



# Students' Ability to Communicate a Critical Situation After Implementation of ISBARR in an Undergraduate Nursing Curriculum

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## Abstract

*Effective communication has been identified as a key factor in maintaining patient safety, promoting a professional attitude, and facilitating collaboration between health care professionals. This study evaluated whether the implementation of ISBARR (I=Identify Self, S=Situation, B=Background, R=Recommendations, R=Read Back Orders) into the curriculum improved nursing students' ability to give a critical situation report. A sample of senior level students watched a videotaped critical situation and then gave an audiotaped ISBARR report. There were no significant differences in students' ability to give an ISBARR report following implementation of ISBARR into the curriculum. There was a moderate correlation of ISBARR scores with grade point average (GPA). Students with higher GPAs did better in communicating a critical situation. As with any change, implementation of ISBARR into the curriculum will take time to be fully integrated. The true impact on student outcomes and performance may not be apparent for a number of years.*

*Keywords:* communication; ISBARR; SBAR; nursing students

## Purpose and Review of the Literature

Communication skills are essential in providing safe and effective patient care, and the development of these skills needs to begin in the nursing program (Runy, 2008). Incorporating inter-professional communication into a nursing curriculum will prepare graduates to communicate effectively with other health care professionals and ultimately lead to improved patient safety (AACN, 2008). One of the objectives of the National League for Nursing (NLN) is to "Promote the preparation of a nursing workforce that contributes to health care quality and safety" (2011, "Mission/Goals/Core Values," goal 1 objective). The emphasis on patient safety supports the need to reform

## ***Students' Ability to Communicate a Critical Situation After Implementation of ISBARR in an Undergraduate Nursing Curriculum***

curricula to include learning activities that focus on the development of interprofessional communication skills. A standardized method to communicate pertinent and critical information in end of shift reports, as well as during critical situations, is recom

mended to improve communication (Runy, 2008) and patient safety. Few studies have focused on nursing student communication related to handoffs and critical situations. Keston (2011) evaluated a the use of SBAR in students who received didactic instruction on SBAR versus didactic instruction plus role-play and found those students who received role-play instruction performed significantly better. Since standardized communication is linked to improved patient safety, structured communication training needs to be started early in the education of nursing students.

At the school of nursing where this study was performed, ISBARR was chosen as the communication format to be implemented throughout the curriculum from the sophomore through the senior year. The majority of hospitals in the area and elsewhere teach SBAR to their healthcare professionals as the standardized communication tool to be used for handoffs and critical situations. The acronym ISBARR stands for Identify Self, **S**ituation, **B**ackground, **A**ssessment, **R**ecommendation, and **R**ead Back Orders (Grbach, Vincent, & Struth, 2008). For this study ISBARR was used since students often forget to introduce themselves or read back orders. A plan was implemented to thread ISBARR throughout the curriculum (Enlow, Shanks, Guhde, & Perkins, 2010). Through experiential teaching methods, activities were designed to increase in complexity (from simple handoffs to critical situations) as students move from sophomore to senior level. Students' skills in using the ISBARR communication format was evaluated using an ISBARR evaluation tool (Guhde, in press). Although use of ISBARR is being recommended by many healthcare agencies, there is limited research and literature on evaluating nursing students' communication skills, a gap that this research begins to address. The purpose of this study was to evaluate the effectiveness of including a standardized communication format in the nursing curriculum on nursing students' ability to communicate a critical situation.

## **Method**

### **Setting and Sample**

Data for this study were collected during the Senior Practicum and Nursing Leadership course at a baccalaureate school of nursing. A convenience sample of Senior Practicum and Nursing Leadership students were asked to participate, the requirements of the study were explained, and informed consent was obtained.

The sample consisted of a total of 88 students (57 basic and 31 accelerated) who participated in the study. The total sample was composed of two groups of students at two data collection points who participated in 2009, before ISBARR was added to the curriculum, and from three data collection points during 2010 and 2011 after the curriculum plan had been implemented. The sample characteristics were as follows: 7.9% male, 75% Caucasian, a mean age of 28.17, and a mean grade point average (GPA) of 3.43.

