SAFETY: An Integrated Clinical Reasoning and Reflection Framework for Undergraduate Nursing Students

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ABSTRACT

Nurse educators can no longer focus on imparting to students knowledge that is merely factual and content specific. Activities that provide students with opportunities to apply concepts in real-world scenarios can be powerful tools. Nurse educators should take advantage of student–patient interactions to model clinical reasoning and allow students to practice complex decision making throughout the entire curriculum. In response to this change in nursing education, faculty in a pediatric course designed a reflective clinical reasoning activity based on the SAFETY template, which is derived from the National Council of State Boards of Nursing RN practice analysis. Students were able to prioritize key components of nursing care, as well as integrate practice issues such as delegation, Health Insurance Portability and Accountability Act violations, and questioning the accuracy of orders. SAFETY is proposed as a framework for integration of content knowledge, clinical reasoning, and reflection on authentic professional nursing concerns.

Nurse educators must engage students in the clinical reasoning process, as well as teach them how to organize and prioritize information (Benner, Sutphen, Leonard, & Day, 2010; Ironside & McNelis, 2011). Elements of clinical reasoning, such as noticing crucial changes in patient status, analyzing these changes to decide on a course of action, and evaluating responses to modify care, should be embedded at every opportunity throughout the nursing curricula. Nursing students also need time and structured guidance for meaningful reflection on the decisions made during the clinical day. In contrast to traditional content delivery methods (lecture and reading assignments), active learning strategies engage students by asking them to clarify ideas, apply concepts to realistic scenarios, and express their thoughts orally or in writing. The active learning strategy in this article provides time for students to practice making clinical decisions in a controlled setting with peer and instructor feedback.

To provide a framework to assist students to identify significant patient data while allowing for self-reflection, faculty members in a pediatric nursing course designed a learning activity based on a template created by Rayfield and Manning (2006) called SAFETY (System-specific assessment, Assignments and accuracy of orders, First/Priority, Evaluate interventions, Teach and test infection control, cYa/cover your assets) (Table 1). The SAFETY template is based on the National Council of State Boards of Nursing RN Practice Analysis (2009), which identifies the knowledge and skills most often used by nurses in various practice settings. To use the SAFETY tool in the pediatric nursing course, slight modifications were made to incorporate major components of pediatric nursing, such as growth and development and consent versus assent.

Background

Senior baccalaureate nursing students in a pediatric clinical course were introduced to the SAFETY template. This orientation included the components of the SAFETY acronym, as well as rationale for the importance of the exercise as students progress toward taking the NCLEX-RN®. Faculty demonstrated the use of SAFETY in the context of pediatric respiratory illnesses. This allowed both students and faculty to experience the tool’s usefulness in organizing and prioritizing pertinent patient data. Students were provided with the assignment guidelines and a grading rubric.

The pediatric clinical experience occurs over a 6-week period. Students complete 90 hours of clinical practicum. The first
2 weeks of the rotation occur in ambulatory, primary care, and community health settings. The last 4 weeks of the rotation begin with a simulation laboratory for transition to inpatient pediatric care. The intensive, concentrated clinical rotation occurs at weeks three and four, followed by time for student reflection. Students use clinical hours during the last 2 weeks of the rotation to develop their presentations. During an intensive, 3-day clinical rotation, each student identified a patient he or she felt had a significant effect on his or her personal growth toward becoming a professional nurse. Following the intensive clinical rotation, students were directed to reflect on their chosen patient in the context of the SAFETY template. Students then prepared case synopses within the framework of the SAFETY template and presented these to their peers and faculty. The figure reflects the implementation timeline of the rotation. If two students cared for the same patient during the clinical intensive, group collaboration was encouraged to provide multifaceted views on patient care.

### The SAFETY Template

The template starts at the beginning of the nursing process, with “System-Specific Assessment.” The students must identify and report on relevant subjective and objective data discovered during the clinical day. This includes laboratory data, imaging reports, developmental assessment, and the effect of hospitalization on the child and his or her family. The grading rubric for the presentation (Table 2) directs the students to identify the priority problem and include only relevant information in the presentation. Categorizing information as significant or insignificant is a major requirement for sound clinical reasoning.

