Creating Innovative Models of Clinical Nursing Education

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ABSTRACT

Although nursing care has changed significantly over the past 30 years, methods to clinically train nursing students have not. The traditional model of clinical nursing education, where a faculty member oversees a group of six to eight students on an acute care unit for a 4- to 8-hour shift, provides a haphazard approach to learning. A need exists to find innovative ways to effectively train more nursing students to better prepare them for today's health care environment. Using a change framework, seven approaches to clinical nursing education were created through academic–practice partnerships. These approaches may increase the effectiveness and efficiency of the clinical nursing education system.

A severe nursing shortage is predicted over the next 20 years, fueled by nursing workforce retirements and an increase in the aging population (American Association of Colleges of Nursing, 2012). Despite this, nursing programs in the United States are turning away qualified nursing applications at alarming rates. In 2011, 75,587 qualified applications were denied admission into baccalaureate nursing programs. A major reason for this capacity bottleneck was a lack of clinical teaching sites for nursing students (American Association of Colleges of Nursing, 2012).

Although nursing care has changed significantly over the past 30 years, the methods to clinically educate nursing students have not (Tanner, 2006). The current models of clinical nursing education provide a haphazard approach to learning, depending on the clinical unit and the patient census; therefore, learning experiences are varied among students. Innovative ways to effectively educate more nursing students are needed to better prepare them for the current health care environment. The purpose of this article is to outline a framework for clinical education innovation that has the potential to increase the effectiveness and efficiency of the clinical nursing education system. In addition, this article provides a description of the application of the framework that was used to create new models of clinical nursing education through academic–practice partnerships.

The authors of two significant studies urged the nursing profession to rethink clinical nursing education. In the publication, *Educating Nurses: A Call for Radical Transformation*, Benner, Sutphen, Leonard, and Day (2010) argued that clinical experiences should occur in a variety of settings, not just in acute care units. They concluded that classroom learning should be contextual and linked directly to clinical learning. The landmark report, *The Future of Nursing: Leading Change, Advancing Health* (Institute of Medicine, 2011) includes a call to redesign the nursing educational system to better meet the demands of the current and future nursing practice environment. This redesign includes increasing nursing students' community-based experiences and exposing students to complex health care issues, such as those found in long-term care settings. That report also called for a blurring of the demar-

cation between didactic nursing classes and clinical nursing experiences.

LEADING INNOVATION

Knowing there must be a better, more innovative way to educate nursing students in clinical settings, we initiated a project, using a change framework (Kotter & Rathgeber, 2005) to identify and test new models of clinical nursing education, with the goals of increasing clinical capacity, lowering costs or using the same financial profile, and creating more targeted and innovative learning activities for nursing students. This was achieved through a collaborative approach between nursing academics and nursing practice by the provision of funding to develop, implement, and evaluate pilot models for clinical nursing education. The aims of this project included improving clinical nursing educational outcomes, increasing nursing enrollment capacity, and developing nontraditional clinical placements for nursing students. The project emphasized a collaborative academic–practice partnership as a strategy for creating innovative clinical learning opportunities. The overall evaluation plan for this project used formative and summative evaluation methodologies to determine the effect of each pilot approach on clinical nursing education. The evaluation plan also addressed the return on investment in terms of efficiency (cost and clinical site availability) and effectiveness (quality and satisfaction).

Kotter and Rathgeber (2005) argued that for change to be successful, one must undertake a series of eight thoughtful steps. The first two steps set the stage for change to occur and include creating a sense of urgency and establishing a group of people to guide the change process. The next step creates a vision for change. The next four steps involve making change happen and include communicating the vision, empowering others to lead change, acknowledging short-term wins, and perseverance. The final step targets ways to make change last (Kotter & Rathgeber, 2005; Kotter, 2006). These eight steps provided a solid framework for implementing our clinical nursing education effort.

