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## Improving Communication among Healthcare Providers: Preparing Student Nurses for Practice

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# Improving Communication among Healthcare Providers: Preparing Student Nurses for Practice\*

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## Abstract

Communication errors are identified by the Joint Commission as the primary root cause of sentinel events across all categories. In addition, improving the effectiveness of communication among healthcare providers is listed as one of the Joint Commission's 2008 National Patient Safety Goals. Nursing programs are expected to graduate practice-ready nurses who demonstrate quality and safety in patient care, which includes interdisciplinary communication. Through objectively structured clinical assessment simulations, faculty evaluate each nursing student's ability to perform many aspects of care, including the ability to communicate effectively with physicians via telephone in an emergent situation. This quality improvement project reports the results of a three-year review of undergraduate student nurse performance (n = 285) related to effective clinical communication. Changes in teaching-learning strategies, implementation of a standardized communication tool, and clinical enhancements which resulted in improved student competency, will be presented.

**KEYWORDS:** communication, competence, simulation, nursing education

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Communication is essential when reporting a patient's status, change in condition or developing and revising the plan of care. A common assumption among nursing programs that provide lecture content on communication strategies is that nursing students learned how to effectively communicate and that this knowledge will be effectively applied in clinical practice. Telling students how to communicate provides theoretical knowledge about the mechanics of communication, but lacks practical knowledge and application regarding when, what and how to communicate information.

The Joint Commission (TJC) is an independent, not-for-profit organization that certifies healthcare organizations in the United States and provides international health care quality and safety recommendations. This Commission strives to continuously improve the safety and quality of health care provided to the public through services that support performance improvement in health care. As well, the Commission maintains a sentinel event database for the purpose of improving quality and safety in patient care worldwide. Sentinel events are an "unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof" (The Joint Commission, 2007a). Miscommunication is reported by TJC as the primary root cause of sentinel events across all categories, including tubing misconnections, medication errors, wrong site surgery, and failure to rescue. Additionally, according to TJC (2007b), improving the effectiveness of communication among healthcare providers is a 2008 TJC National Patient Safety Goal.

The importance of communication in providing safe and quality healthcare clearly points to the need to ensure that every nursing student is prepared and assessed on communication competency prior to exiting their program of study. This quality improvement project describes the results of a three-year review of undergraduate student nurse performance (n=285) related to effective clinical communication with a physician in an emergent situation. Teaching-learning strategies that resulted in improved student competency will be presented.

Assessing a student's communication competency in the clinical setting is challenging. Bedside clinical learning is random and does not guarantee every student will have an opportunity to make a clinical judgment regarding when to communicate with a physician, what to report or how to convey the information. Furthermore, assessment through direct observation in the clinical setting presents a logistical challenge due to the number of students on the unit and the variable needs of presenting clients. Objective assessment of competency requires more control and is possible through objectively designed simulations.

Prior to simulation integration within the curriculum, a student's ability to communicate effectively was evaluated through written examinations and, occasionally, through random clinical experiences. Written evaluation methods provide information about cognitive thinking but do not inform faculty if the student is able to apply the knowledge in practice (psychomotor and affective domains). Simulation actively involves students, pushing them to discover and make sense of information for themselves while they assess, make judgments, provide interventions and evaluate care (Jeffries & Rizzolo, 2006).

Clinical Assessment Simulations (CAS) are structured, purposefully written and leveled for summative evaluation of the learner at a selected point in the curriculum. Through CAS, faculty directly observe and assess each student's cognitive, psychomotor and affective domains based on a controlled patient scenario with strictly defined criteria. Depending upon the objectives of the CAS, a student may be evaluated across multiple nursing actions such as assessment, clinical decision-making, psychomotor skills, body mechanics, universal precautions, and communication.

A CAS that provides objective evaluation of clinical communication is administered at the end of the senior medical-surgical course in the undergraduate program. Initial review of student performance in Fall 2004 revealed that although students received instruction on communication techniques through lecture-based formats, during CAS they were unable to demonstrate successful transfer of this cognitive knowledge into performance behaviors. Also, the perception that clinical communication strategies were purposefully practiced in the clinical setting was found to be incorrect. Student communication performance was reviewed by course and clinical faculty, who applied a curricular and evidence-based practice approach to strengthen course material, redesign lab content and refocus objectives in the clinical setting. These changes in lecture, lab and clinical teaching-learning experiences now assure that our students have a minimum of seven opportunities for deliberate repeat practice in effective clinical communication prior to the CAS. Currently, in our third year of student communication assessment, the outcomes data reveal improvement in student communication performance.

