ABSTRACT

The National League for Nursing (NLN) developed four unfolding cases. A demonstration project was created by junior- and senior-level faculty with the simulation specialist by modifying an NLN unfolding case to include advanced practice nurses. Educators desire their students to think critically but often do not realize that students must pass through five stages of development in critical thinking. The critical thinking stage theory was used by faculty to guide students through the unfolding case and to provide a framework for improvement of their critical thinking skills. Faculty also used the just culture model as a framework for the debriefing process. The student evaluation findings for all three simulations were positive. Faculty and students supported the use of intraprofessional teams, critical thinking theory, and the just culture debriefing model as effective teaching–learning strategies. [J Nurs Educ. 2013;52(8):470-474.]

The literature includes much on the use of simulation to improve students’ critical thinking and clinical decision making skills, as well as their confidence (Gutsche, 2010; Wotton, Davis, Button, & Kelton, 2010). Educators want their students to think critically, and although most educators make this an objective, they do not realize that students must pass through five stages of development in critical thinking (Elder & Paul, 2010). Elder and Paul (2010) described a stage theory based on nearly 20 years of research put forth by the Center for Critical Thinking, which faculty used to guide students’ use of the National League for Nursing (NLN) unfolding case simulation and to provide a theoretical framework for improvement of students’ critical thinking and clinical decision making skills. These stages include:

- Stage one: The unreflective thinker.
- Stage two: The challenged thinker.
- Stage three: The beginning thinker.
- Stage four: The practicing thinker.
- Stage five: The advanced thinker.
- Stage six: The accomplished thinker. (Elder & Paul, 2010, para. 7)

The junior- and senior-level faculty’s intent was to help the undergraduate junior students to move from stage three: the beginning thinker, toward stage five: the advanced thinker, which is the senior student level. According to Elder and Paul (2010), the defining aspect of stage three: the beginning thinker is the move to begin to take explicit command of thinking across multiple domains. For instance, students’ recognize problems with their thought process and make initial attempts to better understand or improve it. In stage five: the advanced thinker, the goal is for students to establish good thinking habits that “pay off” and to begin a more active analysis of their thought process. Students at this stage develop deeper insights into problems and problem solving using higher levels of thought (Elder & Paul, 2010). By reasoning through complex client problems and issues while simultaneously assuming professional roles and adhering to current professional standards, students learn how to take command of these elements of reasoning. Faculty then help them to take command of their thinking in a general way while also providing a vehicle that effectively enables them to critically think through the content of their classes, seeing connections between all of what they are learning.

Faculty also adopted the use of the just culture model currently being recommended in the academic setting as a frame-
work for the debriefing process (American Nurses Association [ANA], 2010). The concept of a just culture is based on a non-punitive attitude toward human error. This model allowed students to be able to articulate and speak safely on issues regarding their own actions or those in the environment around them without fear of ridicule or reprisal. In this way, they could feel safe and emotionally comfortable while admitting weaknesses, concerns, or abilities. Students would also be encouraged to seek assistance when concerned that the quality and safety of the care being delivered was threatened while identifying areas for improvement in themselves and in their peers in the overall care of patients. This model fit nicely with the theoretical underpinnings identified because it promotes an organizational process wherein “mistakes or errors do not result in automatic punishment, but rather a process to uncover the source of the error” (ANA, 2010). It is of critical importance that caregivers feel they are supported and safe when voicing concerns regarding practice.

In addition, although simulation scenarios have evolved to include mental and family health, and now intraprofessional teams of second-, third-, and fourth-year nursing students, these scenarios tend to rely on physicians alone in leadership roles and do not include nurses in positions of authority, leadership, and administration or advanced practice nurses (Eggenburger & Regan, 2010; Leonard, Shuhaibar, & Chen, 2010). Schools can purchase many of these prefabricated client simulations that are medical–surgical based, cover cultural diversity, include varied client ages, and are inclusive of a multitude of nursing practice skills (Laerdal Medical, 2010). Although numerous medical–surgical scenarios are readily available in the simulation laboratory, none are specifically designed for the community health setting. Until now, scenarios for this setting were not readily available for purchase due to the intricacy level involved in creating them.

The Simulation Team Advancing Gerontological Education Strategies (STAGES) developed four unfolding cases, which can be found on the NLN Web site (NLN, 2010). These cases were designed so students can use the Advancing Care Excellence for Seniors (ACES) Essential Nursing Actions (NLN, 2010) as a framework for thinking about the case and planning their nursing interventions; therefore, students should be introduced to these concepts before implementing the cases. ACES was developed through a partnership between the NLN and the Community College of Philadelphia with funding from the John A. Hartford Foundation, Laerdal Medical, the Independence Foundation, and the Hearst Foundations. An unfolding case is one that evolves over time in a manner that is unpredictable to the learner (NLN, 2010). New situations develop and are revealed with each encounter.