For part two of the template, “Assignments and Accuracy of Orders,” students must use complex reasoning to identify appropriate roommates, delegate tasks to ancillary personnel, and identify inaccurate orders. Students must contend with a multitude of factors when making decisions about roommate selection (disease process, child’s developmental age, psychosocial factors), as well as delegation. The ability to incorporate information from multiple sources to safely manage nursing care is another key component of clinical reasoning.

One of the hardest skills for novice nurses to master is prioritization and time management. The “First/Priority” section of the template requires students to list with concise rationale the priorities for the day in the order of importance. Students usually identify several urgent problems and struggle with determining which issue takes precedence. This active learning...
TABLE 2
SAFETY Grading Rubric

<table>
<thead>
<tr>
<th>Learning Outcome Component</th>
<th>Accomplished</th>
<th>Proficient</th>
<th>Developing</th>
<th>Novice</th>
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<tbody>
<tr>
<td>Effectively uses SAFETY template and provides relevant patient information.</td>
<td>Consistent application and integration of the SAFETY template components. Each component of the template is used to reinforce pertinent and relevant patient information and issues. Use of the template reflects individualized and developmentally appropriate care.</td>
<td>SAFETY template has been consistently used, with some components lacking depth, focus, or relevance. Individualized and developmentally appropriate care is specific and evident.</td>
<td>Use of SAFETY template is adequate but with inconsistent use across components. Patient information is presented broadly with lack of depth, focus, and relevance in many components of the template. Individualized and developmentally appropriate care is implied and nonspecific.</td>
<td>Does not use the SAFETY template to organize patient information. Includes patient information not pertinent to patient care. No individualized or developmentally appropriate care is addressed.</td>
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<td>Evidence of minimally safe practice and reflective clinical reasoning.</td>
<td>Each key component of the SAFETY template has been purposefully reflected on, with evaluation of patient care. Pertinent and supportive subjective and objective data are provided. Synthesis and analysis of patient data clearly reflect clinical reasoning abilities.</td>
<td>Less than two key components of the SAFETY template have been omitted from the evaluation and consideration. Subjective and objective data are provided but not always pertinent. Synthesis and analysis of patient data clearly reflect clinical reasoning abilities.</td>
<td>More than two key components of the SAFETY template have been omitted from evaluation and consideration. Subjective and objective data provided are inconsistent or not pertinent. Synthesis and analysis of data are nonspecific and not clearly reflective of clinical reasoning abilities.</td>
<td>Basic understanding of pathophysiology, fluid and kilocalorie needs, allergies, patient vital sign norms, and psychosocial concerns is lacking. No evidence of reflection on clinical reasoning. No evaluation of patient care.</td>
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<tr>
<td>Personal and professional self-reflection is evident.</td>
<td>Provides specific reference(s) and example(s) of how the experience affected the student on both a personal and professional level. Acknowledges accountability for lapses in clinical judgment. A plan is provided to address future practice issues.</td>
<td>Provides specific reference(s) and example(s) of how the experience affected the student on a personal or professional level, but not both. Acknowledges accountability for lapses in clinical judgment but does not offer a plan for future practice issues.</td>
<td>Implied reference(s) and example(s) of how the clinical case affected the student on a personal or professional level. Identifies lapses in clinical judgment but places blame on other individuals.</td>
<td>No evidence of personal and professional self-reflection. Does not acknowledge accountability for practice.</td>
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<td>Presentation is organized, timely, and appropriate for the audience. Ideas are clearly articulated.</td>
<td>Ideas throughout presentation are clearly organized with use of professional terminology and efficient use of time. Consistent articulation of the care plan with specific details as appropriate.</td>
<td>Ideas are mostly organized with minimal digression from main ideas. Use of professional terminology and efficient use of time. Inconsistent articulation of plan of care with specific details as appropriate.</td>
<td>Ideas are mostly organized with repeated digression from main ideas. Broad articulation with all-inclusive presentation of every detail of plan of care, pertinent or otherwise. Spelling errors on visual aids such as PowerPoint® slides.</td>
<td>Lacks organization. Frequently uses lay terminology as opposed to medical terminology. Poor use of time, with vague and nonspecific articulation of patient care provided.</td>
</tr>
<tr>
<td>Verbal and nonverbal messages are consistent. Verbal and nonverbal responses to peer and faculty questions are appropriate.</td>
<td>Delivery of presentation is natural, confident, and poised. Maintains eye content and speaks to the entire audience. Is respectful of questions.</td>
<td>Presentation is natural, confident, poised. Reads slides and notes versus maintaining eye contact. Not forthcoming and open to questions posed.</td>
<td>Completes presentation but lacks confidence and poise. Appears uncomfortable with questions and requires much prompting.</td>
<td>Inability to answer peer or faculty questions. Nonverbal responses to questions reflect frustration with those posing the questions.</td>
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* Learning outcomes: students will demonstrate reflective clinical reasoning and professional role development. Work product: oral presentation.
strategy gives the students valuable experience with making decisions about which nursing actions to accomplish first. They then receive valuable peer and faculty feedback concerning their decision making process.