## **THEORETICAL FRAMEWORK**

Bloom's Taxonomy provides a theoretical framework for instructional design for teaching and assessing communication with undergraduate nursing students. The Bloom's Revised Taxonomy "provides a framework for including explicit objectives that focus on metacognitive knowledge. Examining learning

objectives involved in clinical reasoning through the Bloom’s Revised Taxonomy (see Figure 1) helps educators clarify their intended cognitive learning outcomes and enables them to design congruent instruction and assessment methods” (Su, Osisek, & Starnes, 2005, p.117). Effective communication between a student nurse and physician requires students to make decisions about when to call the physician and what to report (cognitive knowledge), how to call and how to structure the report (psychomotor skill), and how to communicate (affective).

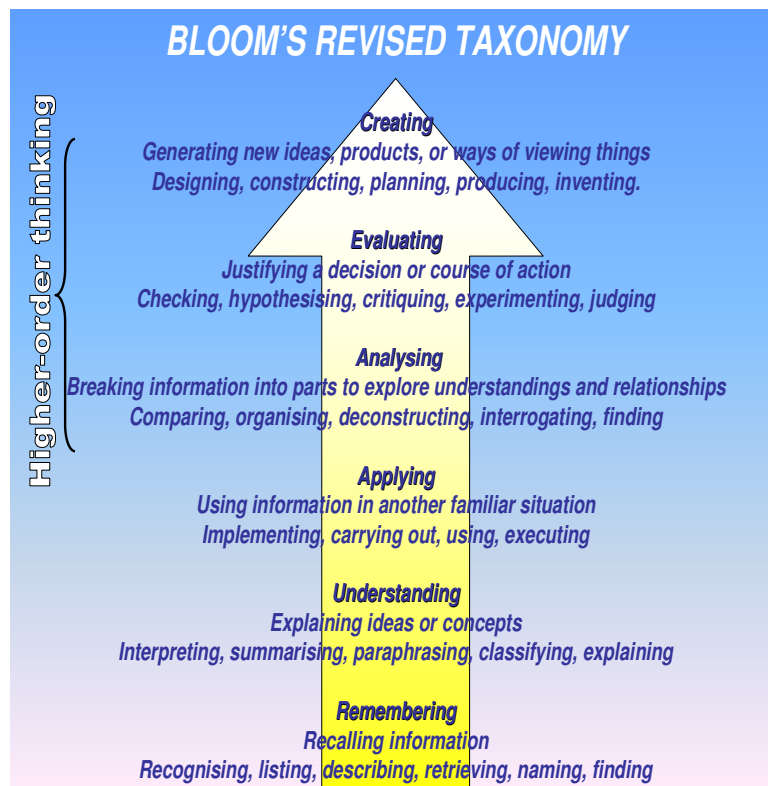


Figure 1. Bloom’s Revised Taxonomy<sup>1</sup>

<sup>1</sup> From “*Bloom’s Revised Taxonomy – Pupil Free Day*”, [PowerPoint slides] by D. Tarlinton, 2003. Reprinted with permission of the author.

Breaking down the task of communication into distinct parts helps facilitate learning and allows students to practice in a step-by-step fashion. Utilizing this framework, faculty in lecture, lab and clinical, designed learning activities and structured the environment providing opportunities for students to be engaged in higher-order thinking. Learning activities that promote higher-order thinking are those that engage the students in the construction of knowledge, transformation of information and ideas to synthesize, hypothesize or arrive at

some conclusion or interpretation (Queensland Department of Education, 2002). Essential points in learning effective interdisciplinary communication includes structuring the learning to progress students from lower-order thinking domains, such as remembering and understanding, to higher-order thinking domains which include analyzing, evaluating and creating. This model fits well with professional nursing as it takes into account the requirement to translate cognitive knowledge into clinical practice, promoting the development of a competent nursing workforce.

