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## Back to the Basics and Beyond: Comparing Traditional and Innovative Strategies for Teaching in Nursing Skills Laboratories

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## ABSTRACT

The cornerstone of nursing practice worldwide, despite educational background, is founded on professional nursing skills. Faculty members teaching nursing skills are investigating different strategies to transition the passive knowledge from textbooks into active learning. However, the limited evidence on the topic makes their work challenging. The purpose of this study was to compare a set of traditional and innovative teaching strategies on learning advanced nursing skills in skills laboratories. In this study, nursing faculty will identify strategies to enhance teaching in laboratory settings.

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In the United States and internationally, the public expects nurses to demonstrate professional competence by providing quality and safe, patient-centered care (American Association of Colleges of Nursing, 2008; Institute of Medicine, 2010; Karabacak, Serbest, Kan Öntürk, Eti Aslan, & Olgun, 2013). The cornerstone of nursing practice worldwide is founded on professional nursing skills. The learning of fundamental skills begins in schools of nursing where students are expected to gain confidence through the practice of skills, first in skills laboratories and then at clinical sites. Increasingly, skills are practiced and demonstrated in simulation laboratories (Alexander et al., 2015; Bradshaw & Hultquist, 2017; Karabacak et al., 2013; Ross, 2015). Therefore, knowledge acquired in academic settings must be transferred into clinical practice.

The names given to nursing skills laboratories vary from school to school. Laboratories are called clinical skills laboratories, centers, learning laboratories, and nursing laboratories (Bradshaw & Hultquist, 2017). Nurse educators use these laboratories to provide an environment for learning discipline-specific cognitive, affective, and psychomotor skills, clinical reasoning and decision-making, and “to provide psychomotor skill acquisition” that is specific to the student’s skill level (Bradshaw & Hultquist, 2017, p. 234). The teaching strategies used in skills laboratories must aim to advance the student’s level of learning (Bradshaw & Hultquist, 2017). However,

the limited empirical data on best practices for advancing nursing skills in skills laboratories creates a challenge for nursing faculty (Ross, 2015; Wellard & Heggen, 2010). In Norway and Australia, for example, faculty use personal experiences and traditional practices instead of evidence-based strategies to teach nursing skills (Wellard & Heggen, 2010).

The skills that define nursing practice are at the core of the prelicensure curricula in all schools of nursing, whether they grant associate or baccalaureate degrees (Taylor, Lillis, LeMone, & Lynn, 2011). These skills range from simple to complex (Bradshaw & Hultquist, 2017), from basic hygiene care and the taking of vital signs and medication administration, to peripheral and central intravenous (IV) access tracheostomy and ostomy assessment and care, blood transfusion, and electrocardiography. Nursing skills are often taught in two levels in skills laboratories: basic and advanced. Selecting objectives and preparing lectures and interactive activities to help students transition their learning from one level to another require faculty subject matter expertise and creativity and teaching practices based on evidence.

Maginnis and Croxon (2010) and Ross (2015) found incongruence between psychomotor skills demonstrated in nursing skills laboratories and skills observed in clinical practice. Several authors have concluded that research on teaching methods of psychomotor skills is needed (Gibson & Molloy, 2012; Gonzol & Newby, 2013; Ross, 2015). Wellard and Heggen (2010) noted that faculty based their teaching practices on tradition and “personal curricula” because of limited evidence on effective teaching strategies. Faculty have investigated different strategies to help students transition the passive knowledge

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acquired from textbooks into active learning, as mastering professional cognitive and psychomotor skills required both knowledge and hands-on experience (Bradshaw & Hultquist, 2017; Shin, Sok, Hyun, & Kim, 2015; Stolic, 2014). The achievement of higher levels of learning outcomes is an essential goal for future professional practice in today's fast-paced, high-acuity health care settings.

Traditional strategies, such as assigning reading from textbooks and lecturing using Power Points (PPTs), are commonly used to deliver course content (McCurry & Martins, 2010; Stolic, 2014). Prior to the emergence of digital technology, the lecture was the principal means of knowledge dissemination (Bradshaw & Hultquist, 2017). Academic nurse educators feel comfortable using traditional teaching methods, but evidence suggests that lecture-only teaching is insufficient for the acquisition of knowledge and the development of nursing skills; moreover, it leads to inattention on the part of students (Bradshaw & Hultquist, 2017; Day-Black, Merrill, Konzelman, Williams, & Hart, 2015; Zavertnik, Huff, & Munro, 2010).

The need to engage adult students and keep them focused compels faculty to go beyond their comfort zones and implement new strategies (Day-Black et al., 2015; Karabacak et al., 2013). However, there is limited reliable and valid evidence identifying effective strategies for teaching the skills that are essential for professional nursing practice (Stolic, 2014). The purpose of this study was to compare a set of traditional and innovative teaching strategies implemented in skills laboratories for junior-level nursing students. The study addressed the following research question: What was the students' self-perception of the effects of traditional and innovative teaching strategies on learning nursing skills in skills laboratories?

