teaching strategies within the curricula to ensure students are offered multiple opportunities to practice critical thinking. The nursing profession is preparing to face a critical shortage of nurses, and newly graduated students entering the workforce must have a high level of knowledge as well as exhibit competency and critical thinking (Sanford, 2010). Yildirim et al. (2011) stated that current research illuminates the critical need for educators to utilize teaching strategies that promote students ability to successfully critically think. This will allow students to move from simple to complex thinking which will positively impact care delivery and patient outcomes.

3. Defining Attributes of Critical Thinking

Walker and Avant (2005) posited that identifying the attributes that define the concept is the most crucial part of concept analysis. Attributes are the defining characteristics of a concept including factors that must be present for critical thinking to be successful. Numerous attributes emerged following a review of current literature on the concept of critical thinking including knowledge acquisition and application, analysis of information, decision making, and reflection.

Based on the above defining attributes of critical thinking, a theoretical definition of critical thinking can be identified as a type of behavioral response that must be present in order for a successful cascade of events to occur.

3.1. Knowledge Acquisition and Application

The acquisition of nursing related knowledge lays the foundation for critical thinking. A nurse must have a background regarding the pathophysiology of disease processes, medications and side effects, and treatments in order to begin the process of critical thinking. A knowledge base is acquired during the education of future nurses and is expanded upon through professional experience. Hughes (2014) concluded that a strong knowledge base will enhance the ability to critically think by applying acquired knowledge to complex systems. The author also concludes that as knowledge is gained, the need to think critically is stimulated.

3.2. Analysis of Information

Analyzing information is a skill that is acquired through practice. There needs to be a delicate balance between perception and reality. Simmons (2010) stated that analysis is the direct interpretation of information. A nurse must have the ability to interpret lab values, test results, disease processes, declining or improving patient status, etc. A nurse's ability to analyze clinical information is essential to providing exceptional care to all patients as well as positively contribute to the process of critical thinking.

3.3. Informed Decision Making

Decision making in nursing has become a daily nursing responsibility. The decision making process can have positive or negative consequences to patients and patient outcomes. The practice of informed decision making must be incorporated into nursing curricula to ensure experiences with decision making occurs before a nurse enters the workforce (Sullivan, 2012). The literature is lacking regarding the impact of decision making in nursing students. Nursing students must possess the ability to differentiate between relevant and meaningless data, categorize the information by relevance and priority, and make the determination if additional data is required. This process will lead the student to begin to be an independent thinker and make decisions based on sound judgment.

3.4. Reflection

Reflection is one, if not the most important attribute in the critically thinking process. Reflection entails a review about the thinking process. Reflection of critical thinking is correlated to the process of debriefing following a clinical nursing simulation. Debriefing allows the student to review the decisions made and actions taken as well as determining if another decision or action may have been more appropriate for the specific situation. According to Colley et al. (2012), the learning process is enhanced if the learner has the opportunity to reflect on the thinking that has already taken place. Additionally, reflection enhances creativity, cognition, and growth as well as fosters independence and motivation of students (Colley et al., 2012).

3.5. Antecedents

Walker and Avant (2005) stated that determining antecedents and consequences is useful in further honing defining attributes. The literature has identified a number of antecedents for the concept of critical thinking. Theorists believe that critical thinking is acquired through learning experiences. An antecedent of critical thinking is the student's ability to be open-minded. This allows the student to consider alternative conclusions of the situation in addition to the student's generated ideas that will become part of the analysis (Tajvidi et al., 2014).

Another example of an antecedent to critical thinking is autonomy. For a student to gain experience with critical thinking, the student needs to become an independent thinker. The student must internalize the process of thinking, formulate conclusions, and take responsibility of the thinking (Yildirim et al., 2011). Foundational knowledge is also an antecedent of critical thinking. With regards to nursing education, a student must have foundational knowledge in order for the cognitive process of analytical or critical thinking to occur (Gillespie and Peterson, 2009).

3.6. Model Case

A class of 23 upper level practical nursing students complete a 2.5 h lecture regarding the cardiac system that includes hypertension, heart disease, and myocardial infarction (MI). Prior to dismissing students for lunch, the faculty member informs the students that they will be presented with a simulation related to the cardiac system. Upon returning to class a student begins feeling ill and states she has been experiencing intermittent chest pain over the past few days. Presently her chest pain has intensified and a new symptom of left arm numbness emerges. The student sitting next to her becomes concerned and makes the instructor aware. As the instructor approaches, the ill student appears pale, diaphoretic, and short of breath. One student instructs another student to initiate emergency medical services. That same student begins probing the ill student to describe the pain, length of time, medical history, and current medications. Once all of the questions have been answered, the student asks the instructor if 325 mg tablets of aspirin are available for administration. The instructor retrieves the medication from the medication room and administers the drug. At this time, the ill student is taken out of the classroom to await the arrival of EMS. Once the ill student has left the classroom, the instructor tells the students to take a break and instructs them to return in 15 min. Once the students have all returned to class, the instructor begins to discuss the events of the simulation. The group discusses the circumstances surrounding the situation, the ability to recognize the signs of a myocardial infarction, emergency management of an MI, and what aspects of care should have been done differently.

In this example, the students were given the information regarding signs of an MI, treatment, and management of an MI prior to the exercise (knowledge acquisition). The students were able to draw upon the knowledge that was gained as a result of the lecture (knowledge application). The students determined the priority actions needed to assist

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