## **LITERATURE REVIEW**

A review of the literature validates the need for competency assessment of clinical nursing actions that are essential for entry into practice. The literature provides insight into teaching-learning strategies that facilitate learning as well as interdisciplinary healthcare communication frameworks. Credentialing agencies and State Boards of Nursing, as well as the general public, expect educational institutions to prepare, validate and ensure the competence of nurses. "A demand for demonstrated competence now motivates much of education" (Lenberg, 1999, p. 4). Students gain various incomparable clinical experiences and this presents a dilemma in measuring individual and program outcomes (Rentschler, Eaton, Cappiello, McNally, & McWilliam, 2007). The randomness of clinical experiences may be ameliorated through simulation. Simulation is a viable assessment strategy to measure clinical performance improvement (Radhakrishnan, Roche, & Cunningham, 2007). In addition, simulation provides opportunities to rehearse and prepare for competency.

According to Larew, Lessans, Spunt, Foster, and Covington (2006), "The development of nursing competency requires practice in the clinical environment. Unfortunately, clinical opportunities for nursing students vary across health care settings. It is difficult to ensure that all students obtain the clinical experiences needed to meet learning objectives" (p.21). Deliberate practice with faculty facilitation is necessary to gain understanding, strengthen learning and progress to high-order thinking. Deliberate practice is the repetitive performance of intended psychomotor or cognitive skills coupled with rigorous skills assessment that provides learners with specific, informative feedback, resulting in increasingly better skill performance (Issenberg, et al., 1999). A strategy to optimally prepare student nurses to communicate effectively within the clinical setting is to provide structured learning opportunities that actively engage the student with the Situation-Background-Assessment-Recommendation (SBAR) communication tool.

The Institute for Healthcare Improvement (IHI) and TJC recommend the SBAR framework for communication between members of the health care team. SBAR is an easy-to-remember, concrete mechanism useful for framing any conversation, especially critical ones, requiring a clinician's immediate attention and action (IHI, 2006). Poor communication "can lead to misunderstandings, frustration, errors and poor patient outcomes" (Pope, Rodzen, & Spross, 2008, p. 42). The SBAR tool "increases the confidence of people delivering the message and empowers them to state their needs and opinions respectfully" (Markley & Winbery, 2008, p. 163). The SBAR framework assists healthcare providers to logically format information in the following areas: the client's current situation, the client's background and current assessment information, the healthcare provider's current assessment of the client's need and the healthcare provider's recommendation for appropriate interventions.

### **PROJECT IMPLEMENTATION**

In Fall 2004, the Learning Resource Center (LRC) Director and the medical-surgical lead faculty implemented a CAS within the senior level medical-surgical course for the purpose of summative evaluation. The primary objective of the simulation was to assess clinical competence of senior medical-surgical nursing students, and gain an understanding of student learning at this point in the curriculum. The CAS objectives included: physical assessment, clinical decision-making, life-sustaining interventions, interdisciplinary communication, universal precautions and safety in the client environment. The simulated client (Laerdal Sim Man) had a peptic ulcer that perforated and the client progressively developed hypovolemic shock. Faculty directly observed the simulation, evaluated students and documented performance on a data collection form that was developed by three faculty experts and pilot-tested with 68 students in Fall 2004.

The data collection form included multiple criteria for all CAS objectives, including communication criteria. The focus of this quality improvement project was to measure the students' ability to report the following essential communication criteria: client identification (name and diagnosis), baseline vital signs (blood pressure [BP] and heart rate [HR]), current vital signs (BP and HR), pulse oximetry (current reading), oxygen flow rate (liters per minute), and nasogastric suction output (color and amount). Faculty were instructed to place a check mark next to the criteria item only if the student provided the information while giving an SBAR report to the physician. If the physician had to ask the student for information or if the information was not provided, then the communication criteria item was not checked. The simulation began with students



receiving an SBAR change of shift report from a faculty member who was playing the role of the nurse going off shift. Students were shown where the phone was, informed of the attending physician's name and phone number. Students were informed that the physician would answer when they called. A faculty member played the role of the physician receiving the SBAR report from the student and provided orders based on the information communicated. Immediately following the simulation, students and faculty debriefed on learning outcomes and feedback was provided on strengths, weaknesses and strategies for improvement.

The data from the first cohort of students in Fall 2004 revealed substandard performance across all communication criteria, which resulted in poor outcomes for the client. At that time, the typical report to the physician sounded like this, "I need you here, the patient is crashing," or "I'm worried about Mr. Smith. He is in a lot of pain, his heart rate is sky high, and his O2 sat is bottoming out," or "I don't know what to do for Mr. Smith, he is bleeding a lot, his heart rate is really high and his blood pressure is falling."

