Constructivism Theory Analysis and Application to Curricula

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MANY NURSE EDUCATORS CONTINUE TO TEACH AS THEY WERE TAUGHT, SIMPLY REARRANGING THE SAME CONTENT-LADEN MATERIAL THEY HAVE TRADITIONALLY PRESENTED TO STUDENTS (Candela, Dalley, & Benzel-Lindley, 2006). But change in the nursing curricula, based upon pedagogical research, is needed (Candela et al.). Faculty must be willing to shift their emphasis away from traditional nursing courses, such as pediatrics, maternity, mental health, and community health, to concept-based courses in which concepts are presented across the life span and across clinical settings (Giddens, & Brady, 2007). Such changes are needed in both didactic and clinical courses. Instituting a nonlinear approach to education can improve nursing students’ critical thinking abilities. For faculty to accomplish such change, it is important to have an understanding of curricula and the nurse’s role in a rapidly advancing profession (Hamner & Wilder, 2001). Nurses are far more than beings of memorization. They must be lifelong, adult learners who engage in reflective practice, self-critique, and self-direction, and they must be able to synthesize information, link concepts, and think critically. Therefore, it is imperative to evaluate the use of constructivism in nursing education curricula. THIS ARTICLE OFFERS PRACTICAL SUGGESTIONS, BASED ON CONSTRUCTIVISM, FOR CLINICAL NURSING EDUCATION.
Theoretical Concepts of Constructivism  Basically, constructivism is a theory founded on observation and scientific study about how people learn. The major theme is that learning should be an active process in which learners construct new ideas or concepts based upon their current or past knowledge. With roots in philosophy, psychology, sociology, and education (Hoover, 1996), constructivism is founded on subsets of research within cognitive psychology and social psychology (Huit, 2003). Despite the existence of various forms of constructivism, such as cognitive constructivism and social constructivism, advocates agree that it is the individual’s processing of stimuli from the environment and the resulting cognitive structures that produces adaptive behavior (Huit, 2003).

Cognitive theories and adult learning principles are closely linked to constructivism. While cognitive constructivism is derived from the work of Piaget (1972), which describes learning as an act of accommodation, assimilation, and equilibration, Knowles’s (1979) adult learning principles build upon the learner’s previous experiences and promote active learning. In Knowles’s andragogical model, the learner is defined as a self-directing organism and is put in the role of diagnosing his or her own needs for learning, translating these needs into learning objectives, identifying and using appropriate resources for accomplishing these objectives, and evaluating the extent to which they have been accomplished. A facilitator is involved as needed (Knowles).

The conceptual definition of constructivism is that human learning is constructed and built upon previous knowledge (Hoover, 1996). According to the Educational Broadcasting Corporation (EBC) (2004), the constructive theory encourages learners to be active creators of their own knowledge. The role of the learner is to select and transform information, construct ideas, and make decisions, while relying on a cognitive structure. Conceptual growth comes from the sharing of various perspectives and the simultaneous changing of the student’s internal representations in response to those perspectives as well as through cumulative experience (Hoover). Rather than using the teacher’s knowledge and textbooks for solving problems, the student invents solutions and constructs knowledge in the learning process. The student and the educator engage in an active dialogue, and the educator encourages students to discover principles by themselves. The task of the educator is to design a learning format that is aligned with the student’s current state of knowledge.

The educator becomes a facilitator and coach. Rather than asking “What do I want to teach?” the educator asks, “What do students need to learn?” Recognizing students’ preexisting conceptions, educators guide activities to build upon students’ knowledge, using techniques such as experiments, problem solving, reflective exercises, concept mapping, and dialogue to create more knowledge and understanding.

The Constructive Theory Model  Viewing constructivism as a spiral is helpful in understanding the dynamics of the theory. The spiral has an inner ring that encompasses students, making the student the center point. Within the ring, students interact, constituting a group that interacts with the educator, who becomes the mediator, bringing students closer to the context. In order to reach this context, the educator needs to create meaningful zones of proximal development and cognitive bridges through social interactions. Evaluation of learning is constant throughout the process. As each new activity is encountered, the student uses previous knowledge to develop more complex ideas and integrate new information.

Constructivist teachers encourage students to constantly assess how the activity is helping them gain understanding. Through the process of questioning, students learn the strategies that help them become expert learners. The process of active learning gives students the ever-broadening skill of lifelong learning. The model is visually represented in the Figure.

Assumptions  The constructivist educational philosophy operates on a basis of four major assumptions. First, previous constructs are the foundation of the learning process in each student. In other words, students know the world through their existing mental framework, and new information is transformed and interpreted based upon previous learning (Muirhead, 2006). Second, assimilation and accommodation processes lead to new constructions. Information that is incongruent with the student’s existing mental framework cannot be assimilated; therefore, new zones of cognitive development or higher learning transpire through the accommodation process. Third, learning is an organic process of invention, not mechanical (Muirhead). Constructivists place the stu-
ACTIVE LEARNING

CONSTRUCTIVISM is practical, even during a nurse FACULTY SHORTAGE. Although some faculty may be comfortable using the TRADITIONAL CURRICULUM with large student groups, innovative TEACHING STRATEGIES can be employed within large groups to promote STUDENT RESPONSIBILITY for their own learning, lessen anxiety, and IMPROVE TESTING RESULTS in nursing courses.