## Background

The study was based on adult learning theory developed by Knowles (1998) and Vella (2002), who explained the motivation people need to gain knowledge in a specific science with five principles of adult learning—self-concept, experience, and readiness, orientation, and motivation to learn. A sixth principle was later added to address the adult need for respect Vella (2002). Engagement and active learning are in the core of the theory. The principles, when used in instructional planning, can lead to greater knowledge acquisition. Adult learners utilize different focal points to acquire knowledge in comparison with nonadult learners. For example, adults want to learn the practical aspects of a concept when the information is associated with a meaning (Bradshaw & Hultquist, 2017). The innovative strategies identified in this study involved active learning and engagement. An assumption is that nursing students will better learn advanced nursing skills in a teaching environment, such as a skills laboratory, that motivates and engages students through active learning.

Traditional and active learning have been a subject of academic interest for years. In traditional teaching, students receive information through listening and observing while the faculty lectures in front of the classroom (Aljezawi & Albashtawy, 2015; Beery, Shell, Gillespie, & Werdman, 2013). The instructor selects and transmits the knowledge; the student is not actively engaged in the learning process but is a recipient of knowledge. With active learning, the teaching is student centered, and the education focus shifts from the instructor to the student (Bradshaw & Hultquist, 2017). This approach gives the student more ownership and control of the learning, with new information built on past knowledge and experiences (Chan, 2014; Stolic, 2014).

Although a review of the literature shows that nursing educators are exploring innovative ways to transition students successfully to clinical practice, few studies have focused on effective teaching in advanced-level nursing skills laboratories. Several authors agree that innovative teaching methods are needed to prepare graduates

for professional practice (Beery et al., 2013; Gibson & Molloy, 2012; Schell, 2011; Shin et al., 2015). These authors advocate for robust evaluation of the graduates' nursing skills prior to entry into practice.

Most recently, McNett (2012) compared 13 studies published between 1998 and 2010 to evaluate alternative and traditional methods of teaching nursing skills to novice nursing students. The studies looked at methods to teach either one specific nursing skill at a basic level, such as oral medication administration or blood pressure measurement, or multiple nursing skills, such as mouth care, back care, position changes, and administration of a glycerin enema. McNett noted that all studies considered skills performance as an outcome measure and used checklists to score the students' performance.

Three of the studies reviewed by McNett (2012) concluded that a combination of a traditional lecture and skill demonstration with computer use was more effective than either method alone. In one study, there was no significant difference in student performance between the traditional methods of teaching skills versus student-centered methods (Grady, et al., 2008). However, the student-centered groups were significantly more satisfied with their learning.

Nurse educators are in position to facilitate students' learning by selecting strategies that are effective in engaging students in efforts to lead to better learning outcomes (Bradshaw & Hultquist, 2017). Gaining confidence in the skills that define nursing practice, despite level of education, is an important factor in new graduates' transition into clinical practice in environments that are often chaotic and unpredictable. This study offers an empiric investigation of the students' self-perception of the effects of traditional and innovative teaching strategies on learning advanced nursing skills in skills laboratories.

## Method

In this study, the authors simultaneously asked confirmatory (quantitative) and exploratory (qualitative) questions. Numeric and narrative data were collected by using an anonymous on-line survey completed after final course grades were posted. Narrative data were used in a supportive capacity. Institutional review board approval was obtained for this study, and safeguard mechanisms to protect student confidentiality were in place. An introductory e-mail explained the risks and benefits and the voluntary nature of the study. Identifiable information was not collected, and data for statistical analysis were kept in a password-protected and encrypted computer.

### Design

The study was based on an innovative integration of didactic and laboratory sessions in a two-credit, 2-hour and 50-minute course. In the first 50 to 90 minutes of the course based on the lecture objectives, the students were exposed to lecture (didactic) material, which was considered cognitive learning. The remaining time was dedicated to psychomotor learning and laboratory practice. The course objectives focused on advancing psychomotor, cognitive, and affective skills necessary for nursing practice in diverse health care settings (Jefferson College of Health Sciences, 2015).

For the study, three nursing faculty members taught four sections of the course using the same lesson script for lecture and laboratory practice to decrease variations in course delivery (Song, Happ, & Sandelowski, 2010). A session included a maximum of 12 and a minimum of 6 students. The traditional and innovative didactic and laboratory activities were randomized over 15 weeks by a flipped coin approach. If heads were rolled, a traditional approach was used; if tails were rolled, an innovative approach was implemented. Six of the 15 lectures were traditional. Both traditional and innovative strategies included didactic and laboratory activities.

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