The faculty reflected on the 2004 aggregate student performance, analyzing when interdisciplinary communication was introduced, the number of opportunities students had for deliberate faculty-facilitated repeat practice and formative evaluation with feedback. This analysis revealed that students were introduced to the SBAR framework in lecture during their Fundamentals lab as first semester juniors, and they were provided with SBAR literature. No mechanism, however, was in place to ensure that students were provided with structured repeat practice opportunities in lab or clinical.

Revisions were made to strengthen teaching-learning strategies in lecture, lab and clinical across two courses. Faculty designed learning opportunities that involved students in the construction of knowledge, pressing students toward higher-order thinking. The SBAR tool was first introduced during lecture in the first semester junior level Fundamentals labs. Faculty provided SBAR literature and designed mini-simulation scenarios that required students to recall, discuss and recite an SBAR report to their peers and faculty. Following the initial introduction, students were given four additional mini-simulation scenarios across a 6-week time frame. Each scenario required the students to assess the client, consult with peers and faculty, write down data and then make use of the information by giving a verbal SBAR report to their peers and instructor.

In the semester following the Fundamentals labs, second semester junior students in their first medical-surgical course again received lecture content on

SBAR and the role of effective communication with regard to quality and safety in client outcomes. In addition, students participated in two high-fidelity simulations where they were required to assess, interpret, intervene, and provide an SBAR report to their peers or a “mock” physician.

In the clinical setting, opportunities for students to practice communicating with physicians were purposefully structured into the clinical expectations. These expectations were reinforced from the student’s clinical instructor and were scheduled to occur after week three during their 6-week clinical rotation. University faculty made this learning opportunity possible through several modalities. Clinical faculty discussed the issue with the nursing unit manager, assistant head nurse, and the nurses who work at the bedside with the students. Students, clinical faculty and bedside clinical instructors discussed the desired outcomes and importance of communication in preparing practice-ready nurses. In addition, the clinical sites themselves used SBAR as a communication tool, reinforcing the importance of improving the effectiveness of communication among healthcare providers. The revisions in lecture, lab and clinical provided a total of seven opportunities for structured repeat practice that occurred in courses prior to the CAS.

During Spring 2005 courses, revisions were implemented in lecture, lab and clinical. Also at this time, faculty refined the CAS data collection form to promote consistent data collection on communication criteria. An 80% performance standard was set for all criteria. The hypovolemic shock CAS scenario and revised data collection form were utilized to evaluate the Spring 2005 cohort of senior medical-surgical students. Each semester since 2005, the hypovolemic shock CAS has been administered in the senior medical-surgical course with consistent data collection on the communication criteria.

In Fall 2007, the usual student report to the physician sounded like this:

This is Kristiina, I am a student nurse calling from the (name) Medical Center. I am calling you because of a new situation with your patient, Norman Smith in room 304. His background is that he is a 62-year-old male with a history of peptic ulcer disease and was admitted last night with extreme abdominal pain and coffee grounds emesis. I’m calling because he is painful, his vital signs have changed a lot and he is loosing blood. His blood pressure has gone from 110/78 to 98/58. His heart rate was 90 and now it’s 122. His oxygen dropped to 85 percent, so I started him on a nasal cannula at 2 lpm and his oxygen saturation is still low. He is very painful in his abdomen, he rates his pain as an 8, and he is losing a

lot of blood – there's about 400 ml of red fluid in his nasogastric suction canister. My assessment is that I think his ulcer is bleeding and I think he might be going into shock. I am wondering what you want me to do?

Occasionally, a student would make a recommendation to the physician to increase the intravenous fluid rate and to transfuse packed red blood cells.

## **EVALUATION**

All students tested via the CAS between Spring 2005 and Fall 2007 determined the need to notify the physician of the change in client status, demonstrating the cognitive knowledge and decision-making regarding when to notify a physician. No data were collected on the affective domain of how students communicated with the physician. Anecdotally, faculty noticed that students demonstrated timidity, insecurity and hesitation as evidenced by asking the charge nurse to call the physician for them, long pauses and/or visible shaking in their hands prior to dialing the physician's phone number.