### **Research Design**

## ***Students' Ability to Communicate a Critical Situation After Implementation of ISBARR in an Undergraduate Nursing Curriculum***

This evaluation study was reviewed by the University Institutional Review Board and approved. Students willing to participate watched a videotaped case study of a simulated critical incident where a patient with chronic obstructive pulmonary disease (COPD) develops a pneumothorax. Those who agreed to participate also completed a demographic questionnaire. Five different samples of senior level students participated in this study. After baseline data was obtained from a total of 41 basic and accelerated students the curriculum plan was implemented in the fall of 2009. In 2010, twenty nursing students (a group of basic and a group of accelerated students) participated in the study after receiving only part of the communication curriculum plan. In 2011, twenty-seven basic students who received ISBARR education throughout their entire program participated in the study.

### **Variables and their Measurement**

The ability to communicate a critical situation was evaluated using a tool to measure an inter-professional critical incident verbal report (Guhde, in press). This tool assesses the use of ISBARR by the nursing student in a critical situation and was adapted to fit the specific critical situation being used in this study. A videotaped critical incident of a patient with COPD that developed a right pneumothorax was shown to the students. Students then role-played a report to a physician and received orders. Specific information that should be reported for this critical incident was listed as separate items under each ISBARR component. The student received one point for each item reported correctly. Also, one point was given if the patient problem was identified first and one point if the report followed an orderly sequence. If there was no extraneous information provided, the student received an additional point. Evaluation tool scores ranged from 0-19, with 19 indicating all information was included and no extraneous information was given. Content validity of the evaluation tool was assessed by registered nurses who were members of the faculty. Inter-rater reliability was tested after the first administration of the tool by having three faculty members score the reports after listening to the audio taped reports. The percent of agreement across all items was 96.1%. The Interclass Correlation Coefficient<sup>a</sup> for average measures was .977 with an interval of .887 - .995 with 95% confidence. To ensure continued inter-rater reliability, two of the investigators continued to score the taped recordings separately. If there was variation in their scores, a third investigator scored the recording and the average of the three scores was used.

### **Data Collection**

The study was explained as a study of communication of a critical situation. Students were made aware that their course faculty members were looking at certain communication techniques that are being used, and that he or she would be audiotaped while giving a report following the viewing of the videotaped critical incident. Whether a student participated had no effect on the grade that the student received for the class.

### **Results**

There were no differences between basic and accelerated students in their ability to communicate report of a critical situation at any point in time. Therefore, scores for both traditional and accelerated students were combined, and t-tests were run. No differences were found in students' ability to communicate report of a videotaped critical situation after having received formal education on ISBARR threaded throughout their junior and senior courses

## ***Students' Ability to Communicate a Critical Situation After Implementation of ISBARR in an Undergraduate Nursing Curriculum***

compared to those who did not receive this education ( $t= .87, p=.39$ ).

An interesting finding indicated there was a moderate positive correlation between cumulative GPA and the score on the evaluation tool ( $r=.36, p=.001$ ). Students with higher GPAs scored higher on the evaluation tool.

### **Discussion and Implications for Practice**

Significant improvements in communicating a critical situation did not occur in basic students or the accelerated students. Sample size is a limitation of this study, as it was difficult to recruit students to participate. Since this was a learning experience for students as well as a study to evaluate a curriculum change, participation should have been mandatory as a classroom exercise for all students, with students then having the option of using their scores for the study. Our results may not reflect the class as a whole.

The curriculum plan (Enlow et al., 2010) was newly implemented at the time data was collected. Results were obtained while faculty members were still learning best ways to implement and develop ISBARR simulations. Part time faculty may not have been aware of the curriculum plan as full time faculty members were just developing ISBARR learning activities. Other limitations reflected difficulties getting faculty to participate and follow the new curriculum plan. Based on 2010 faculty survey data, students did not usually have an opportunity to give a critical incident report. Students did not always take their ISBARR resource tool to clinical. Also, faculty felt the format did not fit with every specialty area, and therefore some faculty did not implement the tool.

It is likely that once ISBARR becomes more integrated into the curriculum, scores on the evaluation tool will be higher. As with any change, implementation of this curriculum plan will take time to be fully integrated. The true impact on student outcomes and performance may not be apparent for a number of years. Also, since GPA was correlated with better performance in ISBARR, faculty need to assess students who struggle academically for deficits in their communication skills and give ample opportunities for practice. Frequently, we hear faculty say a student is weak academically but strong clinically. Future studies need to assess whether these students with lower GPAs present a good impression based on their personality rather than truly having strong clinical skills. Also, another study, conducted after the curriculum plan has been in effect for four to five academic years, would provide more accurate information on the effectiveness of this curriculum change.

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***Students' Ability to Communicate a Critical Situation After Implementation of ISBARR in an Undergraduate Nursing Curriculum***

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