The case chosen for intraprofessional adaptation and use was Red Yoder. This case required the least amount of modifications, and it closely met the course objectives for third-year (junior-level adult health 1) and fourth-year (senior-level community health) nursing students to execute in the home and hospital environments. Junior- and senior-level faculty (E.W., J.H., C.Z.) and a simulation specialist (T.E.) collaborated to modify the three existing NLN simulations to meet individual course objectives, as well as to highlight the behaviors of intraprofessional nurse specialists through use of this NLN unfolding case simulation. Red Yoder is an 80-year-old, male widowed farmer with diabetes, who lives alone. He is noncompliant with his diabetes treatment, has an open foot wound, and has incontinence and difficulty sleeping, as well as conflicts with his son, who now runs the farm. The first scenario occurred in the home setting. A home health nurse (a senior student) and nursing student (a junior student) assess the wound breakdown on his toe. During the assessment, Red reveals that he is having problems sleeping and some urgency incontinence. The subsequent scenarios depict a variety of situations, including a trip to the hospital to rule out sepsis (Red was adapted to be a complex client with a history of heart disease and who is in heart failure) and psychosocial issues, such as functional decline, alcohol use, and possible elder abuse. The scenario was designed to help students practice assessing the function and expectations of their patient, with links to appropriate evidence-based assessment tools, including those from the Try This® and How to Try This® series that are on the NLN Web site for use by students (specifically the NLN SPICES tool, which is an overall assessment tool for older adults and can be found on the NLN Web site at http://www.nln.org/facultyprograms/facultyresources/aces/red.htm).

Redesigning the Simulation for Community Health (Home Settings)

Community health faculty and the simulation specialist designed the framework for simulations one and three collaborated with adult health faculty for simulation two. The client scenario framework for the home environments prior to hospital admission for Red Yoder and after hospital discharge to home can be found on the NLN Web site (http://www.nln.org/facultyprograms/facultyresources/aces/red.htm).

Senior-level community health students (baccalaureate nursing degree [BSN] students, year four) were placed in groups of six or seven, with three or four junior-level adult health students (BSN students, year three) for each simulation. To prepare the students for the simulation, senior-level students were given the NLN simulation design template, including the client’s background and history, student learning objectives, equipment to be used, roles, and the key events checklist for each of the simulations. These checklists outlined what nursing interventions should be performed for each situation. They were also instructed to prepare prior to the simulation by accessing the NLN SPICES assessment tool for older adults, as well as relevant diabetes and cardiovascular text readings and Web sites to review diabetes, heart failure, and other assessment skills necessary to competently execute the role of the nurse. Senior-level students were informed that venipuncture and intravenous therapy would be a part of simulations one and two. Junior-level students were provided with a brief introduction to Red Yoder and a list of technical skills that would be implemented within the scenarios, such as vital signs, wound care, medication administration, blood glucose testing, oxygen administration, and indwelling catheter insertion. They were also informed that head-to-toe assessments would be a part of all three scenarios.

Junior- and senior-level faculty modified the roles already provided in the Red Yoder simulation of primary nurse, secondary nurse, family member, and physician to home health
further nurse assessment concerning Red’s level of consciousness and use of the NLN confusion assessment tool for hospital nurse assessment tools also suggested treatment for hydramed Red being admitted to the hospital with heart failure, the health coordinator. Although the initial home health visit was side, and communication with the NP, physician, and the home teaching, both a primary RN and a secondary RN at the bedside, and communication with the NP, physician, and the home health coordinator. Although the initial home health visit warranted Red being admitted to the hospital with heart failure, the hospital nurse assessment tools also suggested treatment for hyperglycemia and use of the NLN confusion assessment tool for further nurse assessment concerning Red’s level of consciousness (NLN, 2010).

Implementation and Evaluation of Modified Red Yoder Simulations

The key events checklists for each simulation were distributed to the participants and student observers at the start of the first simulation. The key events checklists included a brief description of the scenario, its objectives, and a list of critical events that occur during the scenario. The students also have space on the checklist to write in information that occurred during the scenario, including discussions of what went well and the lessons learned, as well as any additional comments. The students handed in the key events checklists for each scenario on completion of the last simulation. This helped to keep those students who were observing the simulations engaged during them.