During many clinical experiences, students are so focused on the tasks and skills for the day that they forget, or do not have the time, to evaluate the effectiveness of the care provided. The “Evaluate Interventions” part of the SAFETY template asks students to evaluate patients’ responses (real and expected) with the priority actions previously identified. This becomes a powerful learning tool, as students reflect on their actions, evaluate outcomes, and modify the plan of care accordingly.

Infection control is a significant aspect of nursing care, yet students often witness members of the health care team ignoring these principles in the clinical setting. In addition, we have found that infection control guidelines are often touched on in fundamentals courses in the first semester, but they are not reviewed again in the curriculum. “Teach and Test Infection Control” is a reminder to students that infection control is an integral part of nursing care. Students relearn the concepts of infection control, from basic hand washing to complex wound care, and reinforce isolation precautions. The students then feel empowered as they become experts concerning isolation precautions on the unit.

The final part of the SAFETY template, referred to as “cYa (Cover Your Assets),” encompasses the legal and ethical implications of nursing care. The Health Insurance Portability and Accountability Act guidelines (2010), cultural competence, and issues of consent versus assent are sometimes stressed in the didactic setting without corresponding clinical application. All of our students encountered interesting legal and ethical challenges during their clinical experiences. The SAFETY presentations helped students to understand the variety of issues that practicing nurses encounter on a daily basis.

Discussion

The students’ presentations were concise, with accurate identification of the priority concerns based on patient data. Because students were provided with a way to systematically reflect on patient care, they thought deeply about the case in a holistic manner. For example, in the Assignments and Accuracy of Orders section, students successfully identified appropriate activities from the clinical day that could be safely and legally delegated to ancillary personnel (e.g., assisting with the repositioning in bed of a patient with leukemia who was anemic or constipated, having a bowel movement. Because of the student’s intervention, her peers learned a valuable lesson about advocating for patients.

When discussing the “cYa” component, several students mentioned age of assent, adherence to the Health Insurance Portability and Accountability Act regulations through consideration of how to talk to parents and children when other visitors are in the room, and how to confirm the identity of a young child without an identification band.

In addition, because students had time for reflection, they provided numerous examples of aspects of care they had not anticipated, aspects of care they had planned for but that did not come to fruition due to unforeseen circumstances, or times when they had demonstrated poor planning or poor clinical judgment. Students displayed learning through reflection-on-action (Schon, 1987), whereas they modified their habits of mind in the context of an actual experience.

Faculty encouraged open dialogue about mistakes made and lessons learned by putting in place evaluative criteria that removed punitive consequences for students’ actions. Students were awarded points if they identified what they would do differently when placed in similar patient interactions. Faculty noticed that students were able to address psychosocial issues, along with end-of-life issues, that tremendously affected their personal and professional practice. So often, many of these components are missed in clinical conferences due to the focus on medications, procedures, and treatments. The SAFETY template provides a structured method to discuss these important aspects of the clinical day while including the essential activities such as advocacy, legal and ethical issues, and delegation.

Conclusion

A national call has been made to change nursing education (Benner et al., 2010; Ironside & McNeelis, 2011). Nurse educators need tools to help students develop clinical reasoning skills and to provide opportunities for reflective practice. The SAFETY template is one tool that provides an organizing framework for the students’ clinical day. This tool facilitates students’ learning through the provision of a template, which will help analyze patient data, individualize interventions, and identify the most important aspects of providing safe, competent, and comprehensive care. SAFETY has proven to be a useful tool for integration of content knowledge, clinical reasoning, and reflection on essential professional practice issues for baccalaureate nursing students.

References