APPLICATION OF CONSTRUCTIVISM TO NURSING CURRICULA

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Application of Constructivism to Nursing Curricula

Content-laden curricula leave little room for the development of clinical interventions based on assessment and planning, credible evidence, critical thinking, and clinical reasoning (Candela et al., 2006). Constructivism helps in the education of nurses by improving critical thinking skills and encouraging the rapid adaptation to changes in evidence-based practice. The development of the ability to gather information, analyze that information critically, evaluate it experientially, and then develop a new framework for the information is the best way to produce nurse graduates with critical thinking skills.

LIMITATIONS The constructivist educational model is based on rigorous academic standards and expectations, and requires educators who are capable of equipping students to be independent learners. A fundamental challenge is to change the locus of control from educator to the student, transforming students from passive learners to active participants in a collaborative learning environment.

Although some criticize constructivism for dismissing the value of the educator as the expert, the educator actually has a unique and essential role in helping students construct knowledge. Behavioral theorists design curricula that require students to achieve prespecified objectives, while constructivists design curricula that are negotiated with students based on their needs (EBC, 2004).

Sandstrom (2006) uses the active learning technique of the case study method to enable students to understand the difficulty involved in taking care of clients with chronic illnesses. Hoke and Robbins (2005) find that using holistic, active, cooperative learning strategies (e.g., faculty role modeling, student interactive and group learning, and group testing) within a didactic class increases the average clinical grade of nursing students.

Constructivism is often misconstrued as a learning theory that reinvents the wheel. Rather, it builds upon the student's innate curiosity about the wheel, and how it works (EBC, 2004).

(Candela et al.).

In applying constructivism theory to nursing education curricula in the clinical setting, the ideal is that students are taught concepts rather than large amounts of content-laden material. Typical nursing student and faculty interaction, whether online, in clinical, or on campus, historically consists of lectures where students are passive recipients of information. Using the National League for Nursing's (2007) Excellence in Nursing Model can help educators redesign course material to contain a minimal amount of lecture and instead utilize active-learning strategies in most learning activities. One of the core elements in the model is student-centered, interactive, and innovative curricula, which correlates with constructivism.

While opponents of this change to a constructivist approach may say that constructivism diminishes the leadership of faculty, this could not be further from the reality. Nurse educators will be in a primary position to lead as coaches and facilitators, developing innovative teaching methods and producing stronger nursing students.

Constructivism can be easily integrated into nursing education in the clinical setting. To assure that standardized expectations are met, the clinical instructor collaborates with the course leader and
course liaisons to coordinate active learning methods prior to the clinical rotation. During the orientation with students, the clinical instructor relays expectations to the students. One primary expectation is that students will create their own personal objectives for the learning experience.

During the clinical postconference, the students participate in active learning exercises, including case studies. As the expert, the clinical instructor first shares a case study with the group, coaching students as they solve problems, anticipate patient needs, think critically, and apply current knowledge. As students work through the case study exercise, they demonstrate an increase in clinical skills, knowledge, and confidence in caring for patients, meeting the personal objectives the students set for themselves (Sandstrom, 2006).

In subsequent postconferences, students alternate in taking the lead, sharing case studies with the group. A student chooses the case study topic and style of presentation and leads fellow students in the active learning exercise. Preparation for the presentation gives the student ownership of the learning process, knowledge of best practices, and tools for critical thinking. Nursing students must be able to use theory to make decisions related to complex practice problems with many variables (Sandstrom, 2006). The case study method is a rewarding learning experience in which students see the relevance of the topic to practice, thus motivating them to continue to learn. In helping students understand the potential problems clients may experience, the case study method can be used to develop students’ critical thinking skills while increasing their clinical skills, knowledge, and confidence (Sandstrom). The clinical instructor models expert problem solving while encouraging students to participate actively and providing assistance as needed. The complexity of the case study progresses with the construction of knowledge and thinking skills.

To implement active learning concepts in evaluation of the clinical rotation experience, the clinical instructor facilitates student-led evaluations in the form of self-evaluation, peer-evaluation, and instructor evaluation. Students, who are at the center of the evaluation process, talk about the strengths and weaknesses they recognize within themselves and respectfully verbalize perceived strengths and weaknesses of their classmates. This evaluation process can be effective in helping students develop communication skill and learn how to give constructive criticism, positive feedback, and other tools that lead to a healthy work environment. An important result of these active learning techniques is that students are reminded to constantly assess how the activity helps them learn and determine what they need to learn.

Nursing curricula characterized by student-centered learning and the promotion of critical thinking are essential in the ever-changing world of health care. Acting as change agents, educators who pursue continued quality improvement in the nurse educator role, exploring strategies such as student-derived learning objectives, case studies, and evaluation methods, can overcome the challenges of the teaching-learning process. Bringing about collaboration among faculty to develop a curriculum based upon best practices for engaging active learners is a first step in the reform of nursing education. 

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References