Aggregate student performance on communication criteria between Spring 2005 through Fall 2007 is reported in Figure 2. Aggregate communication criteria performance improvement comparing Spring 2005 with subsequent semesters is reported in Figure 3. In comparison with the Spring 2005 cohort, aggregate evaluation across all criteria indicates the Fall 2005 cohort improved by 25%, the Spring 2006 cohort improved by 34% and the Fall 2007 cohort improved by 30%. The 80% performance standard for each criteria has not been consistently met.

Students who were tested in Spring 2005 (n=36) had received SBAR information in lecture and may or may not have had opportunities to practice in the clinical setting. The Spring 2005 cohort did not have structured SBAR learning opportunities in previous Fundamentals labs or simulation labs prior to their CAS. Some of the Spring 2005 cohort may have had opportunities to practice SBAR in the clinical setting. Aggregate data reveal that the Spring 2005 cohort did not achieve the 80% standard in any of the communication criteria areas (client ID: 61%; baseline BP: 21%; current BP: 65%; baseline HR: 18%; current HR: 53%; O2 sat: 56%; O2 lpm: 53%; NG amount: 26%).

**Communication Criteria Performance 2005-2007**

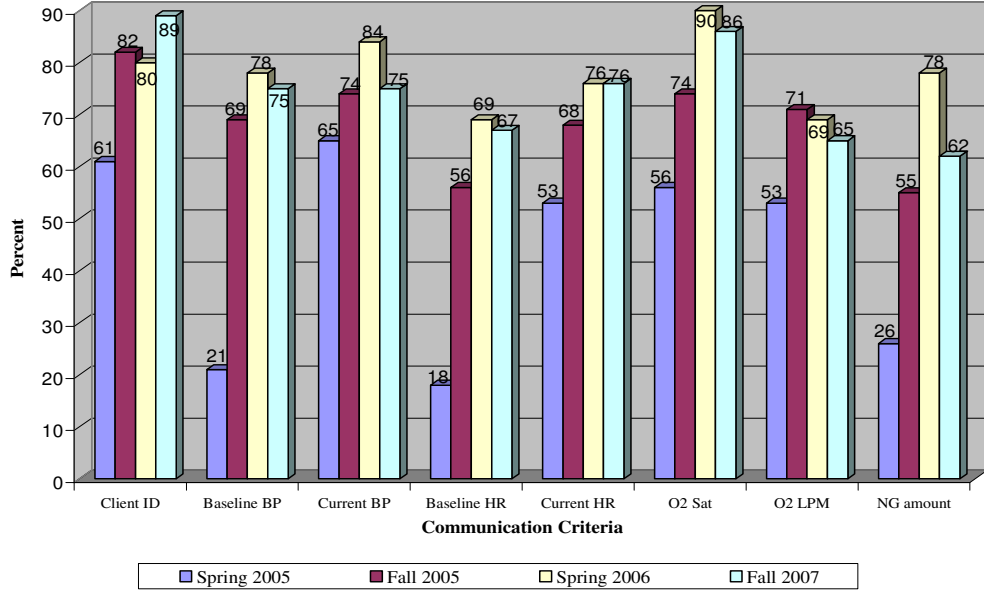


Figure 2. Communication Criteria Performance 2005 to 2007

**Communication Criteria Performance Improvement compared with Spring 2005 Data**

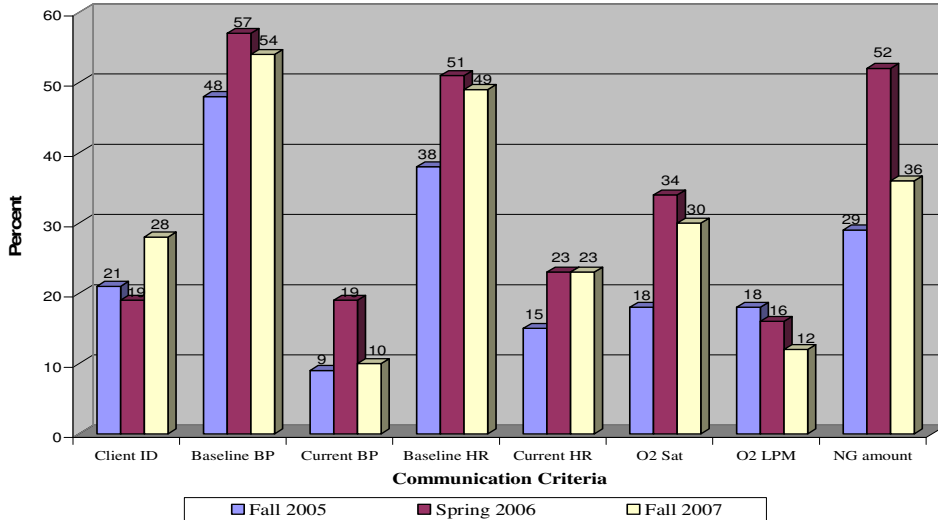


Figure 3. Communication Performance Improvement

Fall 2005 (n=47) represents the first cohort of students who received the revised format of multiple teaching-learning modalities with opportunities for deliberate repeat practice in lab and clinical. Compared with Spring 2005, the Fall 2005 cohort demonstrated a higher percentage of what was reported across all communication criteria. Fall 2005 aggregate data reveal achievement of the 80% standard in identifying the client (82%). However, the Fall 2005 cohort fell short of the 80% benchmark in all other criteria (baseline BP: 69%; current BP: 74%; baseline HR: 56%; current HR: 68%; O2 sat: 74%; O2 lpm: 71%; NG amount: 55%).

Both Spring 2006 (n=50) and Fall 2007 (n=116) cohort aggregate performance continue to demonstrate improvement in what students report to the physician when compared with the Spring 2005 cohort. The 80% performance standard was achieved in client identification (Spring 2006: 80%; Fall 2007: 89%), reporting the current blood pressure (Spring 2006: 84%) and reporting the current oxygen saturation (Spring 2006: 90%; Fall 2007: 86%). Again, however, the 80% performance standard was not achieved in the following categories: baseline blood pressure (Spring 2006: 78%; Fall 2007: 75%), baseline heart rate (Spring 2006: 69%; Fall 2007: 67%), current heart rate (Spring 2006: 76%; Fall 2007: 76%), O2 lpm (Spring 2006: 69%; Fall 2007: 65%) and NG tube output color and amount (Spring 2006: 78%; Fall 2007: 62%).

## **DISCUSSION**

The essential nursing action of knowing when, how and what to communicate regarding patient care issues must not be left to chance. This quality improvement project provided faculty with tangible information regarding student learning. Through the CAS, faculty were informed of each student's competency on the essential skill of communication. In addition to individual student evaluation, aggregate performance outcomes were used to evaluate and prompt improvements in curriculum, teaching-learning strategies and student readiness for entry into practice.

