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Application of Mezirow's Transformative Learning Theory to Simulation in Nursing Education

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Nursing is one of the largest and fastest growing occupations worldwide. In the United States alone there are nearly 3 million working nurses (AACN, 2017; Grant, 2016). Within the healthcare arena, however, there have been growing concerns that this number will still be inadequate to provide patient care in the very near future (AACN, 2017; Juraschek, Zhang, Ranganathan, & Lin, 2012). As of 2013, 55% of the nurses working in the United States were over the age of 50 and facing retirement within the next 10-15 years; 700,000 nurses are expected to retire from the workforce by 2024, leaving 1 to 1.2 million nursing positions vacant (AACN, 2017; Grant, 2016; Juraschek et al., 2012; Richardson, 2011). Many schools of nursing have been challenged to increase their numbers of students in anticipation of this projected need. However, due to shortages of classroom space, lack of nursing faculty, and lack of clinical settings and preceptors, schools of nursing have been turning away qualified applicants at an alarming rate (AACN, 2017). Increasing the use of simulated learning experiences in nursing education has been suggested as a possible solution to these problems.

Simulation in nursing education allows students to engage in critical thinking and experience hands-on active learning in a safe environment. Simulation also allows for more control of educational outcomes (Jeffries, Rodgers, & Adamson, 2015, September/October). Facilitators guide students through healthcare scenarios, often high-risk, low-frequency occurrence scenarios which learners may not otherwise encounter, or which would be unethical to assign to a student in the actual clinical setting. The National Council of State Boards of Nursing (NCSBON) landmark 2014 study found that there were no significant differences in educational outcomes (clinical competency ($p = 0.688$), comprehensive nursing knowledge ($p = 0.478$), or first-time National Council Licensure Examination (NCLEX) pass rates ($p = 0.737$)) when schools of nursing replaced clinical experiences with simulated learning experiences up to 50% of the time when compared to schools that completely relied on facility-based clinical experiences (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014). The *NLN Jeffries Simulation Theory* (Jeffries et al., 2015, September/October) and the International Nursing Association for Clinical Simulation and Learning (INACSL) *Standards of Best Practice* (INACSL Standards Committee, 2016) have become foundational guidelines for schools of nursing incorporating simulation into their curriculum. And although there are a multitude of nursing theories related to student learning and outcomes, there remains little in the literature outlining precisely how nursing students learn through the simulation process. This author offers Mezirow's Transformative Learning Theory (TLT) as one possible learning process outlining how nursing students experience transformation in their paradigms through simulated learning experiences.

Within the last century, there have been new developments in thought regarding adult education, with instructional models moving from the classical "stimulus-response theory" towards a "more progressive constructivist/transformational" approach (Keating, 2006, p. 50). Andragogy puts forth the assumption that adults gain a greater sense of accomplishment and knowledge by performing hands-on tasks rather than through passive instruction and that adults seek practical application of new knowledge in their everyday lives (Keese, 2010). Mezirow's Transformative Learning Theory (TLT) is a constructivist theory which states that adult learners utilize past life experiences as a reference upon which to construct new meaning for experiences, opening the door to learning and greater self-understanding and, in the process, transforming their personal paradigm (Mezirow, 1991). Two primary assumptions of TLT are; 1) that learners are adults, and; 2) they are capable of rational thought and discourse (Mezirow, 1997). The first assumption is met by the fact that newly graduated nurses are, on average, approximately 25 years old, however there is a cohort of older-than-average new nurses who are aged 30-40 (U.S. Department of Health and Human Services Health Resources and Services Administration (HRSA), 2013). These older

students will have different life experiences and thus, will have more wide and varied frames of reference upon which to gauge their ability to provide patient care than their younger counterparts. In response to the second stated assumption however, the assumption may only be conditionally met as the ability to participate in rational thought and discourse is not limited by chronological age but rather is influenced by cognitive ability which will vary based on individual student characteristics (Merriam, 2004).