SETTING THE STAGE FOR CHANGE: CREATING URGENCY AND DEVELOPING A GUIDING TEAM

To engage key stakeholders and create a sense of urgency for clinical nursing education redesign, a series of presentations were held at multiple health care facilities throughout the state of Hawaii. In addition to individualized presentations, a Nursing Education Redesign Summit, with more than 90 nurses, nurse leaders, and faculty members, held in May 2009, brought interested stakeholders together at one event. The summit included a brief presentation on the current models of clinical learning for nursing students and several opportunities for discussions regarding the need to reexamine clinical nursing education in light of health care reform, high client acuity, limited availability of clinical education sites, advances in technology, and the increasing need for community-based nursing care.

In addition, seven paradoxes (**Table 1**), identified by nurses in clinical settings and by nursing faculty at Oregon Health Sciences University through focus group research conducted by Dr. Paula Gubrud-Howe, were discussed among nursing faculty and clinical nursing partners. These paradoxes were derived from the issues and perspectives of academic nursing faculty and clinical nursing partners who work together to educate nursing students. To overcome these paradoxes and improve the effectiveness and efficiency of clinical education, the participants were challenged to think "outside the box" to create a better approach to clinical nursing education. The discussion was centered on the assumption that brainstorming and collaboration among nurses in academics and nurses in practice settings was critical to the development of innovative models.

Breakout sessions followed the Summit presentations, which used a community-based participatory approach to identify issues and alternative solutions for clinical nursing education in all types of settings. Some suggested alternative solutions were:

- Reevaluate the usefulness of preconferences and postconferences, as they create a great deal of "coming and going" on the unit and less time for clinical learning.
- Foster students' continuity of clinical time, instructors, and clinical units.
- Support a reciprocity relationship between a nursing program and practice setting.
- Concentrate nursing students' clinical time with less observation, moving from simple to complex skills and continually evaluating gaps in learning.
- Assess the clinical unit's readiness for students, the unit's ratio of new nurse graduates and nursing students, and the ability to lower the staff's workload when they are working with students.
- Communicate openly and frequently between practice site and nursing program.
- Create consistency in clinical teaching approaches.
- Articulate clear expectations with nurses in the practice setting for students' clinical learning objectives.
- Ensure faculty competence and orientation to facility.
- Facilitate nursing students' skills mastery in the laboratory and simulation prior to the clinical day.
- Foster continuity with community-based experiences, such as following families or communities throughout the nursing student's education (over several semesters).
- Thread concepts throughout all skills, simulations, and clinical experiences to foster deep learning.

A focus of these early meetings was to create a sense of urgency, as nearly half of all efforts to change fail due to the inability to create a strong sense of urgency. The urgency rate is high enough when approximately 75% of the people within an organization believe that business as usual is unacceptable (Kotter, 2006).

PLANNING FOR THE CHANGE: VISION

To begin the process of developing innovative models of clinical nursing education, a team of high-profile nurses from various settings, referred to as the Clinical Education Redesign Team (CERT), was created to guide the process. This guid-

TABLE 1

Seven Partner Paradoxes Identified in the Clinical Education Environment

1. Patient safety and student learning: As patient acuity continues to increase and care requirements become more complex, staff nurses are more reluctant to allow students to provide nursing care. Yet, students must have the experience of providing patient care to develop skills in technical care and clinical judgment.

2. Increased enrollment with less resources: As schools of nursing increase enrollment to combat the projected nursing shortage, resources in the clinical environment are becoming more limited due to increasing patient acuity and economic downturns.

3. Facility orientation and clinical competency and time for clinical practice: As the concern over patient safety grows, facilities are requiring more site orientation and competency checks. Because facility orientation time is carved out of the total number of student hours dedicated to clinical education, the demands for more orientation time decreases the hours devoted to student learning.

4. Documentation and access to electronic medical record (EMR) orientation: As more facilities move to the EMR, student orientation time increases, and, in some cases, the students' ability to access and document in the EMR is restricted, thus decreasing their opportunity to gather critical patient information and learn to integrate documentation into their practice.

5. Shift length and student learning: Professional nurses may work 4-, 8-, 10-, or 12-hour shifts, and they structure their work flow with these time frames in mind. Students partnered with professional nurses as clinical coaches may experience learning overload or miss out on key aspects of the nursing day as they try to match schedules to accommodate varying shift times.