The student performance improvements between Spring 2005 and Fall 2007 as reported in this project, support structuring leveled learner-focused activities in lecture, clinical and lab as strategies to improve student nurses' ability to communicate effectively with physicians during an emergent situation. Because communication is an essential nursing function and plays an important role in quality patient care worldwide, educators are called upon to ensure student competence in all learning domains. Simulation offers the ability to directly observe and evaluate each student's progression from remembering and

understanding toward application and evaluation. Students who do not demonstrate competent interdisciplinary communication may then be identified, counseled, and provided with additional structured learning opportunities.

Faculty is aware that the 80% performance standard has not been consistently met and continues the dialogue to identify causes and potential solutions. The curriculum is a representation of the “collective autobiography” of the faculty (J. Warner, personal communication, May 10, 2006). Faculty were not insulted nor threatened by the substandard performance in the Fall 2004 cohort; instead, they employed a quality improvement approach aimed at progressing students toward higher-order thinking and improvements in communication. Limitations to the results of this quality improvement project include variables such as individual student learning styles, inconsistent availability to practice interdisciplinary communication in the clinical setting, and both the rigor and emphasis that individual faculty employ when teaching communication concepts across the curriculum.

Recommendations for future study include evaluating the usefulness of the SBAR tool as a framework to help students organize care and promote clinical decision-making. The SBAR tool provides one solution to assist student nurses with organizing the information they have so they are prepared to provide a complete report. Students, however, must first know that the client has needs and this means they must be able to assess the client and make judgments on the client’s condition. The SBAR tool may be used to cue students to reflect on the client’s background as well as on their nursing assessment, and consider assessment items that may have been missed or overlooked.

This quality improvement project provides insight into learner-focused strategies that help student nurses remember and apply effective interdisciplinary healthcare communication. In addition, the project results infer that student communication performance improves when multiple opportunities for deliberate repeat practice with faculty supervision is provided. Faculty awareness and ownership of student competence provides the impetus for redesign of teaching-learning strategies with the goal of preparing practice-ready nurses who demonstrate effective communication across disciplines.

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