The simulation specialist prepared the student participants prior to the beginning of the scenarios. The role assignments and the case were identified for the student participants prior to the start of each simulation. For each scenario, from the control room the simulation specialist operated the simulation and guided the students designated as advance practice nurses (NP, home health coordinator, and physician). The community health and adult health 1 faculty remained with the rest of the students in a separate classroom, where the live simulation was observed, and all of the students’ questions were answered to ensure a high-quality experience. After each scenario was completed, a debriefing session was facilitated by faculty using the ACES debriefing and guided reflections provided by NLN (2010). The students were easily able to respond to the guided debriefing by using the key events checklists provided by faculty. During each debriefing session, the simulation specialist ensured setup for progression to the next scenario.

Debriefing With the Just Culture Model

With faculty design and application of the just culture model for debriefing, students were to focus on creating environments for improving patient safety, rather than focusing on individualized punitive measures for errors observed during the simulations. In addition, students were encouraged to actively participate in making decisions as a group. All faculty involved in this joint simulation project focused on the application of this just culture initiative during the debriefing phase of each simulation. This concept gave faculty the opportunity to create a debriefing climate where students could feel more at ease reporting both positive and negative findings after each scenario. For instance, the simulations were not linked to individual grades, students did not perceive punishment for any errors, nor were there any rewards for positive findings. In addition, faculty guided the debriefing process by requiring students to comment on nursing student errors in terms of overall opportunities to improve nursing practice behaviors rather than describing negative simulation events in terms of what needed to be fixed in an individual’s nursing care.

Recognition of opportunities to improve by the junior-level students demonstrated the beginning thinker (stage three) level of critical thinking, and the senior-level students demonstrated an advanced thinker (stage five) level of critical thinking when they recognized problems with their own, as well as their peers’, thought processes in the first scenario debriefing and pointed out

Redesigning the Simulation for Adult Health 1 (Hospital Setting)

Adult health 1 faculty and the simulation specialist designed the framework for simulation two and collaborated with community health faculty for simulations one and three. The details of the client scenario framework for the hospital setting prior to discharge to the home environment can be found on the NLN Web site (http://www.nln.org/facultyprograms/facultyresources/aces/red.htm).

For implementation of simulation two, three senior-level community health students (BSN students, year four) were grouped with two junior-level adult health 1 students (BSN students, year three). This part of the unfolding case involved creating an adjoining simulated hospital room for Red Yoder. This simulation included both emergency department and admission orders, laboratory test results, specimen collection, intravenous and intravenous piggyback medication administration, patient teaching, both a primary RN and a secondary RN at the bedside, and communication with the NP, physician, and the home health coordinator. Although the initial home health visit warranted Red being admitted to the hospital with heart failure, the hospital nurse assessment tools also suggested treatment for hyperglycemia and use of the NLN confusion assessment tool for further nurse assessment concerning Red’s level of consciousness (NLN, 2010).
ways to improve in the later simulations (Elder & Paul, 2010). Finally, faculty consistently addressed any behaviors that would threaten the performance of students; intimidation and disruptive behaviors were not tolerated.

The overall faculty impression was that the design and use of a just culture debriefing model was an ideal fit for the Red Yoder unfolding simulation activities and fit nicely with the critical thinking theory used to aid in improving students’ critical thinking and clinical decision making at both the junior and senior levels. Deployment of this model was easily achievable through the use of ready-made exercises, videos, assessment tools, and instructor toolkits available through the NLN unfolding case scenarios via their Web site.

**Teamwork**

Creating a just culture model involved teamwork (ANA, 2010; LaSala & Bjarnason, 2010). In addition, nursing student participation in this NLN simulation activity required teamwork. Initially, the faculty responsibility for teamwork began with the inclusion of students in the prebriefing, prior to running the unfolding case scenarios. One of the prebriefing goals was to convince nursing students that the nursing simulation activity is about process, not the people involved in the simulation. In other words, convincing the students that the simulation is not about a grade, it is about doing the right things as a team to improve patient safety. The Quality and Safety Education for Nurses (QSEN) project developed guidelines for teamwork in terms of the knowledge, skills, and attitudes necessary for nurses to function as team members to achieve quality patient care (QSEN, 2012). During prebriefing, faculty directed students to use QSEN teamwork knowledge, skills, and attitudes by “assuming the role of team member and leader based on the situation,” “communicating with team members,” “initiating requests for help when appropriate in the situation,” “appreciating the importance of intraprofessional collaboration,” and “appreciating the risks associated with handoffs among providers,” (QSEN, 2012, pp. 2-4). In addition, these examples of teamwork continued throughout the three simulations and debriefing phases.