6. Staff productivity cost and student learning: Professional nursing staff must operate within tight productivity guidelines. Coaching students is time consuming yet critical to student learning and patient safety. When students are on the nursing unit, professional nurses must weigh the loss of productivity with the importance of student coaching. As the number of students increase, this problem increases.

7. Task orientation and clinical judgment: Should we focus clinical time on developing skills in task completion or in clinical judgment? As professional nurses work harder and faster to deliver care, there is increased emphasis on ensuring that patient care tasks are completed. This is compounded by nurses' use of short-cut language to connote a whole set of work, such as "Students need to know how to hang an IV." One can interpret that as, "students need to perform the technical task"; however, if one probes the comment further, it is discovered that the task includes approximately 17 decisions that need to be made when hanging an IV. So, while nurses insist that the students learn the tasks, the tasks must be connected to multiple clinical judgments. Task orientation requires clinical judgment—it does not overshadow it—yet, our language and the pressures of the workplace sometime seem to make it so.

ing team was composed of people with strong credibility and visibility in the nursing community. Kotter (2006) argued that change transformation fails when people underestimate the power of the guiding coalition. Furthermore, he believes that the team should consist of people who can work together effectively and who have enough power to lead the change.

The CERT reviewed the information from the brainstorming session at the Nursing Education Summit and had a series of meetings to create a strategic plan for implementing the vision of how future nursing education models could differ from those in the past. The vision involved creating clinical learning environments that facilitated more effective targeted learning, less downtime for students on the clinical units, less stress for nursing faculty, and promulgating patient safety. One reoccurring theme was the importance of a strong academic–practice partnership between the nursing educational institution and the nursing practice setting.

The CERT decided that the best way to proceed with their plan was to create a process for the development, funding, implementation, and evaluation of clinical nursing education pilot projects. A similar project implemented through the Oregon Consortium for Nursing Education (Gubrud & Schoessler, 2009) guided the strategy to implement our pilot projects. Funding needed to be secured to provide support to pilot test new models of clinical nursing education. Therefore, the team leader (V.N.), a Robert Wood Johnson Executive Nurse Fellow, used $20,000 in leadership funds to partially support this project and leveraged these funds to obtain an additional $35,000 from the Hawaii State Center for Nursing. The Robert Wood Johnson Executive Nurse Fellows funding supported the project's infrastructure, and the Hawaii State Center for Nursing funded the pilot projects.

MAKING IT HAPPEN: COMMUNICATION

The CERT developed a process for requests for proposals to fund the pilot projects that was distributed to nursing leaders and faculty members throughout the state of Hawaii. In addition, the vision for the need to create innovative and effective clinical education models was communicated throughout the nursing community via a series of presentations. During these presentations, nurses in health care settings and nursing faculty members were invited to collaborate and submit to the CERT an innovative model for a clinical educational redesign project for clinical nursing education at a health care or community-based setting. The CERT required that the co-directors of the pilot projects represent at least one faculty member and at least one nurse in a practice setting. Up to $10,000 in funding could be requested for each project. The CERT received nine proposals to review and score based on a standardized algorithm, and seven clinical redesign projects were selected to pilot in spring 2010. Each pilot project's co-director received funding between $3,000 and $8,000 to support project implementation.

TABLE 2

Example of an Exemplar Pilot Project

One of the pilot project grant awards was for the APPLE project (Avatar/Patient Program for Learning Enhancement). The purpose of this pilot study was to explore the use of preprogrammed avatars (PPA) and avatars in multi-user virtual environments (MUVE) in nursing education. Two study investigators—a university professor and an emergency department nurse in clinical practice—implemented PPA and MUVE learning activities in four nursing courses across two semesters. Outcomes were measured by using both qualitative and quantitative evaluation data from approximately 100 students and three instructors who participated in the learning activities.