Transformative learning is a complex process involving a change in the way a person views a problem (Kitchenham, 2008) and how expectations affect the way a person thinks, feels, and behaves (Christie, Carey, Robertson, & Granger, 2015; Nohl, 2015). Through this transformative process, learners become more autonomous and capable of determining their own actions in future situations (Hodge, 2014; Mezirow, 1997). Mezirow structured his theoretical definition of transformation around changes in *frames of reference*, which are “structures of assumptions through which we understand our experiences. They selectively shape and delimit expectations, perceptions, cognition, and feelings” (Mezirow, 1997, p. 5). According to Mezirow, formalization of the process of experience followed by self-reflection and discourse with others results in a transformed paradigm for the learner, both about how they view the experience and about how they view themselves (Parker & Myrick, 2010; Mezirow, 1997). *Frames of reference* are comprised of *habits of mind* and *points of view* (Mezirow, 1997). *Habits of mind* are defined as “broad, abstract, orienting, habitual ways of thinking, feeling, and acting influenced by assumptions that constitute a set of codes. These codes may be cultural, social, educational, economic, political, or psychological” (Mezirow, 1997, p. 5-6). *Points of view* are defined as “the constellation of belief, value judgment, attitude, and feeling that shapes a particular interpretation” (Mezirow, 1997, p. 6).

Through the prebriefing process, transformative learning begins as nursing students are presented with the simulation scenario and given the relevant information they need to provide patient care, such as the patient’s history, clinical diagnosis, and current vital signs. This aligns with TLT Phase 1: A disorienting dilemma. The students are then assigned or they self-assign various roles such as “charge nurse”, “medication nurse”, “primary care nurse”, “family member”, or “observer”. They then enter the simulation arena and participate in providing patient care, either individually or as a group of students. During the simulation, students may make a mistake, leading them to experience feelings of embarrassment, guilt or shame. These mistakes are then brought to light during the debriefing process, whether through the student viewing a video recording of themselves and self-reflection or through discussion with their group and the simulation facilitator. This aligns with TLT Phase 2: A self-examination with feelings of guilt or shame. Through the debriefing process, nursing students will self-evaluate the situation, realize that others have made the same mistake, and create options for correcting or preventing mistakes in the future. This aligns with TLT Phases 3 and 4: A critical assessment of epistemic, sociocultural, or psychic assumptions, and; Recognition that one’s discontent and the process of transformation are shared and that others have negotiated a similar change. Students will then plan on ways of improving their performance and optimally, the simulation will be repeated. This aligns with TLT Phases 5, 6, and 7: Exploration of options for new roles, relationships and actions; Planning a course of action, and; Acquisition of knowledge and skills for implementing one’s plans. Often, students repeating simulation will exchange roles with one another in order to experience the simulation from another viewpoint. This aligns with TLT Phase 8: Provisional trying of new roles. Finally, students gain competence and self-confidence in themselves in their new roles and their *habits of mind* and *points of view* are transformed, leading to a shift in their sense of self-efficacy in providing patient care and their role on the healthcare team. This completes the process with TLT Phases 9 and 10: Building of competence and self-confidence in new roles and relationships, and; A reintegration into one’s life on the basis of conditions dictated by one’s perspective.

A review of pertinent literature regarding transformative learning summarizes and reinforces this process by stating; 1) Humans have a natural tendency to reinforce their existing points of view; 2) Points of view will only change when challenged; 3) Humans seek out new experiences in order to challenge their points of view, and; 4) Repetition of experience, self-reflection, and discourse with others transforms points of view and habits of mind, resulting in a paradigm shift for the learner (Brock, 2010; Grabove, 1997; Mezirow, 1997; Nohl, 2015). These statements support the application of TLT to the simulation process of

prebriefing, simulation, debriefing, and repeat simulation. More research is needed to explore the application of Mezirow's TLT to simulation in nursing education.

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Abstract Summary:

The use of simulation in nursing education has become commonplace as a method of instruction and evaluation, but the theoretical basis requires further exploration. Mezirow's Transformative Learning Theory (TLT) is an adult learning theory that offers one explanation of the process by which nursing students' worldviews are transformed through simulation.

Content Outline:

Problem of the Nursing Shortage

Challenges for Nursing Education

Use of Simulation in Nursing Education

Application of Mezirow's Transformational Learning Theory to Simulation; Assumptions and Process

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