Nurse experts describe teamwork as one of the “seven driving factors of patient safety” (Sammer & James, 2011, p. 53). Using third-year (junior-level) and fourth-year (senior-level) nursing students in a complex clinical scenario allowed students to practice safe patient care on the basis of their levels of competence. During the simulation, students were able to practice delegation and teamwork skills, which may not occur in the hospital or home settings. Although the junior group did not have any community health background, the students were able to work together to contribute to the provision of safe nursing care for Red Yoder. Faculty agreed that the intraprofessional simulation was a valuable teamwork learning experience for students. It is important to note that nursing students were actively involved in these teamwork activities via participation with each other in the scenario. The student observers who were not active scenario participants were able to ask the active participants realistic questions about delegation and leadership responsibilities. They were also able to recognize their importance, as well as the significance of good communication, in the provision of safe client care.

**Student Evaluation**

Twenty-six undergraduate nursing students (juniors and seniors) participated in the simulation exercises and the SIM Evaluation Questionnaire, which evaluates student satisfaction with the exercise; the response rate was 100% for student participants. All data obtained from the questionnaire were kept confidential and anonymous. No personal student data were collected. Eighty-five percent of the students at both the junior and senior levels rated the activity at agree or strongly agree for all eight items on a 5-point Likert scale (1 = agree), with 85% rating the exercise as an appropriate learning activity and 84% stating they were satisfied with this simulation as a learning activity. These nursing student perceptions of the intraprofessional simulation activity are consistent with the results of the intraprofessional team, high-fidelity simulation activity described in the article by Leonard et al. (2010). Obtaining positive nursing student satisfaction results for a complex learning activity is often elusive for nurse educators. Implementation of a just culture prebriefing and debriefing model and creating combination teams of third-year and fourth-year nursing students was not the usual way things had been done at this institution previously. However, this teaching activity proved valuable for both students and faculty and is worth further exploration in terms of patient safety outcomes for nursing students.

**Limitations**

Faculty identified no limitations with the pedagogy used in the demonstration project. Procedural limitations included modification of the original unfolding case to fit the needs of the student groups participating in the intraprofessional simulation. The modifications required time and teamwork with faculty involved to add advanced practice nurse roles, assessment, and technical skills and to change the client’s history so each scenario smoothly transitioned from home to hospital and back to home settings. Much conversation occurred among the faculty and simulation specialist about how to incorporate changes through all three of the cases. In addition, to make the simulations realistic, one of the simulation rooms needed transformation from a hospital to a home environment. For the home setting, hospital-like equipment was removed from one of the simulation rooms and replaced with items such as a comforter, personal photographs, a recliner chair, and a table. If only one simulation room is available, making these changes to the room would require a lot of lag time between scenarios.

Furthermore, an audiovisual capability for a large number of students to view the simulation live is necessary. We created three clinical groups (N = 26 students) involved with all three of the scenarios. Not enough time or space was available to have all of the students at the client’s bedside for each simulation. The majority of students observed the simulation by watching the participating students live from another classroom. Although these observers were able to complete the key events checklist while viewing their peers, future evaluations should take into account which respondents were observers and which were participants in the scenarios.
Conclusion

Faculty found the modified simulations to be robust, meaningful experiences for students that provided a simulated experience of continuity of care and helped students to integrate safety concepts and essential nursing actions into their practice (NLN, 2010; QSEN, 2012). The experience broadened the students’ perceptions on advanced practice by allowing them to identify nurses in leadership roles and positions of authority and begin to take on these roles in the clinical laboratory setting. Further, intraprofessional collaboration among student peers allowed for mentorship of the junior-level students by senior-level students. Senior-level students practiced appropriate delegation skills and conflict resolution skills, and they were able to nurture the third-year students, thus demonstrating a beginner level of advanced critical thinking, whereas junior-level students recognized problems with their own, as well as their peers’, thought processes in the first scenario debriefing and pointed out ways to improve in the later simulations (Elder & Paul, 2010). Fourth-year students also simulated the role of preceptor in the home care environment. This is a role faculty hope will continue after graduation through students’ exemplar professional skill and demeanor.

Both junior- and senior-level students became aware of how roles within the health care team were influenced by the client and the client’s family. Students found that being emotionally in tune with each other as intraprofessional team members, improved the care of the client in both the home and hospital settings. They also had increased opportunities to experience the leadership roles available to them as nurse administrators and nurse specialists in advanced practice roles.

References