In one activity, students participated in clinical patient rounds with the faculty member at a virtual hospital. In their avatar form, each student participant logged in and arrived at the virtual hospital. The students initially worked in groups to review the basic concepts related to their patients' illnesses. After the students reviewed each of their patients in the group setting, the faculty member joined into the virtual space and filled in knowledge gaps. Next, the group interviewed a virtual patient in a clinical setting—the emergency department, intensive care unit, or clinic. In this portion of the clinical rounds, the students observed the patient's reaction to illness and identified coping mechanisms and knowledge gaps. In the final portion of the clinical rounds, the group discussed perspectives on the patients' experiences and goals for multidisciplinary care.

The study findings were striking. Both students and faculty reported outstanding learning outcomes. More than 90% of students reported good to excellent learning experiences. When asked to describe their experiences, the students reported that the avatar learning activities helped them to integrate course content in simulated clinical settings. They reported that immediate feedback, the experience of group learning, and the opportunity to practice multidisciplinary and team skills all enhanced the integration of course content. Virtual world activities, they said, were fun and energizing.

The orientation time required for APPLE learning activities ranged from 0 to 2 hours. Faculty members reported that the learning activities delivered more learning in less time and with fewer resources than traditional teaching methods. The course faculty and students, in particular, reported positive outcomes from using PPA and MUVE learning activities. The MUVE software used was free; only the PPA activities required purchased software.

Both formative and summative evaluations demonstrated the efficacy of the APPLE program. The program involved minimal costs, efficient student and faculty time, and the delivery of high-quality learning experiences with high levels of satisfaction for students and instructors alike. The APPLE pilot project findings became the foundation for application to and subsequent awarding of a National League for Nursing Research in Nursing Education grant to continue the study of MUVE in nursing education.

MAKING IT HAPPEN: EMPOWERING OTHERS, PRODUCING WINS, AND PERSEVERANCE

Because it was important to remove as many barriers as possible, a concerted effort was made to keep the request for proposal simple, direct, and short. In addition, because many of the nurses had not previously written a proposal or a budget, written feedback for improvement was provided to the academic–practice team after their proposals were received and their proposed clinical educational redesign projects were deemed viable. The opportunity was given to submit a revised proposal or budget within a 2-week period, and those who were asked to revise and resubmit their proposals completed the revision within the specified time frame.

During the implementation phase, it was important to minimize barriers and seek out and identify short-term wins (Kotter & Rathgeber, 2005). The project co-directors checked in with the CERT team leader on a monthly basis and any barriers were addressed. Many short-term "wins" during the implementation phase were communicated and celebrated. These communications included award notices that the project co-directors were selected for funding of their pilot project, the securing of additional funds ($35,000) from the Hawaii State Center for Nursing for the pilot projects, and the willingness of many RNs to attend preceptor workshops that would prepare them to work with students for the first time in their careers.

The seven projects were implemented and evaluated during the spring 2010 semester. As the semester advanced, coaching by the CERT team leader continued to ensure that all co-directors completed the projects as planned and that they were using the available funds to support their work. Assistance was provided to ensure that all project evaluation requirements were completed by the established time periods. All projects were completed on time and all available funding was used.

FINAL OUTCOMES

The outcomes of this project were significant. A total of 15 health care and educational organizations and more than 500 people were involved in various aspects of this project, including 12 presentations to key nursing leadership in acute and community settings across the state of Hawaii. Eight RNs, representing different health care and educational organizations in the state, participated as members of the CERT. In addition, the pilot projects involved 17 RNs as project co-directors, eight health care organizations, 259 RNs and other health care personnel, and 140 students. All seven pilot projects met the deadlines and completed their evaluation by July 2010.

One of the most significant outcomes that is difficult to measure is the increased collaboration between nursing academics and nursing practice. The silos between nursing education and nursing practice appear to be abating, and the vision for increased collaboration between nurses and nursing faculty regarding clinical education is definitely growing as a result of these pilot projects. Furthermore, through project evaluations, the visions for creating clinical learning environments that fa-

TABLE 3

Clinical Education Redesign Projects, Goals, and Final Outcomes

Project Name	Goal	Outcome
Avatar Patient Program for Advanced Learning (APPLE)	Reduce faculty workload	• After a learning curve, faculty time to complete students' evaluations was reduced. • Positive student evaluations • Received a National League for Nursing Research in Nursing Education grant in August 2010 to replicate the project on a larger scale and to evaluate the use of avatars in clinical nursing education.
Integrating Simulation Learning and Crisis Resources Management Program for Medical–Surgical Nursing Students	Reduce faculty costs[a]; increase student capacity at clinical sites	• Reduction of 50% full-time equivalent faculty with addition of 50% GA for 58 students (cost savings of $20,000 per year). • Student-to-faculty ratio of 5 to 8 students in clinical settings • Excellent student learning outcomes and high faculty satisfaction.
LEAD Learning–Service Community Partnership Model	Reduce faculty costs[a]; use nontraditional clinical site for student learning	• Increased student capacity at this clinical site with the ability to have a faculty-to-student ratio of 1:15. • Decreases acute care site demands • Excellent student learning outcomes and high faculty satisfaction
Innovative Models for Clinical Nursing Education, Wilcox Memorial Hospital	Engage nurses in clinical nursing education	• Ninety-five people attended two sessions regarding clinical redesign at Wilcox Memorial Hospital. • Posttests demonstrated high interest and nursing's willingness to work with students and faculty to redesign the clinical experience for students.
Integrating Concept-Based Learning Activities With HNIP Preceptors Educating to Promote Competency Development	Reduce faculty costs[a]; engage nurses in clinical nursing education	• Students who were precepted by HNIP-educated RNs in the newborn nursery demonstrated consistently higher ratings for their preceptors compared with students who worked with RNs who did not participate in the HNIP program. • Faculty costs could be reduced if students were consistently precepted in the nursery setting; therefore, clinical faculty-to-student ratios could increase.
Maui Memorial Medical Center and Maui Community College Clinical Redesign Proposal	Engage nurses in clinical nursing education	• Increased collaboration between Maui Community College and Maui Memorial Medical Center. • Ninety-two RNs attended the 4-hour education session on clinical redesign. • Evaluations revealed positive comments regarding the RNs' role in educating students. • The Clinical Teaching Associates program began at MMH in fall 2010.
Clinical Education Redesign Partnership Proposal, Castle Medical Center	Reduce faculty costs[a]; engage nurses in clinical nursing education; increase capacity in clinical sites	• Reduction in the number of students in clinical units (may reduce stress on staff and reduce student error risks) and increase targeted clinical learning and targeted simulation time for students. • Student-to-faculty ratios could be increased with the use of a GA to conduct the simulation or increasing the numbers of students precepted on units. • Excellent student learning outcomes (no difference noted between these pilot groups and traditional groups in HESI™ scores and clinical site evaluations) and high faculty satisfaction.

Note. GA = graduate assistant; LEAD = Leadership, evidence-based research, active member of the team, decision making; HNIP = Hawaii Nurse Internship Program; HESI = Health Education Systems, Inc. examination.
[a] *Without affecting student learning.*

cilitated more effective targeted learning, less down time for students on the clinical units, less stress for nursing faculty, and promulgating patient safety, were realized. **Table 2** provides an exemplar pilot project, and **Table 3** describes the intended goals of each of the pilot projects and the final outcomes.

MAKING CHANGE LAST

Several of these pilot projects have been expanded for use with more students; others have used the lessons learned to improve the clinical experience for students. As a result of the pilot data, one project received National League for Nursing Research in Nursing Education grant funds to continue to evaluate outcomes, and additional funds are being requested from the National Institutes of Health and the Agency for Healthcare Research and Quality. The Creating Innovative Models for Nursing Education process is being replicated in 2012 in the state of New Jersey.

CONCLUSION

The Kotter and Rathgeber (2005) and Kotter (2006) change framework provided a solid foundation for examining strategy that can infuse innovation into clinical nursing education. As demonstrated through our experience in Hawaii, the effects of the academic–practice projects are numerous. By working collaboratively, there is better alignment of nursing academics and nursing practice. In addition, new models with increasing capacity for nursing students in the midst of a shortage of clinical sites will maximize scarce resources. Furthermore, increasing the ability for practicing nurses in health care settings to assist with educating nursing students may improve clinical learning outcomes. This process and these successful models can be replicated by other nursing schools both nationally and internationally.

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